JOURNAL

OF THE

NEW BRUNSWICK SOCIETY,

FOR THE ENCOURAGEMENT OF

Agriculture, Home Manufactures and Commerce,

THROUGHOUT THE PROVINCE,

INSTITUTED AT FREDERICTON, N. B., AUGUST 30, 1849.

"Agriculture feeds us; to a great extent it clothes us; without it we could not have manufactures, and we should not have commerce. These all stand together, but they stand together like pillars in a cluster, the largest in the centre, and that largest is agriculture."—*Hon. Daniel Webster.*

FREDERICTON, N. B.:

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1850.

PREFACE.

"Agriculture feeds us; to a great extent it clothes us; without it we could not have manufactures, and we should not have commerce. These all stand together, but they stand together like pillars in a cluster, the largest in the centre. and that largest is agriculture. Let us remember too, that we live in a country of small farms, and freehold tenements; in a country in which men cultivate with their own hands, their own fee simple acres; drawing not only their subsistence, but also their spirit of independence and manly freedom from the ground they plow. They are at once its owners, its cultivators and its defenders. And whatever else may be undervalued, or overlooked, let us never forget that the cultivation of the earth is the most important labour of man. Man may be civilized, in some degree, without great progress in manufactures, and with little commerce with his distant neighbours. But without the cultivation of the earth he is in all countries, a savage. Until he stops from the chase, and fixes himself in some place, and seeks a living from the earth, he is a roaming barbarian. When tillage begins, other arts follow. The farmers, therefore, are the founders of human civilization."—*Hon. Daniel Webster.*

The utter prostration of the Staple Trade of this Province, consequent upon the altered policy of the Mother Country—the general impression that the Crop heretofore most relied upon—the Crop of Timber—had become worthless and unavailable in the market—the necessity thereby implied of making a transition from the business of lumbering to that of farming and manufacturing—the very serious consequences to individuals in such a change—the conviction that those who have been engaged in lumbering might be benefitted by some new notions of husbandry—that making up exhausted land was a very different thing from wearing out a fresh and teeming soil—that farming old land required much more skill and intelligence than merely clearing and cropping that which was new—that the settlers generally would have to give up Foreign for Domestic Manufactures—and the Foreign Market for a Home Market—these were some of the motives which led to the establishment and Incorporation of the Society* from which this publication has emanated.

* This Society was Incorporated by an Act of the General Assembly, 1850, with an annual allowance of £200, on £100 being raised by subscription throughout the Province in favour of the Funds of the Society.

It is quite true that various local Agricultural and other Societies bearing upon the same object, are in operation, but it was deemed that much might still be done by a Central Society; acting for all, sustained by all, promoting measures of general interest, and developing the industrial resources of the Province at large.

It was considered in the outset by some, that the Society should have a political cast or bearing, but that idea was soon abandoned, and it is now confidently believed that more good may be done by eschewing the questions of Free Trade and Protection, wholly and altogether.

It will be our object rather to collect facts, and to disseminate information concerning the available resources of the Province; to encourage individuals in all laudable attempts to develop them; to bring together, in short, for the common weal, the talents, experience, and influence of all who desire to promote the object of "Agriculture, Home Manufactures, and Commerce, throughout the Province." The field is surely wide enough without trenching upon that of the Politician or the Legislator.

In an humble fashion, we shall try to follow the plan of the Highland Society, which has done so much for Scotland, and that of many other subsequent National, Provincial, and State Agricultural Societies, whose influence is now so important wherever they have been established.

If the Farmers are unskilful, let us try to lay before them the best information—if the climate be severe, let us bring under notice all the aids which science furnishes, to overcome and ameliorate the ruggedness of nature:—if there be any available investments for the Capital of the Manufacturer in this wide Province, let us hasten to call attention to them:—if the Mercantile interests can be placed upon a more solid foundation than heretofore, let us aid in bringing it about; let us look at our true position and trust henceforward solely to our own intelligence, industry, and economy.

With a view of breaking ground in this fair field for useful exertion, we have caused to be prepared for general circulation the following series of Reports upon subjects claiming our immediate attention; and at convenient intervals it is our intention to follow them up by others of a similar practical character.

We have not as yet secured the general co-operation of the Rural Districts; but we claim it most earnestly—our proceedings can never be in opposition to the County Agricultural Societies,

but always in aid of them. By their best feelings of Patriotism we would summon all good and intelligent men to join us in "a long pull, a strong pull and a pull altogether" to raise the Agricultural, Manufacturing, and Commercial industry of New Brunswick out of its present low and languishing condition.

JAMES ROBB,

President and Chairman of the Executive Committee.

RESOLUTIONS.

At a Public Meeting held in the County Court House on the evening of Thursday the 30th of August, and continued by adjournment on the evening of Monday last the 1st instant. Robert Chestnut, Esq., being called to the Chair, and Mr. James Hogg appointed Secretary, the following Resolutions were moved, seconded, and adopted, by large majorities; D. S. Kerr, Esq., taking the lead, as the propounder of the Resolutions, and several of the gentlemen present taking an active part in the discussion.

Whereas the members who compose this meeting, deeply deploring the low and impoverished state of this Province, and that pressure which seems so heavily weighing upon almost all classes of its inhabitants, are earnestly desirous of tracing out the true causes of the evils, and suggesting a practical remedy; therefore

Resolved, 1st. That in the opinion of this meeting, the habits of the people of New Brunswick generally, in relation to the exigencies of a new Province, and as compared with those in thriving countries are at fault, and call for reform in point of industry and economy.

2nd. That the unjust practice of crying down the soil, the climate, and general capabilities of this highly favoured Province, having largely succeeded in blasting its character at home and abroad, and of consequence, checking the energies and dissatisfying the minds of the inhabitants, and inducing large bodies of them to leave, as well as dissuading emigrants of capital and respectability from embarking for our shores, is one great cause of the backward state of this Province; whereas such slander should be rigorously checked, and it be made extensively known, that in point of capabilities, this Province is not surpassed by any of the six North Eastern States, nor by any Province in British North America.

3rd. That the business of Agriculture, which is greater in importance than any other interest, and the station of the farmer, have been hitherto so much looked down upon and neglected by those maintaining the higher walks of life, and by the inhabitants generally, as to have deterred, in a great degree, the youth of the country and many other classes, with their means of advantage,

from choosing it as an occupation of life, and thereby contributed to the present low state in farming pursuits; and in the opinion of this meeting, reform in this particular, by endeavouring to elevate to their proper position, the paramount interests of farming and the honorable station of the farmer, would greatly tend to improve the condition of the Province.

4th. That the great want of science, skill, and knowledge in the business of farming, and the neglect of Agriculture generally, is so conspicuous in every section of this Province as to lead at once to the conviction that no country, how fertile soever, could possibly flourish under so defective a system so badly carried out, and largely accounts for the Agricultural depression which so extensively prevails; and, in the opinion of this meeting, prompt and effective action towards reform in this particular would largely contribute to increase the wealth and general advancement of this country.

5th. That the lamentable neglect of home manufactories in New Brunswick, and the importation, by a ruinous mode of payment, of almost every manufactured article in use, from British and Foreign markets, has done more than can be described to divert the flow of capital and emigration to other countries—to cripple the operations of the farmer—to retard the advancement of the Province—to occasion that backwardness, poverty and distress, displayed in every part of it, and to place it in so disparaging a light especially when compared with the adjoining States, that in the opinion of this meeting, the energies of the Legislature and of the people of this Province, generally, should be immediately directed to a thorough change in this particular, and that, taking into account the policy lately pursued by the Parliament of England, towards her Colonies, it is further the opinion of this meeting, that the importation and use of British and Foreign manufactures shohld be discountenanced, and a spirited, effective and uniform encouragement, afforded, to the establishment of domestic manufactories and to the protection, preference and general use of home productions.

6th. That the commerce in lumbering, called by some, "our staple export" as hitherto encouraged and indiscriminately engaged in to the neglect of almost all other interests, has proved sadly destructive to a large body of our farmers—injurious in its results to the great majority of the people, and a prominent cause of that embarrassment and ruin which now extensively exist throughout the Province, and that in future the employment in this commodity should be restrained within narrow limits, and the farming, the

mining, the fishing, and the manufacturing interests put forward, protected, and encouraged, as offering far more healthy and profitable sources of wealth and commerce to the mercantile and other interests throughout the Province.

7th. That this meeting respectfully submits, that if the suggestions contained in the foregoing Resolutions, with sentiments of a kindred order, be undertaken by New Brunswickers, and acted on with spirit and determination, it will not only in a short time relieve them from present embarrassments, but lay a permanent foundation for future wealth and prosperous advancement.

8th. That this meeting will cheerfully co-operate with their fellow subjects in Saint John, and elsewhere, in any constitutional and practical measure which may tend to improve the condition of this Province.

9th. That for the better carrying out of the foregoing objects, it is the opinion of this meeting that a body to be called "A Provincial Society for the encouragement and general promotion of Agriculture, Home Manufactures, and Commerce throughout the Province," should be formed at Fredericton, and incorporated by Legislative enactment, with sufficient power and reasonable means at command for the efficient working of the Society.

Agreeably to an addition moved by John A. Beckwith, Esq., to the 9th Resolution, the following gentlemen were named, in order to frame a constitution to give effect to the Resolutions carried, and to submit such plan to a meeting to be held on the 31st of December next in the same place, viz:—Robert Chestnut, Thomas R. Barker, the Hon. Attorney General, John A. Beckwith, Dr. Hartt, John T. Smith, David S. Kerr, William Cadwallader, James S. Beek, Denis O'Leary, James Hogg, Charles A. Harding, T. R. Estey, John Davis, and William Watts, Sen.; with power to add to their numbers.

It was also resolved that Dugald Stewart, Esq., of Restigouche, the Rev. James McDonald of Gloucester, James Caie, Esq., of Northumberland, the Hon. William Crane, of Westmorland, Wm. H. Steves, Esq., of Albert, David Wark, Esq., of Kent, Thomas Allen, and Robert Jardine, Esqs., of Saint John, C. L. Hatheway, Esq., of Sunbury, William Foshay, Esq., of Queens, Hon. Col. McLeod, of Kings, James Brown, Esq., of Charlotte, and Charles Perley, Esq., of Carleton, be corresponded with in relation to the Constitution to be adopted.

R. CHESTNUT, Chairman.

JAMES HOGG, Secretary.

NEW BRUNSWICK SOCIETY,

FOR THE ENCOURAGEMENT OF AGRICULTURE, HOME MANUFACTURES AND COMMERCE.

At a Public Meeting held at the County Court House on the Evening of the 7th January, in connection with the poposed Provincial Society, agreeably to the 9th of a series of Resolutions passed at a Public Meeting, in Fredericton, on the 1st day of October last. Robert Chestnut, Esq., was called to the Chair, and John A. Beckwith, Esq., appointed Secretary. The Chairman addressed the meeting and referred to Mr. Kerr.

D. S. Kerr, Esq., then explained the object of the meeting, stated what had been done by the Committee, read the Constitution which had been prepared, stated that His Excellency the Lieut.Governor had kindly consented to become patron of the Society, and proposed the Constitution as read for adoption, which being seconded by Mr. John T. Smith was put to vote, and carried unanimously, and is as follows:—

CONSTITUTION.

Article 1. The style of this Society shall be "The New Brunswick Society for the encouragement of Agriculture, Home Manufactures, and Commerce throughout the Province," its objects shall be to improve the condition of those important branches respectively and as connected with each other, by such practical and effective means as may be suggested and approved at any regular meeting of the Society, or by any Committee or Committees appointed by such Society, and whose acts may be approved and adopted.

2nd. The Society shall consist of such inhabitants of the Province as may signify in writing their wish to become members, and shall pay on subscribing not less than one dollar, and annually thereafter, not less than one dollar; and honorary and corresponding members may be admitted by vote of the Society, without payment: Provided always, That Presidents of County Agricultural Societies, or a delegation from each shall, *ex officio*, be members of this Society, *without* payment; and Provided also, That the payment of £5 or more shall constitute a member for life and exempt the doner from annual contributions.

3d. The officers of this Society shall consist of one President and fourteen Vice-Presidents, namely, two *Vice* Presidents for the

County of York, one of whom shall reside in the City of Fredericton, and a Vice-President for each of the Counties, being a resident thereof, a Recording Secretary, a Corresponding Secretary, a Treasurer, an Executive Committee to consist of the officers above named, and twelve additional members, five of whom shall constitute a quorum, and a general Committee the members of which shall be the Legislative Councillors and the Members of the House of Assembly of the Province for the time being, in the respective Counties where they reside, or which they respectively represent: Provided always, That the said general Committee shall be considered and treated, by this Constitution, as private individuals and for the better carrying out the Society's objects, in parts beyond Fredericton, and not in their Legislative capacity.

4th. The general duties of the officers of this Society shall be as follows: the President (or in his absence, one of the Vice-Presidents) shall preside at the regular meetings of the Society, preserve strict order, and put to vote all questions submitted, which shall be determined by the majority then present, he is expected to take a prominent part in originating and bringing before the Society such measures as may appear to him calculated to advance its interests, and shall do and perform such other acts as may be required of him by this Constitution, or by vote of this Society, the Recording Secretary shall keep the Minutes of the Society in a Book to be procured for that purpose; the Corresponding Secretary shall carry on a correspondence with other Societies, with individuals, and with the general Committee in furtherance of the objects of the Society. The Treasurer shall collect and receive the funds of the Society, and keep them in such a manner as the Society may determine, and shall disburse them on the order of the President or a Vice President, countersigned by the Recording Secretary, and shall make a Report of the receipts and expeditures at the annual meeting in January in each year, the Executive Committee shall have in charge the general interests of the Society, shall take care of, and distribute or preserve all articles which may be transmitted to the Society, and also shall have the charge of all communications designed or calculated for publication, and so far as they may deem expedient, shall correct, arrange, and publish the same, in such manner and form as they shall consider best calculated to promote the objects of the Society, and shall make, or cause to be made, an annual Report of the Society's doings for the inspection of the Legislature and public at large, and the general Committee are charged with the interests of the Society in the Counties in which

they shall respectively reside—and shall constitute a medium of communication between the Executive Committee and the remote members of the Society.

5th. A special Committee or Committees, for any purpose connected with the interests of the Society, may be appointed at any regular meeting, by the resolution of the majority then present.

6th. There shall be four regular meetings of the Society in Fredericton in each year, namely, on the first Wednesday in January, the first Wednesday in April, the first Wednesday in July, and the first Wednesday in October, except the first meeting of this Society to be held on the 31st day of January, 1850. Provided always, That all the officers of the Society, except the general Committee, shall be elected by plurality of votes at the annual meetings in January in each year, and Provided also that there shall be a general meeting of the Society during the session of the Legislature at such time and place as the Executive Committee may appoint, giving at least fourteen days notice in the Royal Gazette, and in such other papers as may be deemed advisable.

7th. The Executive Committee shall have the power to fill any vacancies which may occur in the offices of the Society during the year or supply their places *pro tem.* at any regular meeting, and may also call extra meetings, if found essential for the interests of the Society so to do. Provided That due notice be given of the time and place, and specific objects of such extra meetings, in one or more of the public prints, and by twelve or more hand bills posted up in the City of Fredericton at least twenty four hours before such meeting. Provided also, That at such meeting there be at least nine of the Executive Committee, besides twelve members present, to form a quorum.

8th. This Society may hold, and if considered advisable by the Executive Committee, may co-operate with one or more Country Agricultural Societies in holding an annual show and fair in any County of the Province at such time and place, and in such manner as shall be designated by the Executive Committee who may award such premiums and payments towards the objects contemplated by this Society as may be reasonable and compatible with the funds of this Society.

9th. While all persons holding positions of rank and influence in New Brunswick, members of County Agricultural Societies, and other Institutions, public Editors and the inhabitants of the Province generally are respectfully solicited to join this Society and to give their presence at its meetings, and their co-operation and

aid in advancing its interests, the office bearers are especially called on to be regular and prompt in their attendance, and diligent and persevering in their efforts towards carrying out the legitimate objects of this Society, and for the faithful, spirited, and efficient performance of their respective duties, shall at the termination of the yearly services be entitled to receive the thanks of the public expressed through this Society, in such manner as it may determine; Provided always, That it shall be in the power of this Society to award to any particular office bearer or office bearers, for services actually performed, such remuneration as may appear necessary, reasonable, and just.

10th. This Constitution shall be construed liberally in favour of carrying out the avowed objects of this Society, and may be amended by a vote of two thirds of the members attending any annual meeting in January in each year; Provided that notice in writing be given at the previous quarterly meeting specifying the intended amendment.

On Motion of John A. Beckwith, Esq., the following gentlemen were proposed as Office Bearers for the Society, under the patronage of His Excellency during the present year:—which passed unanimously—

PATRON:

His Excellency Sir Edmund W. Head, Bart.

PRESIDENT:

Professor Robb.

VICE-PRESIDENTS:

York County—Robert Chestnut, Esq.
Ditto, (rural district)—R. D. James, Esq.
St. John—Robert Jardine, Esq.
Charlotte—James Brown, Esq.
Sunbury—C. L. Hatheway, Esq.
Queen's—William Foshay, Esq.
King's—Allan C. Evanson, Esq.
Westmorland—Hon. William Crane.
Kent—William M'Leod, Esq.
Gloucester—Francis Ferguson, Esq.
Restigouche—Dugald Stewart, Esq.
Carleton—Charles Perley, Esq.
Albert—Thomas Gilbert, Esq.
Recording Secretary—James S. Beek, Esq.
Corresponding Secretary—John A. Beckwith, Esq.
Treasurer—Joseph Gaynor, Esq.

Additional Members of the Executive Committee—Mr. Thomas R. Barker, William H. Odell, Esq., Frederick W. Hatheway, Esq., Mr. William Watts, David S. Kerr, Esq., Hon. L. A. Wilmot, Mr. George Todd, Mr. Constantine Connelly, Mr. John T. Smith, James Taylor, Esq., J. A. Maclauchlan, Esq., H. Fisher, Esq.

On motion of D. S. Kerr, Esq., the following Resolutions were unanimously adopted:

Resolved, That the grateful thanks of this meeting be tendered to His Excellency Sir E. W. Head for his kindness in consenting to become the Patron of the New Brunswick Society; that His Excellency be waited on with a copy of the Constitution and List of Officers as now adopted; and also that His Excellency be most respectfully solicited to honour the Society with an Address at such time and place as he may appoint, at which time donations towards the Funds of the Society will be received; and further

Resolved, That the President, Mr. Kerr, and Capt. Chestnut, be a Committee to attend to the foregoing duty, and call the first general meeting of the Society conformable thereto, giving due notice thereof.

Resolved, That the Executive Committee be a Committee to obtain subscribers to the Society agreeably to the Constitution, and pay the proceeds into the hands of the Treasurer.

R. CHESTNUT, Chairman.

John A. Beckwith, Secretary.

NEW BRUNSWICK SOCIETY,

For the Encouragement of Agriculture, Home Manufactures and Commerce, throughout the Province.

The first general meeting of this Society took place, agreeably to its Constitution, on the evening of Thursday the 31st January, 1850, at the County Court House in Fredericton; was numerously and respectably attended, and addressed by several speakers. The President opened the proceedings by referring to the manner in which this Society had been got up, and the objects it had in view. D. S. Kerr, Esq., read the proceedings of the previous meeting, and the Constitution of the Society, and reported that His Excellency the Lieut. Governor had been waited on, agreeably to the Resolution of the public meeting of the 7th of January, and had given a liberal donation to the Funds, but deferred addressing the Society in its present stage, for reasons entirely satisfactory to the Committee; he also stated on behalf of the Committee for collecting subscriptions, that they had ascertained it was not advisable to take much action in that line until the Constitution and first proceedings of this Society should be published, when the subscription list would be promptly attended to—he handed in, however, a subscription of £12—£6 of which he paid to the Treasurer, the remainder being available at any time, and stated that there seemed the best feeling in every quarter, manifested towards the Society; the following Resolutions were then submitted, and passed unanimously:—

1. *Resolved*, That the Executive Committee do, without delay, exert their efforts to obtain donations and subscriptions for the Society, agreeably to the Constitution, and pay the same to the Treasurer.

2. *Resolved*, That the Executive Committee do forthwith prepare and submit to the Legislature, at the approaching Session, a Petition, setting forth the formation and object of the Society, with a notice of its proceedings and the amount subscribed and paid, praying for an Act of Incorporation, and an annual grant of money to aid the Society in its operations, a draft of the Act prayed for, to be submitted, if required, for the purpose.

3. *Resolved*, That the Publishers of Newspapers in Fredericton and in other parts of the Province, are respectfully requested to

publish for the information of the public, the Constitution of this meeting as may be furnished to the first Publisher, by the Recording Secretary, and that fifty extra copies of the Amaranth, the Head Quarters, and the Reporter, respectively, be supplied to this Society for distribution.

4. *Resolved*, That this Society especially solicits at this time, the friendly concurrence and energetic aid of its Office-bearers and of County Agricultural Societies in the different parts of the Province, towards advancing the interests of this Society, and their exertions, in obtaining donations and subscriptions for increasing the Funds, to be forwarded to the Treasurer, and that the Corresponding Secretary do forward a Paper containing this solicitation, and the Constitution and proceedings of this Society, to each Office-bearer and President of County Agricultural Societies throughout the Province, for their information.

5. *Resolved*, That the Corresponding Secretary do forthwith correspond with the Office-bearers of this Society in different parts of the Province as also with the Presidents of County Agricultural Societies in different parts of the Province, as also with the Presidents of County Agricultural Societies and individuals with the view of enquiring whether, in their opinion, there be any particular subject or subjects deserving the immediate attention of this Society, and if so, whether such person or persons will consent to be named on a special Committee at any quarterly meeting of this Society, to enquire and report on such subject at a subsequent quarterly meeting.

6. *Resolved*, That this Society cordially invites a free and friendly intercourse with County Agricultural and other Societies, and with individuals in every part of the Province, and elsewhere, on subjects within the purposes of this Society, and any communications or suggestions so designed will be thankfully received and respectfully attended to.

7. *Resolved*, That the Executive Committee do forthwith take the necessary steps to obtain a small Library for the Society's use, especially of such works as may afford the most practical knowledge for dissemination.

8. *Resolved*, That the Executive Committee do as speedily as possible, institute an enquiry, and Report to this Society at its meeting during the Session of the Legislature, whether it may be desirable and practicable for this Society to hold an annual Show and Fair in this present year, and if so, at what time and place, and in what manner, with the probable expense attending the same;

and that the Corresponding Secretary, with the aid and advice of the Executive Committee, do without delay, put himself in communication with each Vice-President of this Society, and with each Agricultural Society in this Province or the proper officers thereof, with the view of ascertaining the sentiments and wishes in the respective Counties and County Agricultural Societies, and whether it would be desirable for this Society to co-operate with one or more of them, in holding an Annual Show and Fair, and, if necessary, to submit a Petition to the Legislature for a grant of money towards carrying out the object.

9. *Resolved also*, That the said Executive Committee do consult the several members of the general Committee on their arrival in Fredericton as to their sentiments with reference to such proposed Show and Fair, in the respective counties where they reside.

10. *Resolved*, That the Executive Committee will, until further notice, meet on the first Wednesday of every month, at some convenient place, for the despatch of business.

SPECIAL COMMITTEES.

1. *Resolved*, That the President, the Hon. the Vice-President for Westmorland county, the Hon. Harris Hatch of Charlotte county, Henry Cunard, Esq., of Northumberland county, Mr. James Ingledew of St. John, Hugh J. Hansard, Esq., and Mr. William Watts, Senr., of York county, be a Special Committee for investigating as to the most practical modes adapted to the circumstances of this Province, of accumulating, preserving, and applying different kinds of manures, especially manures available from household and farm-yard establishments, and to Report on the same, with the view of having the information disseminated at the Quarterly meeting in April next.

2nd. *Resolved*, That Mr. William Watts, Senr., Colonel James A. Maclauchlan, Mr. Thomas R. Barker, and Mr. Robert Gray of York county, and William Porter, Esq., of Charlotte county, be a Special Committee to enquire and Report to the Society at the Quarterly meeting in April next, on the best modes adapted to the circumstances of this country, of raising Turnips, Mangold Wurtzel, Carrots, and Parsnips.

3rd. *Resolved*, That William H. Odell, Esq., Mr. William Watts, Senr., John A. Beckwith, Esq., James Taylor, Esq., and Mr. William Grieves of York county, be a Special Committee to

enquire and Report at the Quarterly meeting in April next, on the best means of obtaining a good quantity of Seeds for general use, stating what descriptions may be raised in the Province to advantage, and the quarters from whence other descriptions can be imported on the most reasonable terms.

4th. *Resolved*, That Mr. George Ingraham, Colonel Allen, Mr. Robert Gray, Mr. William Grieves of York county, and the Hon. Charles Harrison of Queen's county, be a special Committee to enquire and Report at the Quarterly meeting in April next, on the best modes of fattening cattle and hogs for marketable Beef and Pork.

5th. *Resolved*, That the Vice-President for York, residing in Fredericton, David S. Kerr, Frederick W. Hatheway, James Taylor, and James S. Beek, Esqrs., of York county, the Vice-President for St. John county, and the Hon. Alexander Rankin of Northumberland county, be a Special Committee to enquire and report at the meeting of this Society to be held during the Session of the Legislature, on the best Cash Markets for Beef and Pork; and also the most practical and effective modes for putting up the same fit to command such markets, and if necessary to prepare and submit a draft of a Bill to the Legislature for that purpose.

6th. *Resolved*, That John T. Smith, A. T. Coburn, Esq., Mr. James Hogg, Mr. George Todd, Mr. William Morgan, Dr. H. A. Hartt, Harvey Garcelon, Esq., and Mr. Peter M'Farlane, of York county, be a Special Committee to enquire and Report at the Quarterly meeting in April next as to the best modes of encouraging Household and Provincial Manufactures and the Mechanic Arts, together with the different kinds thereof, and as to what kind of Factories may be undertaken in New Brunswick, with reasonable prospects of success.

7th. *Resolved*, That the Vice-President of York county residing in Stanley, Marshal d'Avray, George Roberts, and Henry Fisher, Esqrs., be a Special Committee to enquire and Report to the Society at its next Quarterly meeting, on the best modes of imparting information to the farming and working classes in this Province, and the most efficient way of disseminating Agricultural and other useful information among such classes.

James Taylor, Esq., spoke of the importance of a Farmers' Bank, but the matter was deferred until a subsequent meeting. The Vice-President of Sunbury addressed the Society in an able manner on the subject of Emigration, and on the importance of having an Emigrant Agent for each County of the Province; his

remarks were received with high approbation, and it was referred to the Executive Committee for further consideration. His Honor the Master of the Rolls gave a handsome donation towards the Funds of the Society, and made an excellent and very gratifying Address, referring to the healthy climate and superior advantages of this Province, as also to the utility of Professor Johnston's Report—highly commended the objects of the Society and the manner in which it had been undertaken. The donation list was considerably added to in the course of the evening, and after some remarks from other gentlemen, the Society adjourned.

JAMES S. BEEK, Recording Secretary.

Fredericton, January 31, 1850.

REPORT OF THE COMMITTEE ON MANURES.

The Special Committee of the New Brunswick Society for the encouragement of Agriculture, &c., which was appointed on the 31st of January last "to investigate into the most practical modes adapted to the circumstances of this Province, of accumulating, preserving, and applying different kinds of Manures, especially Manures available from Household and Farm Yard establishments," have attended to that duty and beg leave to submit the following

REPORT.

It was formerly thought that most of the constituents of plants were produced within themselves by some supposed, mysterious, inherent power, but it is now well established that their chemical elements are derived exclusively from materials existing in the earth, the air, or the water which surround them: such "from the beginning" has been the harmony and relation between their respective composition that, weight for weight, the materials found in the soil or the atmosphere are convertible into the roots, stems, leaves, flowers and seeds of our cultivated crops, and these again into the blood, flesh and bones of men and animals.

That which thus nourishes is what is commonly called *food*, and neither crops, nor colts, nor calves, nor children can be made to grow and flourish in any other way than by the plentiful administration of such food.

But the food of these differs respectively, and that which is required for different kinds of crops differs also to a certain extent, still it is perfectly certain that for the luxuriant growth of any crops we must administer in proper proportion all the materials which the Chemist finds on analysis to be the uniform constituents of such crops.

When plants are freely acted upon by heat *the great bulk* of their substance becomes gaseous, inflames and disappears: this bulky combustible portion consists chiefly of four substances which have been termed respectively Carbon or Charcoal, Hydrogen, Oxygen, and Nitrogen: with the exception of the last, these are in general readily accessible in the atmosphere or in the soil, or *through* the soil to plants growing under ordinary circumstances.

The Ash or Mineral part which seldom exceeds 5 per cent. of the whole, consists of about nine different elements, which also, with a few but important exceptions are generally to be found in soils. Here then, as in most other cases, Nature does a great deal of the work for us, that is, the chief portion of the required elements are presented by the hand of Nature, while a certain and a necessary proportion must be supplied by the skill and labour of the husbandmen: these are most generally the *Salts of Ammonia* and the *Earthy Phosphates:* from the former the flesh, and from the latter the bones of animals are afterwards chiefly to be constructed. If the Farmer refuses to do his part he will starve his crops: if he starves them, they will starve him and his cattle, but if he feeds them they will feed him and his most bountifully.

Since plants are thus greatly nourished or fed by materials derived from the soil, the fundamental principle will ever be to return to the land an equivalent in manure for the materials contained in the crops which have been removed, or else it will soon become barren or incapable of nourishing crops at all: if from twelve or thirteen different substances originally present in a fertile soil we remove two every year for six years, the land must necessarily thus become exhausted, or even, if, in one year, we remove one or two of primary importance their absence will be the cause of a special barrenness or exhaustion of the soil: when, therefore, a farmer has for a series of years been selling off his hay and oats and cattle without making the necessary returns in lieu thereof, his land thereby becomes either generally or specially exhausted, and he must cast about and consider upon what principle he may at the cheapest rate replace the old materials, and restore the necessary elements of productiveness to the soil.

Manures are substances capable of replacing either directly or indirectly the lost elements, and of feeding or sustaining the growth of crops: without them the farmer can do nothing, with them almost every thing: they are the basis and life-blood of all successful husbandry: by them we may increase the production and diminish the cost of food, they are in fact the material out of which the food is to be formed, and they ought to be economized and husbanded as so much coin, ever remembering that in no part of the farm work is labor better invested than in their collection and preservation.

Throughout this Province generally there seems to have prevailed much ignorance or neglect of these first principles: it would not be very difficult, we apprehend, for most farmers to make or save at least one-half more manure than they do, and it would be

easy by care and composting to increase the quantity of manure actually made three or four fold: it is wrong, therefore, to ascribe to the country or the climate what has been in too many instances due to the ignorance, idleness, or reckless improvidence of the settlers themselves. It will be our endeavour in the remainder of this paper to indicate certain of the points and principles, by attention to which, some of the evils of the old method may be more or less effectually repaired.

Manures we have said are such substances as are capable of supplying directly or indirectly one or more of the elements of our cultivated crops: accordingly it must be obvious that plants themselves or the parts of animals fed upon plants, must be the basis of all common manures—that whatever has been part of a living plant or animal may by proper treatment be made to yield the materials out of which living plants and animals are again to be constructed: practically, however, it must be our endeavour to procure the cheapest or waste forms of these, and also to make use of such materials as are accessible and contain one or more of the same constituents as plants, even although they may not hitherto have formed part of any living plant or animal.

In this point of view the sources of manure will appear to increase and multiply: the barn yard, the hog pen, the sheep fold, the hen roost, and the pigeon house, the privy, the ash bin, the wash tub, the slaughter house, and the tan yard, peat bogs, muck holes and gullies, road sides, roads and ditches, the forest, the sea beach, the sewers the lime kiln, the plaster bed, the shell and marl bed—these are a few, but not all of the sources from which the intelligent farmer may procure materials for his manure heap: by a patient industry in collecting materials from the above sources, and by a rigid economy in saving them, much more land may be profitably brought into tillage than has ever heretofore been the case: it is not intended, however, by the above remarks to induce the farmer to forego other profitable labor, but it is intended to show how a farmer who is properly aware of the sources of manure need never himself be idle, nor his cattle in want of useful occupation.

When plants or animals die, their elements spontaneously separate by degrees again, and become viewless: some of them become gases, (*carbonic acid, ammonia, and watery vapor*) and mingle with the atmosphere, some of them (*alkaline salts*) are dissolved in water and washed away, while the remainder (*earthy salts*) are hidden in the soil and become incorporated with it: these changes, which really differ but little from those which are effected by com-

bustion, are called *decompositions*, because the living substance is thus gradually brought back to simpler and simpler forms; at ordinary temperatures the decomposition or "fermentation" of vegetable substances which abound in woody fibre, proceeds very slowly, while under the same circumstances the decomposition or "putrefaction" of animal substances, if not too dry, proceeds very rapidly: this great difference is by Chemists ascribed to the comparative abundance of Nitrogen, (an element which has naturally but little tendency to unite with others,) in the latter. Now when animal matters are mixed with vegetable, the tendency to rapid decomposition which the former naturally possess is, by contact—as fire kindles fire—or leaven leaveneth the lump—communicated to the latter and the whole is changed together; like fire also, or like leaven a little of the one may also transform a great mass of the other: the time required for these decompositions and the temperature which both conduce to them and characterize them varies according to certain conditions, of which the most influential are the proportions in which the materials are present, the openness and moisture of the mass, and the temperature of the surrounding atmosphere: in a general way it may be said, that the more animal matter there is in proportion to the vegetable, and the hotter the external air, while at the same time the heap is moderately compact and moist, the more rapidly will decomposition proceed, and the greater will be the heat developed in the heap.

"Blood heat," or say 100° of Fahrenheit's Thermometer is the most favourable temperature at which the decomposition of manure heaps ought to proceed, and this can generally be maintained pretty evenly by opening or closing up the fermenting heap; covering it with earth or watering it with water is found not to be so good in practice.

To secure the greatest effect of the fermented material, the process ought to be stopped and the manure applied before the whole has become a mere soft, black earthy mass without trace of straw or vegetable structure, or before the temperature has become lowered wholly down again.

If the fermentation of a mixture of straw &c. with cow dung &c. be allowed thus to proceed unheeded it will be gradually losing weight and value; recent manure, it has been proved weighs more than twice the dry food and litter consumed, when half rotten it loses one fourth of its weight, and when quite rotten one half; that is—its elements have disappeared as gases in the air or as liquids in the soil. Now since putrefaction cannot proceed with-

out the formation of such gases and liquids the true secret of economizing manures (at this stage of the business) will be to try to fix or absorb the gases, (ammonia, carbonic acid &c.) and to retain the liquids by some appropriate means.

Among the *fixers* or absorbents which are readily accessible we may mention good black earth, peat or bog mould, plaster, saw dust, charcoal dust, leaf mould, pond mud, chip rubbish, turf, road scrapings &c., the liquids, again, may either be drained off into proper reservoirs and re-applied to the heap or they may be soaked up by a thick coating of black earth or peat muck spread beneath the heap. This decomposition or fermentation of manures is necessary to bring the materials into that form which suits them to become the food of plants and it ought always to be continued uniformly and steadily until it is completed. When it is an object to prevent the fermentation of manure it ought to be piled up in close masses on the shady side of the barn and kept as dry and cool as possible : if we have the materials, and if we can induce them to ferment we can at all times find the means for nourishing a luxuriant crop on our land.

By a full understanding of these simple principles a great deal more manure may be saved in the country than ever has been done heretofore. The same close apprehension of the principle must govern our practice wherever manures are concerned: in the yards much is lost by evaporation and by the winds, which might readily be saved: then also, the melting snow and rain are too often allowed to wash the salts out, or the spouts from the roof of the barn or ill-cut drains are allowed to drench the putrefying mass : much of this loss might be prevented by freely spreading bog earth in the cattle yards in early spring: in the fields also there is often great loss by evaporation or by leaching—a cover or crust of clay or peat or earth will be necessary here as well, and to economize the wash, probably the best way is to lay the heaps on a bottom of clay, peat or marl, and to place them on a high instead of a low part of the field. But besides saving the elements of crops, as indicated above, we may, by composting or mixing various materials, themselves useless with the animal manure or *ferment*, increase our available manure to a very great extent. This is a point to which we cannot give too much importance—the old upland farms of this country cannot be again brought back to fertility except by a much more general attention to mixed manures or composts. The materials for these are sufficiently abundant and accessible to all : by making proper use of them we may at least treble our manure and thereby bring

three times as much land into profitable tillage. Their preparation may go on either in the barn-yard or in the field or by the road sides, and we will again recur to them in a more particular manner.

Having got our manure, how are we to apply it? as a general rule, it ought to be *short* or well rotted before it is used, and as a general rule also, ploughing it under immediately after being delivered and equally spread over the field is more advantageous than using it as top dressing: on the average twenty waggon loads are a dose for an acre of tilled land, and it is better economy by far to apply twenty loads to one acre than ten loads each to two acres: if the land has been ploughed to the depth of say ten inches, it will be sufficient to cover over the manure to the depth of about three or four: all that is required is merely earth enough to cover and absorb the fertilizing materials—after the manure has been thus added to the land, decomposition still goes on, warming the land and yielding those nutritious elements under their proper forms which are required for the luxuriant growth of the crops: but, as formerly observed, heat, air, and moisture to a certain extent being required for fermentation, we must take care not wholly to deprive the manure while in the ground of its chance of access to these important influences. The previous clearing of the soil from weeds, and its preparation by drainage will greatly conduce to the economy of manure—a cold, watery soil, will not only arrest putrefaction, but it will run away with the materials which consitute the chief virtue of the manure. Another point of great importance to the farmer who complains of having but a small supply of manure, is, that he should apply that which he has got to that crop, and in that part of his rotation so that the greatest benefit shall be derived from that which he actually can command. The principle which ought to guide the farmer in determining the rotation or succession of crops is sufficiently simple; all crops remove certain of the elements of the soil, that is, they exhaust the land more or less, but they do it unequally: grain crops, which grow till their seeds are ripe, remove the greatest number of the fertilizing elements of the soil: the English grasses which also ripen their seeds are next in the order of exhaustive power, then the fallow or root crops, while land laid down to pasture rather improves than otherwise. Hence it is obvious that crops of the same kind ought not immediately to succeed each other, but to alternate with others, and the principle holds good, not only for the different classes of crops, but for the different species of the same class, as each class comes round in the general rotation. Thus they will exercise upon the land

actions alternately opposed, and therefore to a certain extent compensatory while each particular element of fertility in the soil is made to go as far as possible.

In breaking up old pasture or mowing ground, therefore, the sod may be regarded as manure enough for an oat crop; next year may come a hoed crop with a good dose, say thirty tons of manure per acre, this will enrich, pulverize and clean the land, and still leave enough of nitrogen and phosphates from the manure for another grain crop of a different kind, say wheat, rye or barley, in the third year: if clover and grass seeds have been sown with last year's grain we will have a good crop of grass in the fourth year; during the fifth and sixth the grass may be cut for hay, provided it has been top-dressed (with say ten tons of manure) in the fifth: in the seventh or fall of the sixth year the land may be again ploughed for another kind of grain crop to be followed by another kind of root crop. For the average light upland soils of this country the above course which affords two doses of manure every seven years may be called an improving one for the land; by striving to get more crops of grain or hay in succession the farm must at length become impoverished, and the farmer too; it is quite possible, however, be it observed to get a succession of almost any kind of crops from good land by high manuring, for a great length of time, but in the ordinary upland of this Province, and with the ordinary supply of manure made on the farm, it is impossible. The practical inference, therefore, is to reserve our manure for the hoed crops chiefly (which can hardly be over manured in fact) and for top-dressing to the grass land, if the grass is to be cut for hay at least and sold off the farm: the importance of green crops in the rotation and their value as a means of increasing our stock of manure can hardly be overstated: the land generally allowed to one cow, say two or three acres may thus readily be brought to nourish three or more, and the manure of well-fed cattle will go much farther in causing the fermentation of straw or bog earth.

The most important source of manure is the barn-yard, seeing that the materials thence derived can supply plants with all the elements which they require except those derived from the atmosphere, but how often have we seen it carelessly or ignorantly planned, so that it very imperfectly fulfilled its purpose:—the barn itself a cold, comfortless shed, and the yard a mere enclosure *sheltered* from the biting blasts of winter by a rail fence, and drained into the nearest brook or highway. The enlightened proprietor and contriver of these arrangements will not hesitate withal to tell you

that this is a poor country for farming, and that "*he cannot fix it up no how.*"

A barn should generally be built upon a side hill, in a dry and sheltered place and made quite tight and secure against the weather; warmth is as food to cattle, and if we can save hay inside by the application of boards or battens outside, the economy is obvious: the main barn should have a southern aspect, and if there be not other shelter-sheds or barns on the east and west sides, there ought to be a yard made open to the south and surrounded by a close fence six feet high and perfectly weather-tight: this fold-yard should be made hollow in the centre sloping gradually to a depth of about two feet: this may be readily done by the plough and spade, and the bottom ought to be rendered water tight if possible, by means of clay &c. If the yard be, say fifty feet square, the sides to a breath of, say ten feet ought to be nearly level: on some one of these sides, the manure or compost heaps may be made up in the spring, and if a slight roof could be fixed in any way so as to shield the whole or part of it from sun and rain it would be economical in the end: the surface water and the water from the roofs ought to be carefully led away so as to prevent the leaching of the manure, for liquid manure may be so diluted as to become almost worthless; if drains from the kitchen sink could be made to pass through the vault and then to end in the main yard, very much valuable materials might in this way be economized: but if from any cause the liquid materials should be so abundant as to drench the solid ones in the yard there ought to be drains contrived to carry away the moisture before it overflows, and sinks or catchpools to receive the liquid portions which are often quite as valuable as the solid.

This barn-yard should be laid with a foot of half dried peat or muck or saw-dust in August or September, after that let the droppings of the cattle accumulate within it, let all garbage from the house, all soot, sweepings and lime rubbish, all litter, potato tops, raspberry bushes, ferns, rushes and weeds from the fields, the refuse of gardens and of the cider press, all oat husks, bran, corncobs, and buckwheat chaff, muck from the swamps, leaves and soil from the forest and the roads, pond-weed from the ditches, sea weed and eel-grass from the shore, &c. be thrown in as they come to hand.

The cattle will, of course, remain there most of the winter and feed out of racks or sheds appropriated to them : during the winter season this yard should also be littered twice a week with straw, and if convenient, sprinkled occasionally with plaster : in spring it

may be cleaned out, and its contents made into heaps three or four feet high, with or without plaster, and brought to a wholesome state of fermentation before laying it on the land.

In addition to the main yard or general compost ground above described, there ought to be either a stone cellar under the cattle stalls which is on the whole the best, or a long, narrow and shallow pit about two feet deep covered above with a roof and puddled or lined in the bottom in such a way as to prevent leakage, and placed so as to receive readily the winters' dung and urine from the stables : the bottom of this cellar or pit should be laid with bog earth, loam or marl or other absorbent and occasionally also it should be sprinkled with plaster.

The rich manure of this cellar or shed may be incorporated in heaps with that from the general compost yard in the proportions of one of the forms to three of the latter and the whole thus brought into that state of admixture and decay which renders it most capable of sustaining the productiveness of the soil : a few weeks before the manure is required for the root crops it will be time enough to induce active fermentation in the heaps : after a time these heaps ought to be turned over once or twice so as to secure the full influence of the air upon the fermenting materials and effect the thorough incorporation of the whole: after this it may be hauled on to the land, and, in the case of turnips it is well to sow the seed with as little delay as possible after the manure has been turned into the soil.

Having now glanced at the general principles which ought to guide the farmer in collecting, preparing and applying the elements of manures which in fact are the elements of crops, we may proceed to speak of sundry manures in detail and more particularly of such as we conceive to be within the reach of the majority of farmers in this Province.

Stable Manure has been called the farmers sheet anchor and is the first and best of fertilizers: not only does it serve directly as food for crops but it disposes other substances to ferment and resolve into the soluble nutriment of growing plants, by which process death and putrefaction are transformed into life and luxuriance.

This useful material consists of the dung of horses, cattle and swine mixed with the litter, coarse hay, and weeds all trampled, moistened with urine and more or less decomposed : It is made up of the products and remains of every kind of crop, and therefore contains those elements from which every kind of crop may be fed and reconstructed ; chemically its composition is as complex as

that of the crop itself, but carbon, water and silica always constitute its *bulkiest* portion: both its composition and its power or value is, however, extremely variable: these depend partly in the proportion of animal and vegetable matter, partly on the kind, the condition and the food of the stock, partly on the time which has elapsed since it was dropped, and greatly according as the liquids and gases evolved from it, have been allowed prematurely to escape or not.

The indifference so generally shown throughout the Province to the collection, preparation and economy of these substances is one of the great causes of the impoverished condition of the farms : in this direction therefore reform must begin, *for otherwise there is no hope:* without stable manure which is the raw materlal of crops, no crops can be manufactured, and the fermentable materials cannot be fermented. It is rather surprising that although stable manure has been almost the sole dependance of the farmers in this Province for the improvement of their land there should have been at the same time such utter carelessness in collecting and preserving it in its most available conditlon : the practice of throwing it out from the barn window from day to day so as to expose it to snow and rain, sun and wind cannot be too strongly reprobated, for it is easy to see that great part of its value is thus destroyed, and little remains but a short straw, which may be again culled over by cold, ill-fed cattle who seem thankful even for that bite: in England it is generally admitted now that stall or shed—feeding and soiling cattle is the most profitable in every way, one cow may thus be made to produce about 9 tons of solid dung per annum, but it may be some time before we can get labour cheap enough to adopt this practice in New Brunswick : there is, however, one point which we considér to be well worthy of attention by all who are anxious to economize in this direction; it is a frequent practice in this country at present to enclose a small piece of ground in a field near the road, and then to yard the cows from milking time in the evening until the next morning ; it is quite common to see from 5 to 20 head of cattle thus brought together every night during the summer season, while the valuable manure which they make is left exposed to sun and rain until it becomes almost or quite worthless. This wasteful practice of manuring the atmosphere as well as the soil ought at once to bo done away with, and in lieu thereof we would recommend either that the cattle should be put up in a well-littered and ventilated stable, or in the barn yard, giving them a bedding of straw, peat leaves, or even saw dust to absorb the urine

&c,, one ton of dry straw may thus by skilful treatment be converted into three tons of manure. Where the premises are sufficiently commodious the different kinds of manure should be collected and kept apart until it is considered proper to mix them together, and the greatest care should always be taken to prevent the escape of the strong smelling ammoniacal gas, upon which not only the fermentative but the fertilizing virtue of the manure mainly depends: this may be done by using a cover or fixer as already suggested, by treading or beating the mass compactly together, or by saving the urine, and keeping it apart from the solid dung. If we save the mass from washing by rain or snow water we will likewise economize not only ammonia but many other valuable ingredients:—another important object should be to prevent the commencement of fermentation until near the time when the manure is to be applied to the soil. By covering with sods or bog earth, treading and pressing so as to prevent the access of air, and by keeping the whole cool and dry we may easily effect this, while by forking, turning, evenly mixing and moistening it (with urine if necessary) during warm weather we readily induce and regulate the putrefactive fermentation : when once begun in the heaps let it proceed steadily, and then, after one or two turnings, apply it to the land in the spring or autumn ensuing, before the fermentation is completed, so that the latter part of the process may take place in the soil.

Long or partially fermented dung is best for clay lands, because the straw helps to open their texture : in our climate, when used on light soils it is apt to become too dry, and to stop fermenting altogether : *Short* or well rotted dung is best for light land, and particularly for root crops which germinate quickly and require a full supply of food from the beginning.

The *Hog Pen* is an important source of manure for the compost yard : from one hog properly fed and littered we may make more than two waggon loads in a year: by using bog earth for litter and throwing in a handful of corn occasionally they will incorporate the bog earth with their droppings so as to give rise to a most valuable compost: hogs dung ought always to be mixed with other manures. Where many *sheep, fowls, and pigeons* are kept, much valuable matter also accumulates, which ought to be saved: it will prove nearly as useful as guano. Few farmers are aware of the value of the *urine* that is suffered to be wasted on the farm : in the course of a year. Weight for weight, the urine of animals may be considered as powerful as their solid excrements, and pains ought to be taken to save every drop of it. One cow passes about 1000

lbs. of urine in a year and this is considered in Flanders to be worth £2, and to be a full manuring for one acre of land. The urine of man and of the horse is also known to have a greater fertilizing power than that of the cow. Liebig says that the urine of one man for one year will manure an acre of land, and that a pound of urine contains the elements necessary for one pound of grain. Much greater economy ought therefore to be practised in regard to this substance which is so rich both in nitrogen and phosphates. By the proper use of mould or bog earth, much of it may be saved, while the peat itself is made to ferment and decompose thereby : a pit capable of containing twenty or thirty loads of bog earth may be so arranged as to receive all the urine of the stables. Another way is to build a proper reservoir to collect it, and in which it is to be allowed to ferment for a time, then mixed with water and applied on grass or other land; or in the liquid form it may be applied to the manure or compost heaps so as to promote their fermentation: on this subject, Loudon says (Encyclopædia of Agriculture p. 341) "We would strongly recommend the practice of saving urine in tanks to the British farmer, and not to the farmer only but to every cottager who keeps a cow or pig; nay to the cottager who is without these comforts, but who has a garden, in which he could turn the great accession of manure so acquired to due account. Let him sink five tubs or large earthen vessels in the ground and let the contents of the portable receiver of his water closet, all the water used for washing in the house, soap suds, slops and fermentable offals of every description during a week be carried into one of those tubs: and if not full on the Saturday night, let it be filled up with water of any kind, well stirred up, the lid replaced and the whole left for a week. Begin on the Monday morning with another tub, and when after five weeks the whole five are filled, empty the first at the roots of a growing crop and refill. Or use two large tubs, and continue filling one for a month, and at the end of a month empty the first, and so on."

The *Drainings of the Dung-heap* ought never to be allowed to be lost: they are of very variable composition, but are often more valuable than the urine alone—they are liquid manure of the best kind. By the use of bog earth to absorb them or by means of properly constructed drains it will be easy to economize the whole.

Night-soil is another most important manure, one bushel of it when dried and powdered is said to be equal to a load of stable manure—the reason of the difference is, that the food of man is flesh and the flour of the grain, which is rich in nitrogen and phos-

phoric acid, while that of cattle and their litter consists chiefly of stalks and leaves. Weight for weight, it is therefore the most fertilizing of all applications to the land, and it seems but poor economy to be sending to Peru for Guano, while we are recklessly wasteful of a fertilizer which is quite as valuable, and within our reach. Human soil may be carried off by a sewer from the kitchen sink which passes through the vault to any proper reservoir lined with muck, and prepared to receive it: or, by a little forethought, it might easily be removed in a much less offensive and inconvenient way than it is done at present. Get for instance a tight box of deal, say 4 feet long and 3 wide and 2 1-2 high, secure it to a pair of rough, strong runners in the shape of a common wood sled, with a tongue and roller, and place the whole under the seat of the building: as soon as this is conveniently full, throw in some charcoal dust, bog earth, marl, plaster, or saw-dust, or a combination of two or more of these, which will destroy the smell: then attach the horses or oxen and remove the whole to a proper place, empty it, and return it again as before. The night soil is best used in a powdered state, and for this purpose it is only necessary to spread it on the ground in layers of 3 inches thick, and cover with about half an inch of charcoal dust and plaster or dry bog earth, or charred peat, or ashes, or mould or charred clay; in a short time the whole mass will be dry and can be reduced to a fine mould either by running a roller over it, or by beating it with the back of a shovel. It will then have lost its smell and may be used as a compost with the seed for a drill crop, or as a top dressing at the last harrowing, at the rate of ten bushels per acre.

In regard to the general treatment of home manure it is to be observed that in point of economy this valuable material should rarely if ever be used alone, but rather incorporated with some other materials to which the fermentative tendency may be communicated; of these the most generally accessible is *Peat or Bog-earth*. This is a substance which of itself is inert and useless if not positively injurious to land, but which by skill may be rendered soluble and nutritive to crops. Mixtures of Bog-earth or saw-dust with other materials capable of quickening and decomposing it come under the general head of composts or mixed manures, and may be used advantageously on any but peaty soils. Bog occurs either on the upland where it is dry, more or less mixed with bits of decayed wood and earthy matter, or on low meadow lands and contains many fibrous roots and stems of coarse grasses of subaquatic plants: both of the above are black in colour. It also

occurs in swamps and spruce barrens where it consists almost wholly of gray, wet and spongy or slimy moss.

These varieties all consist of vegetable substance, which have decomposed, though only to a limited extent, by the chilling influence of the climate, and the abundance of stagnant water. The term *Peat* is applied to the denser varieties, and *Muck* to those which are loose: the loose earthy kinds differ also in quality: the best kinds are those which have been chiefly formed from hard wood, the next from soft wood. *Pond mud* is another variety with less vegetable and more earthy matter.

Peat earth, we have said is generally accessible in the Province, and in fact there are facilities for procuring it which are somewhat peculiar here: that is, it may always be dug and dried in the summer, and by means of the snow it may always be readily hauled and brought home in sleds in winter to the cattle yard or shed, or on to the field: in spots which could never be reached by wheels it may become accessible on runners; farmers who refuse to get out the bog stuff in summer, and to haul it in winter are justly chargeable with neglect of their best interests: if it were once generally understood that this material contains many of the best elements of barn yard manure, that in fact a cord of peat contains as much useful material as the manure of a cow for three months, that it is readily fermentable, and that nature preculiarly favors our designs for getting at it to procure them, we believe there will be no lack of either of will or of ways to procure it: if there be a prejudice against peat as an element of composts, it can only have arisen from an inadequte knowledge of its virtues, and if it has hitherto failed, it has been from an improper macufacture of the compost, most probably from an insufficient fermentation of the mass.

Having looked out a convenient place to procure this useful material, the first step is to dry it: fresh peat contains about 75 per cent. of water, and even when called dry it still holds about 10 per cent.: this drying may be effected in part by draining or trenching the ground where it occurs, but more easily by digging it out at a convenient season, either in the summer or winter, piling it into heaps, and leaving it for some months or even a whole season to the full influence of light, air and moisture; by these agencies it crumbles to powder and parts with much of the sour or antiseptic principles which it originally had: having got it thoroughly dry and crumbled, the next step is to cause it to rot or decay and become converted into the soluble forms required for the food of plants. There are various ways of doing this, but they all resolve themselves

into composting with materials rich in Alkali. This Alkali, whether it be Ammonia, Potash, Soda or Lime soon disposes the peat earth to fermentation and reduces it to a state of great efficiency as a fertilizer. Ammonia is most accessible in urine or fresh stable manure, Potash and Soda are the characteristic constituents of Ashes, and Lime in any quantity may be easily procured.

In warm weather one part of animal substance will cause ten parts of dry peat to ferment, or one hundred pounds of flesh properly cut up and mixed will decompose about one thousand pounds of peat, and a dead horse will decompose five or six cords of it: a barrel of fish or fish refuse, or a hogshead of urine will decompose a cord: from a half to a fourth of fresh stable manure will be sufficient to induce heating and decomposition, and produce a compost which is said to be as efficacious as an equal weight of unmixed farm yard manure, in enriching the land for a root crop, and one-fourth or less of sea weed will serve the same purpose, so that when there principles are fairly understood there need be no difficulty in procuring abundant means of fertility for the land.

Peat earth may likewise be decomposed by wood ashes either leached or unleached: it takes about four bushels of the former, and twice as much of the latter to induce fermentation in one cord of peat. When a bushel of lime is added to a load of wet muck, the water of the peat will slack the lime, decomposition will be set up and the whole brought into a useful form for top dressing young clover, &c.; a better way is to dissolve a bushel of salt in water, and to mix it with ten bushels of lime until it is thoroughly slacked and moistened: let the mass remain for a week more, and then be added to three cords of peat, shovelled over for about six weeks, and then applied to the soil. By mixing salt with lime, soda and the chloride of lime are formed, both of which are very excellent fertilizers. On the whole, however, it will be more generally advantageous to combine the above materials in the same compost: thus we may mix one load of stable manure with three of bog earth and three bushels of ashes or quick lime and salt. Pile the whole up into heaps and turn over once or twice during the season—such a mixture is considered to be equal to barn manure, load for load upon worn out land.

When compost heaps of peat and green manures, &c., are to be made in the field a layer of the muck and a layer of the manure ought to be laid down parallel to each other, and distant five or six feet: let there then be laid down between the two a layer of muck ten or twelve inches thick, then a layer of lime or ashes, then a

layer of manure in proper proportion, then another layer of muck and so on always covering with the latter; if it has not been too closely packed it will take on a good heat in a week or ten days, and in six or eight weeks, more or less according to the weather, it will be ripe and ready for the land: it may however, be advantageously turned over again before using.—Peat earth or fine saw dust, ought *always* to be kept on hand at the Farm: they might be kept for absorbing liquid matters in the stable, the dung cellar, the barn yard, and the hog, sheep and cattle pens, where they will not only save the liquid manure, but will themselves become soluble and fertilizing: after stable manure they are the most available fertilizers which our Farmers can command, and by using them skilfully they may soon reclaim their exhausted lands, and begin again, with greater propriety, to sell their hay and straw off the Farm.

A good compost sufficient for an acre of ground may be made of forty bushels of mould from the woods, five bushels of ashes, five bushels of bone dust, and thirty gallons of urine, when this is mixed in heaps and shovelled over it becomes earnestly fertilizing.

The following is said on good authority, to be superior even to guano:—

Peat earth or saw-dust, - - -	40 bushels
Bone-dust, - - - - -	7 do.
Quick Lime, - - - -	20 do.
Coal-tar, - - - - -	20 gallons.
Common Salt, - - - -	1½ cwt.
Epsom do. - - - -	1½ do.
Glauber's do. - - - -	1 do.

The whole to be mixed in a heap and allowed to heat or ferment.

Another compost may be made of a mixture of lime and ashes with weeds, twigs, leaves, potato haulms, brakes, raspberry bushes, nettles, chip rubbish, and other refuse vegetable matters. This compost will necessarily vary very much in composition: if lime be scarce and woody fibre abundant in it, its value will be but small: another common compost may be made of farm yard manure, lime, soot, scrapings of roads, sods, sweeping of ditches, pools or ponds, hillocks from old pastures, and all kinds of rough and waste mixtures of earthy vegetable matters: the lime should be mixed with the earth in a separate heap, and added in layers to the other from time to time. These heaps may be formed in the yard, the field or by the road sides: the great principle is to let nothing be lost, and the more of these compost heaps "and dirt pies" that are to be seen in any neighbourhood the more favorably would we augur of the industry, intelligence, thrift and profits of the Farmer.

We need hardly point out the value of *Salt-Marsh Mud* to farmers on the sea-board: we are happy to say that many of the farmers along the shores of the Bay of Fundy are actually engaged in renovating their worn out uplands by the mud of the marshes. On the large scale, the enterprising men of Westmorland are covering waste bog or marsh land by letting in the muddy tide waters of the Bay, and leaving the sediment or warp, not to improve the old, but absolutely to make new land; the Toler Canal and the Botsford Canal are perhaps the most signal and successful monuments of Agricultural industry in New Brunswick: many thousand acres of swamp and water have thus been redeemed and converted into valuable hay land.

Wood Ashes contain a great many of the necessary elements of fertility, (but of course can only supply the ash, or mineral portion of any crop:) even when leached they must be regarded as useful additions to the soil; German and even English farmers often haul them from a distance of twenty miles, and if they are to be had either leached or unleached they ought to be carefully saved for the land. The composition of any given heap of wood ashes is very variable, but always, even when leached they contain a considerable proportion of the phosphates which are so essential for grain crops and when mixed with bone dust are found nearly to double its effect. We have already spoken of them as a useful ingredient in composts and we may farther add that to land already in good heart a compound of bone dust and wood ashes will always be extremely beneficial: eight bushels of bone-dust and twenty-four of ashes mixed and moistened with urine for two or three months form an excellent compost for an acre of Turnips.

Charcoal is also an excellent article for the farmer and there is no excuse but ignorance to be offered for his neglect of it. Like peat it consists of vegetable substance partially decomposed but still rich in the elements of productiveness.

It is admirably fitted to absorb and retain the gases of fermenting manures, and when mixed in a state of powder with the soil to decay and yield them up again, as well as its own substance to the crops. After the coal is burned the large lumps can be readily broken with an axe or maul, and then reduced to powder on the barn floor by passing a heavy roller over it: it may be used advantageously for any crop and on any soil at the rate of 40 bushels to an acre : or it may be used with some of the composts.

Soot is also a useful fertilizer: and when mixed with salt it is said to be most especially favourable to carrots, potatoes or wheat.

Farmers who live near the sea should never neglect the valuable resource which they have in *Sea-weeds*. Scotch and Irish farmers spare no pains in collecting this material, and after a storm they sometimes pass the night in hauling it beyond the reach of the waves. Sea weed contains more nitrogen and saline matter than land plants and ferments more readily: its application to land is therefore greatly calculated to increase its productiveness for a season. It may be ploughed in at once, or it may be used as a top dressing to grass lands, or it may be advantageously composted with stable manure, earth, lime, peat moss or marl, turning over the mixture once or twice before using it. The ash of sea weed makes an excellent top-dressing, but it is not so likely to be used as the plant itself in the green or dry state.

Eel grass or sea wrack when green makes a very good manure for clay soil, or it may be used as litter in the stables and hog pens: after it has become wind dried it may be made to ferment in the compost heap, or it may be burnt and its ashes added to compost heaps.

Where *Fish*, or refuse fish or fish garbage can be had they can be turned to good account by the farmer, although, by reason of their rapid decomposition their effects on the land are rather transient, and they are said to be rather injurious to the land if ploughed in the fresh condition: they should therefore always be composted with peat or muck and soil, or with marl or wood-ashes and seaweed. These mixtures are known to be excellent for roots or grains.

Green Manures or the ploughing under of growing crops may be mentioned among the means of renovating our light and worn-out land: leafy and juicy plants like clover or buckwheat, are generally preferred for this purpose: the practise of ploughing crops under has in some cases in this Province been attended with the very best effects: but it will probably be some time before our settlers can be persuaded to forego a crop for the season on this account: in some cases, however, it may be the most convenient way of renovating land when farm yard manure is scarce and expensive: still it is only a temporary expedient, because no young, leafy plants can supply to the soil, all those elements (nitrogen and phosphoric acid) which are especially required by grain crops. When clover is to be used, it is sown with the green crops of the previous year and ploughed under late in the succeeding spring before the plant has blossomed: or the second growth of clover may be ploughed in the fall. When buckwheat is to be used in this way, it must

be sown separately and ploughed in once or perhaps even twice in the same season before the stalks have begun to grow hard and woody: it is asserted by some that these green, leafy plants derive nearly three-fourths of all their substance from the atmosphere so that, if so, the theory of green manures is simple enough.

When the farmer can afford to buy any Portable manures, *Bone-dust* and *Guano* are probably the best which he can select. There will always be a saving with them in the cost of carriage and delivery on the land. One drawback is however their liability to be adulterated. This is often most unscrupulously done even to the extent of 80 or 90 per cent, and the farmer ought to be fully upon his guard against imposition. Our object in the present report is rather to point out the way to economize the manure which the farmer has at his command than to detail the various ways in which money may be laid out on those of whose value he is ignorant. Bone-dust consists partly of animal matter and partly of that kind of mineral matter which is absolutely necessary for cereal crops and which naturally occurs in very small quantity in the soil: its active principles are most probably nitrogen and phosphoric acid. Its price in Boston last summer was two shillings and six pence per bushel, and probably it could hardly be sold under four or five shillings in the interior of this Province: if land is otherwise in good condition eight bushels are said to go as far as thirty tons of manure for a root crop, but unless the bone-dust could be had proportionally lower than the manure it will not probably meet with a general sale in the country. We understand that it is intended to erect one or two bone-mills in this Province: they are deserving of every encouragement and this Society or the Legislature might very properly offer some pecuniary aid to the establishment of an efficient bone mill in some central place to be hereafter determined. Farmers might also now begin to collect bones which might hereafter be ground at such mills.

Bone-dust should be drilled in with the seed for a green crop at the rate of seven or eight bushels per acre, or sowed as a top-dressing with any cereal crop at the rate of ten bushels per acre, before the last harrowing: they may also be made to go farther by being composted with wood-ashes, sheep's dung, dried night soil, &c. Bones answer best on light dry soils, but do not wholly replace the bulkier stable manure.

The use of the drill in the application of bone-dust and all such manures as will admit of it is always to be recommended on the score of efficiency and economy.

We have now directed the attention of those who are interested in the subject of manures to the most accessible of those substances which, being themselves of vegetable or animal origin, are, on that account pre-eminently qualified to become the nourishment of new generations of plants and animals, and we have endeavoured to treat of them with as few scientific phrases and theoretical views as could well be employed in any attempt to inculcate correct principles: it has been deemed that the clear apprehension of a few leading principles might be of more service than the perusal of many pages of what is called *practical details*.

Crops require to be fed as certainly as children do: manures are the food of crops: whatever has been part of a living plant or animal may after decomposition again become food for growing plants or animals: render back to the field an equivalent for what you have taken in the crop: it is much easier to keep land in condition than to bring it up to condition: gather up the fragments, let nothing be lost: save your manure for the crops, waste not its virtues on the river or the atmosphere: without manure no grain crop, without cattle no manure, without green crops no cattle:—these are a few short rules to guide the practice of farmers, and if they become thoroughly incorporated in the soil of their minds will prove most potent fertilizers.

We have still to make a few observations on the use of some substances which, though they may never themselves have formed part of a living plant or animal, yet are qualified to do so and likewise greatly to aid the salutary transformation and decomposition of such refuse and refractory matters as only await their stimulating influence.

Lime is a substance which has been long known for its beneficial effects upon land, and may be added with advantage to most of our soils: Analysis has shown that it is generally deficient in the soils of New England and New Brunswick, and that such is the case even in the limestone districts.

Its application in this Province will, however, be chiefly determined by its price when delivered at any given place, and by the means and intelligence of the farmer. Limestone is a natural compound of lime and carbonic acid, though it generally contains few other substances in combination.

Quick lime is procured by burning off the carbonic acid in a kiln, by which process one ton of limestone is reduced to about eleven hundred weight of lime. Water-slacked lime consists of lime in combination with water, every ton of lime being thus made

to combine with about six hundred weight of water in the process of slacking, and which brings it to that state of powder which best fits it for the uses of the farmer. Air-slacked lime is a compound of lime with water and carbonic acid derived from the atmosphere, in fact, a sort of powdery mixture of mild lime and slacked lime. Hot lime and mild lime act much in the same way upon land, only the effect of the former is more rapid and energetic.

Lime has little or no action on vegetable or animal substances as long as they are dry, but if they be in a moist or fermenting condition, lime promotes decomposition and disposes the whole to a more rapid and thorough decay, it favours at the same time the production of those materials from the air, the soil (silica, potash and the phosphates) and the decaying mass which especially sustain the fertility of the land. Lime also helps to kill moss in land, to destroy insects, to neutralize "sourness," and being itself slowly dissolved becomes a direct nourisher of plants, into whose composition it always enters, though not in very large quantity: it is only found in the ash.

It is most important for the farmer to know that lime of itself is not an important manure, but that its value mainly depends upon its power to liberate materials locked up in the soil itself, and to dispose dead or inert vegetable matter to decay and become fit for food to crops: if land be destitute of vegetable matter lime will be of no use, if it be poor in vegetable matter or manure, lime will hasten the conversion and removal of them under a soluble form, but if it be applied on land which already contains a fair proportion of these it will greatly enhance both the quality of the land and the crop. With the liberal use of manure or compost there need be little fear of over-liming.

For dry and light soils less lime will be required than on wet and heavy land, but from five to ten bushels of quicklime per acre added annually to the arable land of this Country will be found to be of great permanent advantage, and if it is wished to apply it only once in the rotation it must still be done at the above rate.

Lime may be applied in the form of compost as has been before explained, and if it is thought advisable to apply it as top dressing to meadow land, it is good practice to haul and spread it on the meadow in the fall when the snow is two or three inches deep.

There are some other substances rich in lime and which act upon the same principle which to many farmers may proye accessible where lime is not: these are

1*st. Shells*, which when burnt are as good as lime.

2*nd. Sea sand, Shell sand and Mud,* which form an excellent top dressing.

3*rd. Mussel mud,* which is good either to be ploughed in while moist or when composted with manure, &c. These generally contain animal as well as mineral matter.

4*th. Marl,* which is a mixture of mild, powdery lime and clay, with more or less of vegetable or animal matter, and is found commonly enough along the sea board of this Province: sometimes the lime has been derived from broken shells, at others, from the wash of rocks which contained lime: the proportion of lime to clay varies very much from one place to another, but the presence of the latter renders it always well fitted to improve both sandy and peaty soils. It is generally best to lay out the marl in heaps in the field and to let it lie over a season, after which it may be spread on grass, stubble or fallow land with great advantage.

Plaster contains about one-third of its weight of lime, but not in the same combination as in limestone. When burnt it consists of 42 per cent. of lime, and 58 per cent. of Sulphuric acid or oil of vitriol, which latter also enters into the composition of crops. When the farmer can afford it he ought never to be without a supply of Plaster.

It serves directly to nourish crops, (it occurs in their ashes) and to fix useful matters from the air, the dung, and the soil. Like lime also it accelerates the conversion of moist vegetable matter, and, when the latter has been small in quantity, may occasionally seem to cause a sort of exhaustion of the land. At the rate of one or two bushels per acre, it would be a valuable application to the dry soils of the interior, and would tell especially on young wheat seeded down for clover, &c.

It may always be advantageously used to fix or absorb the volatile gases of manure heaps and of night soil, and if sprinkled on the floor of the stables occasionally, would not only purify the air, but economize much of the liquid manure.

It is most earnestly desired by this Committee, that the attention of farmers should now at once be directed to the intelligent economy and increase of manures: *this must lie at the bottom of all improvement in our systems of husbandry:* he who goes on in the old slovenly way, wasting the food of his crops, and grumbling because the land will not yield him a profitable return had better sell his farm and vanish into the States. As soon as the crop is in the ground in the Spring, the farmer should begin collecting materials for a compost heap for the next year's use, and he should set about it

with as much zeal *as if his future crop—and subsistence depended upon that alone.*

By all competent observers, the character of the Farmer as an intelligent and successful cultivator of the soil will ever be readily inferred from the appearance of his barn yard and manure heap.

All of which is respectfully submitted by

J. ROBB, M. D., Chairman.
H. J. HANSARD.
WM. WATTS.

Fredericton, March, 1850.

The Committee appointed to Report upon the best modes adapted to the circumstances of the Country for raising Turnips, Mangold Wurzel, Carrots, and Parsnips, have attended to that duty, and beg leave respectfully to submit the following

REPORT.

In taking up the subject of the cultivation of Root Crops, there are several very important considerations, to which your Committee would beg leave to call the Farmer's careful attention.

First, the importance of the Root Crop as regards its own intrinsic value.

Second, as a valuable crop, in connection with others, for restoring, old wornout land: and Third, its adaptation to the climate and soil of New Brunswick.

First:—The great importance of the Root Crop in this Province has been almost entirely overlooked; and its adaptation for stock has scarcely ever been tried. The extensive cultivation of the Root Crop, both in England and Scotland, is of recent date—but the benefits from it have been so great, that the Turnip Crop alone, is second only to the cereal crops, and equal in value to all the others put together.

If then the value of this crop is so highly estimated, and thought of such vast importance, in a country so celebrated for agricultural knowledge, may it not be taken for granted that the like beneficial results, would follow with us—and that we may safely follow its example? Unfortunately the Farmers of this Province heretofore, have had their eye only fixed, upon what they could get for their Bushel of Roots, in the market, without ever turning their mind to the improvement of their land or stock: thus when they could obtain 1s 6d. or 2s. for a bushel of Turnips or Carrots, they would continue to raise a few from year to year; but so soon as the market was supplied and the price reduced, the cultivation of the crop was considered useless. The committee would therefore, most seriously call the attention of our Farmers, to the great benefits to be derived from a more extensive cultivation of Roots as feed for stock; the saving in hay alone would amply compensate him if nothing else: but stock of all kinds are vastly benefitted—milk increased—the health of the animal improved—and, instead of bringing inferior beef to market, which if he sell at all must be at a low price, he would bring such meat as would ensure him a ready market, and a remunerating sum.

It is a fact well ascertained that an ox fed on hay, with a liberal supply of Roots until five years old, will bring more money in market, than he would have brought at six years old, had he been fed only on hay, however plentifully supplied: and there isnot a doubt, but that there is more value obtained from two acres of land well cultivated in root crop, than from three or four acres in any other article for food for cattle.

Taking these things into consideration your Committee would recommend that every Farmer should devote a part of his tillage land at once to green crop, and are of opinion that one-fifth of the land under plough should every year be devoted to the Root crop, —that is, he who ploughs five acres, should have one acre in turnips, or carrots, or mangold-wurzle, or a part of the acre in each, and the same proportion should be carried out, however large the farm under cultivation.

We come now, in the second place, to the consideration of the Root Crop, as one of incalculable value (in connection with other crops,) for restoring old worn out land.

It has become an important enquiry with our Farmers, how they shall fertilize their land, that has become exhausted by taking off large amounts of produce from year to year for sale, however remote from towns from which they might obtain manure—this is an important query and one in which they are highly interested, in having answered correctly. It is absolutely certain that Farmers cannot annually rob their farms of large crops of Grass, Roots and Grain, without either supplying manure to the soil, or losing rapidly in fertility We shall briefly advert to some of the most obvious resources for sustaining and improving the productiveness of the soil.

With the intelligent and systematic Farmer a proper rotation of crops is adopted, which he has found by experience to be best suited to the locality and markets; what is meant by this, is a regular succession of crops in the same field, through a series of years, which at their end is again commenced; they are so arranged that no two grain crops succeed each other, but are separated by Roots, Grain and Grass: this system prevents the necessity of the soil yielding similar ingredients through two or more successive seasons, which it will seldom do to so profitable an extent as to justify a second crop; the great object of this method is to give the land rest when allowed to lie in meadow, or refreshment when clover or other fertilizing crops are ploughed in to the soil for manure, but it is evident at a single glance that this system does

not contain all that is necessary for sustaining the full measure of fertility of land subject to close cropping; but that it is necessary to return to the soil, manure, straw and offal, of every kind and also to carry on in connection a succession of crops.

For this purpose your committee would recommend the following Rotation or eight course system; we will suppose it to be sod land of inferior quality, this ought to be ploughed late in the fall in furrows from six to eight inches deep-laid flat and rolled, the first crop oats, seeded thick, harrowed and rolled; as soon as the oats are off, plough in the stubble.

Second crop Potatoes, manured in the Drill with at least ten cords manure to the acre.

Third crop, Wheat.

Fourth crop Turnips, Carrots, or Mangold-wurtzel, or a part of each, manured and planted in the Drill, with at least the same quantity of manure as for the potatoes.

Fifth Crop, Barley or Rye, and seeded down to Timothy and Clover.

Sixth, Seventh, and Eighth crops, Hay, and at the expiration of the eighth crop, the land must be again broken up and the same or some other course commenced: when it is thought advisable, Indian Corn may take the place of the Roots as the fourth crop, or Beans or Peas that of Wheat, as the third crop. The advantage of this course is, it will be perceived, that the Farmer gets eight crops, and all remunerating ones, for two years manure, and in the end his land is in a much better state, than when he commenced.

We come to consider the Root crop when the manure is plentiful, and the object a prize crop of Roots. The first great point is the quality of the Soil: though it must be remembered that we are not now considering potatoes at all, but turnips, carrots, &c., the Farmer will best understand us, when we say that the land which is good for Indian Corn, is also good for Root crops, or may be made so. The land best adapted for the root crop, is strong loamy soil: it should be ploughed in the fall, and ploughed deep, and if subsoil ploughed, the better. The first operation in the spring, is to harrow the soil thoroughly: it will help to pulverize the land, and enable the cart to get on the land the easier with the manure—about fifteen cords of manure (or about thirty wagon loads) should be carted on, and spread out evenly on the surface, then the land should again be ploughed, harrowed, and again cross-ploughed; it should be borne in mind, that it is of great importance that the soil be finely broken up, pulverized and rendered mellow, free from

clods of every kind: it will be necessary to defer the last harrowing until ready to sow the seed, and a very great deal depends, upon getting in the seed, whilst the ground is fresh and moist; when quite ready to sow, harrow the land well, and get in the seed as quickly as possible; the drills for parsnips, beets, carrots, mangold-wurzle, and turnips (in field culture should be at least twenty four inches apart, to give room for the use of the cultivator, and for cleansing the crop, and loosening the soil, if a seed sower can be obtained much time is saved by its use in getting in small seeds, and the whole work of opening the drills, sowing the seed, and covering the same, is performed at the same time; but if this is not to be had, each Farmer must use his own ingenuity to devise the most safe and expeditious method. A line stretched out, and drills opened along the same, two inches deep, with the corner of a common hoe is a method adopted by some: others open the drill with the cultivator by taking out all the teeth but the two hind ones, setting it a proper distance apart, with this and the use of a horse, two drills are opened at once, and an acre of ground is gone over in a short time; the Farmers great object should be, to save time, always bearing in mind that every operation must be well done. All these small seeds, with the exception of Turnips should be got in as soon in the spring as the ground is dry, but if they are in by the first of June there is every prospect of success: the proper depth to cover small seeds is one inch: the quantity of seeds for an acre of carrots is 5lbs, the same for Beets and Mangold-wurzle 2lbs. for Parsnips, and 4 for Swedish turnips.

It often happens that the farmer may not find it convenient to put in all his seeds, in one day or even week; in that case we would advise the following rule to be observed, the first in order in the ground to be the Parsnip, next Carrot, then Beet, and last Mangold-wurzel.

Swedish Turnip is the last in order of the seeds sown in this country, and ought never to be sown earlier than the 1st of June, or later than the 25th; we would recommend the 10th as the correct one, and we think 4 lbs. of seed the most desirable quantity to the acre, so as to feed the fly and ensure the crop. All these small seeds are benefitted by being sprouted in rich earth well turned up for ten days before sown, or they may be soaked five days in soft water for Carrots, Beets, Parsnips, and Mangold-Wurzel and eight hours for Turnips; this we think benefical in all countries, but more especially this, in the weather here is generally hot and dry, which would in a degree prevent the dry seeds from getting an early start

and healthy growth in their infancy, which is necessary for a good crop. The seeds when sown in drills by hand (and not by the sower) may be covered with the back of a common rake, and a large amount of ground can be gone over in a day by this method with a little practice; the after cultivation of all the Root Crops enumerated is nearly the same. Great attention is required to *thin the crop in time;* as soon as the plants can be clearly distinguished through the whole length of the drills, they should be gone over with a hoe, and the weeds in the drills cut out, and when the plants stand very thick, a part of them removed. As soon as the Turnips are well in the rough leaf, they also should be attended to the same, and as soon as the weeds begin to reappear the Cultivator should then be used between the drills to loosen the soil, and keep them down; in about ten days later, the whole should again be gone over, and the plants thinned to two inches apart, and the Cultivator used again; in fifteen days later they should get their third and last weeding and thinning and on this depends much of the welfare of your crop. Your crop *must* be kept free from weeds and the plant well thinned out; Carrots should be at least six inches from plant to plant; Parsnips and Beets ten inches, and Mangold-Wurzel and Turnips twelve inches; *less will not insure you a first rate crop*; use your Cultivator freely between the drills, and at the last thinning remove the mould from the roots of the Turnips, by which means they will be much freer from fibrous roots; this is all that will be necessary for you to do with the exception of occasionally looking through them to remove large weeds. Mangold-Wurzel should be the first Root Crop, harvested in the fall (say first week in October); they stand so far out of the ground that they would be injured by the frost.

The method here recommended will, your Committee are of opinion, ensure the largest return to the Farmer for his labour and expense, where manure is plentiful. But as there are many farmers in the country whose opinions should have great weight, favourably disposed to the system of manuring in the drill, and the Committee are not unanimous in their views on the different systems, we think it will be necessary to say a few words on the drill system. In either plan the ground should be well mellowed by the Plough; after the land is prepared, the drills should be opened with a double mould board Plough, eight inches deep, and the drills two and a-half feet apart, compost then laid evenly in the drills, at least twenty horse waggon loads to the acre, and the earth again returned over the manure six inches deep; after the

land is manured and covered over, a heavy roller should be passed over the drills, to settle the soil, break the lumps, and flatten the top of the drill, the seeds are then sowed, as already described, and the whole after treatment the same in every respect. After all, however, that has been said or can be said upon the subject, it is impossible to lay down any general rule that will answer special purposes, in sandy soil the flat system, and on heavier soils the wide system seems to argue best. The Farmer must school himself to mark, learn, and digest the circumstances of his own particular case. For instance when the soil is shallow, to throw it up in ridges, gives more depth of earth, suitable for a long tap rooted plant; again, where manure is scarce by placing the whole compost directly under the plant, it will receive a larger amount of nourishment from a limited amount of manure. So again, where the land is very wet, by throwing it up in ridges, the water will have a greater opportunity of escaping. All these, however, and many more, are circumstances which the Farmer must determine for himself, and which no others are qualified to decide; then again, as to the *quantity* of his Root Crop, and the *particular kind* best for him to cultivate, these are matters of importance to himself and to him only; the distance from market, the articles most likely to fetch a remunerating price; if to be fed to his Stock, what Roots best adapted for particular kinds of Stock; thus Carrots are decidedly the best for horses—Turnips for Oxen, young cattle fattening for beef and Sheep; Mangold-wurzel for Milch Cows; Parsnips for Cows and Hogs:—all these circumstances that an intelligent Farmer will find no difficulty in answering for himself.

We come now in the third place to treat of the peculiar adaptation of this crop to the climate and soil of New Brunswick.

Your Committee are firmly of opinion, that the Province of New Brunswick, stands unsurpassed, both in climate and soil for the cultivation of Root Crops. The rich alluvial soils of our intervales and Islands and much of the strong loamy lands of our highlands, is the very soil of all others the most fitting for the growth of roots; and our warm and sunny weather in the last of May and June warms the earth, vegetates the seeds, and gives a health and vigorous growth to the young plant altogether unknown either in England, or Scotland: and it is a singular circumstance that the Swedish Turnip or Mangold-wurzel have never failed in New Brunswick, where the crop has been managed with skill, and properly attended to. And that carrots, parsnips and beets, succeed well eighteen out of twenty years. Your Committee have carefully

compared the estimated quantity of each of the Root Crops per acre in Europe, with the amounts issued here, and feel confident in stating that when judgment and skill are brought to bear in the cultivation; the produce has been fully equal, and the safety of the Crop much in our favour.

In concluding this Report, your Committee beg to disclaim all idea of assuming any superior knowledge in the art of Agriculture; many of their brother Farmers are equally capable, and some no doubt more so than we are, to instruct others, both in theory and practice: but we do claim an honesty of purpose, and a willingness to assist with our time and means, in promoting what we consider a most important object, and should this report be the means of instruction and helping on the good cause in the smallest degree, your Committee would consider themselves amply compensated.

All of which is most respectfully submitted by

WM. WATTS, Chairman.
J. A. MACLAUCHLAN,
THOS. R. BARKER.

April 3d, 1850.

REPORT OF THE COMMITTEE ON SEEDS.

The Committee appointed on the 31st January, 1850, "to Report on the best means of obtaining a good quantity of Seeds for general use, stating what descriptions may be raised in the Province to advantage, and the quarters from whence other descriptions can be imported, on the most reasonable terms," have to Report, that they have given their attention to the subject referred to them, and endeavoured to comply with the wishes of the Society in reference to the points submitted to them.

The Committee are strongly impressed with the importance of obtaining Seeds of the *best quality*, at any price, as upon this the whole character of the Crop mainly depends; every one being aware that good Seed will vegetate even in an indifferent, or badly prepared soil; while the richest (coupled with the advantages of climate, industry, and skill) fails to produce remuneration, if any defect exists in the internal state of the Seed itself.

The first point which presents itself for consideration, is the best means of obtaining a good supply of Seeds for general use. Notwithstanding the capability of the soil and climate of this Province, to produce, most, if not all the Agricultural, as well as Horticultural Seeds in general use, still until some means are taken, to establish and encourage the growth of a sufficient quantity in the Province to supply the demand, we must naturally look abroad, either to the Markets of England or Scotland, or to those of the United States.

In reference to the Seeds in these markets, Mr. Watts (who speaks from many years experience,) is decidedly of opinion that the home grown Seeds are superior, being purer and more to be depended on—though in importing it is necessary to apply to a Seedsman of character and respectability, as the same attention is not always paid to selections for importation, as for home consumption. He however makes an exception of Indian Corn, French Beans, Cucumber, Squash, Pumpkin, and such like Seeds; for the growth of which the climate of the United States is better adapted.

As regards price Mr. Watts also informs the Committee, that Seeds can be imported at very much lower rates from England or Scotland, than from the United States.

The Home Markets therefore appear to present decided advantages over those of the United States, with the exceptions above noted.

Secondly as to what descriptions of Seeds can be raised in the Province:—

The Committee have to observe that all the cereal Grasses, such as Wheat, Barley, (especially the Spring kinds) Oats and Indian Corn, as well as different kinds of Pulse, or Leguminous Plants, such as Peas, Beans, &c., are easily grown in the Province of a superior quality—all that is required being proper attention to the cultivation, with a periodical change or removal of Seed.

In sowing for Seed, and indeed for a Crop, too much care can not be taken in the selection of soil as well as Seed, growing each kind upon the best adapted for nourishing the plants, and bringing them at maturity, to the highest state of perfection—as for instance Wheat upon rich clays and heavy loams, Barley upon rich loams well pulverised, Oats however may be grown upon any soil fit for cultivation, provided it is sufficiently dry, and need not be too finely pulverised. The best Crops in quantity and quality are generally those succeeding grass.

Indian Corn requires a rich dry soil with warm exposure.

Pease, a dry calcareous soil.

Beans, Clays, and strong loams, and they should always be sowed in drills.

The best mode of obtaining new and improved varieties is to select, during Harvest such heads, or plants as appear to possess superior qualities, either as regards the Seed, tendencies to resist disease, earliness in ripening, &c.,—to sow the Seed thus selected in a garden or piece of ground well prepared for the purpose, and when ripe, to make another selection from the produce of the first, and thus proceed until a sufficient quantity is obtained to sow a small field set apart for the purpose and at a distance from other Crops of the like kind.

We now come to Seeds for Root and Green Crops:—first, as regards Turnip, Mangold-Wurzel, Parsnip, and Cabbage Seed, there is no difficulty in raising an abundant supply with moderate care and attention, no great skill being required. With Carrots however, the Seed Crop is not so certain, as the blossom is often subject to a blight, (an investigation into the causes of which, would be highly useful:) the blight however does not attack all the blossoms indiscriminately, and excellent Seed may be obtained from those untouched by disease, though of course the general Crop is much diminished.

In growing these Seeds, the first point is to select sound roots of the most approved specimens and perfect in form, taking particular care never to grow several varieties of one kind of root near together. Let the roots thus selected be planted from two to three feet apart, in a rich well pulverised soil, as early as possible, covering the crown slightly over; the only after culture required is to keep down the weeds, placing props or stakes, to prevent the branches falling to the ground or being broken by the wind, with a protection against birds when required. The Seed should be carefully gathered as it ripens, (some heads ripening more quickly than others,) and above all let the Seed be thoroughly dried, for if this is neglected, the best Seed will become valueless and all the labour bestowed upon its culture lost. It is true that scientific men have in some instances turned their attention to the production of Hybrids, (or new kinds of plants by vegetable crossing upon the same system as that pursued by Cattle breeders,) and though many of these experiments are very interesting, and in some instances Seed of a superior quality has been produced, yet it is to be considered more a matter of curiosity than one of general utility. at present.

Next in order we propose to make a few remarks upon the cultivation of Grass Seeds for the production of Hay Crops, and though Timothy is the grass generally prepared in the Province, the Committee think it very desirable that experiments should be made, with some of the grasses generally cultivated in Europe (particularly the new varieties of Perennial Rye Grass) with a view of ascertaining the propriety of encouraging their introduction into this country. Timothy Seed is already grown to a considerable amount in the Province, and has in fact been exported latterly to some extent to the United States: the new Settlements and particularly the recently cleared lands produce crops of very superior quality, and free from any admixture of weeds: it is generally sowed immediately after burning with the first crop (usually Oats) and produces Seed the next Season. This crop is considered the best, the average produce is from three to five bushels per *acre*, (a considerable portion of which is taken up with the stumps of the trees.) The heads are cut off with a sickle or shears, and the grass which is left is either mowed for hay or fed off; the crop of hay supposing the Seed not cut, would be about three-fourths of a ton, and after the Seed is reaped about one-fourth may be obtained (if cut immediately) as otherwise it becomes dry and good for nothing. It is evident therefore, if the information obtained is to be depended

on, that it is a valuable crop, for the new settler particularly; affording him a much larger return than could be realized from the grass, and in a shape much more easily transported from a distance to market, where it readily sells at prices varying from twelve shillings and six pence to fifteen shillings, and sometimes twenty shillings the bushel.

Some samples of Red Clover Seed have been exhibited at the Agricultural Shows, but it has never been extensively cultivated in the Province. The growing of this Seed is attended with more labour and difficulty. In Great Britain the first growth does not perfect its Seed, it is therefore found necessary either to feed off the first growth, or cut it for soiling or hay, if the latter course is pursued, it should be cut much earlier than usual, so as to give time for the Seeds of the second crop to ripen, before the frost sets in. The growth reserved for Seed must be suffered to remain until the hucks become perfectly brown, and after it is cut left in the field until quite dry and crisp, the great difficulty is in separating Seed from its coat by threshing, it is therefore found better to make use of Mills for the purpose. The produce may generally be reckoned at from three to five bushels per acre.

A Report from those who have tried experiments here would be highly useful, as regards the course to be pursued in reference to this crop, and how far it agrees with that adopted in Great Britain.

In conclusion the Committee beg to recommend to the consideration of the Society, the propriety of endeavouring to establish an Agricultural Warehouse and Seed Store, where a constant supply of the best Seeds might always be procured, affording at the same time every encouragement to domestic growth, and in proportion as the quantity raised in the Province increases, (provided the quality is good) to decrease the importations, and they are of opinion that it would tend much to facilitate this (and be of mutual advantage) if the Agricultural Societies in general, or a portion of them, would club together, and patronize such an Establishment.

All which is respectfully submitted.

W. H. ODELL, Chairman,
JOHN A. BECKWITH,
WM. WATTS.

Fredericton, 3rd April, 1850.

To the New Brunswick Society for the encouragement of Agriculture, Home Manufactures, and Commerce throughout the Province.

The subscribers, to whom among others it was referred to enquire in the best modes of fattening Cattle and Hogs for marketable Beef and Pork, have attended to that duty and beg to Report, that they have learned that there is little or no Salt Beef put up in this Province to supply the markets, and that the large amount annually required for the supply of the New-Brunswick Shipping and otherwise is principally brought from the States or other Countries, mainly because, as it is said, of the Beef of New Brunswick, being grass fed, and not calculated to stand the salt, so that when packed and pickled it generally becomes hard, unpalatable, and is wasted; consequently Foreign Beef chiefly supplies the market. It appears by a quotation in Professor Johnston's Report, page 9, that a similar evil existed in Scotland about one hundred years ago. On a complaint of the mode of fattening Cattle then in use, the writer says, "nor can it be otherwise in the supine ignorance our farmers are in the method of choosing the *right ages* of putting up to fatten their beast and the want of *every provender* fit to raise them; for they generally never stall any but such Oxen as are no longer fit for the yoke: or Cows but such as the good woman tells her husband are no longer fit to breed or milk—these for eight or ten weeks they blow up with scalded barley, chaff, and malt grains; that lean rickle of bones is all the butcher can pick up in Fife and Lothian from Candlemas to June even for our Metropolis, and no other Town is so well served. And if our gentry have them fatter they cost them very dear because to have them so they give them a great deal of Corn, and I oblige that a gentleman shall eat two beeves fed abroad in his enclosures on fog, hay and turnips, and much better Beef than he can one of these stall fed." After recommending a better method of selecting and feeding he adds, "Our over Sea trading Merchants who have occasion to send their Ships far voyages, will find in their own Mercats *that will bear salt* which our own half fed Beef would not heretofore do, and the Ships were forced to call at some Town in England and Ireland to have Beef and Pork to make a Mediterranean or American voyage, or endanger the loss of the crew with the thin, lean, hard Beef their own *Mercats* could afford." It appears also by Professor Johnston's Report, that now the Cattle in Scotland are killed at all

seasons of the year, and the Beef produced is of an excellent quality—that large quantities are forwarded all the year through to the Southern Markets, and it can be cured for Sea voyages, for the Naval Service or for any other use; this change has been principally brought about in Scotland by the altered mode of fattening Cattle, and may be wrought in New Brunswick by a proper attention to the same thing, so that Beef may be produced in this Province fit to be sent on long voyages, or to supply the market of any part of the World.

In speaking of the best methods of fattening Cattle, your Committee do not think it necessary to inquire whether the breeds already in the Province are particularly suited to that purpose, when the business has made some progress and its principles are better understood, they think it probable that the introduction of such breeds as the Durham would be highly beneficial; in the mean time it behoves the Farmer to make the most of the materials within his reach; they believe, however, that a great deal might be done by a careful selection, and to aid the Farmer in that matter, they have mentioned those points in Cattle that are understood to indicate early maturity and a disposition to fatten.

The whole bones of the structure should be fine, the back straight, the loins broad and flat, and the whole carcase well rounded, the head small and tapering to a fine muzzle, horns fine and tending to a slight red at the roots, ears not over large, thin in texture and capable of quick motion, eyes prominent, dark and placid. The happy beaming eye of the healthy animal shows contentment, a matter indispensible to the accumulation of fat, on the contrary a hanging eye wanting vivacity, with much of the white visible, together with heavy eyelids indicates an unhappy and restless disposition incompatible with a good and profitable feeder; the skin should be moderately thick yet loose and yielding to the touch, with a soft and greasy feel, difficult to describe but easily learned by experience, the hair should be thick, fine, soft and glossy.

Cattle reared expressly for fattening should get a liberal supply of food from the time of their calving till two and a-half years old, when the serious business of feeding should commence; every person at all acquainted with the management of Cattle is aware how much easier it is to *keep* them in good condition than it is to bring them into good condition after they have been allowed to go down, the food saved by starving the animal, has to be repaid four fold before it is again got into its former condition; it ought to be the study of the Farmer, therefore, so to proportion his stock to

the quantity of his food, that they may have enough and to spare at all seasons of the year.

Cattle put up to fatten should have a house for themselves apart from the other stock, it should be warm, but well ventilated and kept as clean as possible, the dung should be removed at least twice a day, as the smell is decidedly injurious to the animals, and apt to make them loathe their food. Turnips will necessarily form the staple portion of their food, but it will be highly useful to alternate them, with other matters such as potatoes, carrots, bruised oats, oil cake, &c., mangold-wurzle does not seem to be very suitable for the manufacture of beef; the times of feeding are, say, 5 morning, 11 forenoon, and 4 afternoon, and these or any other times fixed upon should be regularly attended to: a little hay or straw should be given between meals, and the cattle should be well littered up and kept as quiet as possible; considerable difference of opinion exists among feeders as to the propriety of cooking the food given to Cattle—some years ago, experiments were made at the suggestion of the Highland Society of Scotland, as to the comparative value of raw and cooked food, and the result was that though the beasts kept on cooked food gained a little more weight in the course of the trial than the others kept on raw food, yet that gain was not equal to the expense of preparing the food. In this country where the winters are so much colder, and turnips are liable to be frozen, the superiority of the cooked food would probably be more marked; perhaps the proper way would be to compromise the matter by giving the first two meals raw, and the evening one cooked; when potatoes are used we would recommend that they should be boiled and mixed up with cut straw or chaff.

The quantity of food proper for a meal, will depend on the size of the animal, but the following quantities will not be very wide of the mark for an ordinary sized beast, (supposing three feeds per day to be given,) turnips 30 lbs., potatoes 20 lbs., carrots 20 lbs., bruised oats or corn 5 lbs., and oil cake about 5 lbs.

The great secret of the business is, to find out what quantity of food the Cattle will eat without impairing their appetites or producing loathing, an evil particularly to be guarded against; for this purpose the person in charge should watch the animals during their meals, and if any portion of the food is left after the appetite is satisfied, it should be carefully removed and a corresponding quantity subtracted from the other meals. It must be borne in mind however, that the greater the quantity of food the beast can be made to consume without producing satiety the sooner he will be

ready for the butcher, and the less the food required to be expended in feeding him, or the greater will be the quantity of meat in proportion to the food consumed,—thus suppose it require at the rate of sixty bushels of turnips to bring an ox to a certain condition in forty days, and that one-fourth part, or fifteen bushels of those turnips would be required during that time to support the animal system, and that 7s. 6d. be paid for the labour of feeding, if the period of feeding the ox were prolonged to four times forty, viz: one hundred and sixty days, the whole sixty bushels of turnips and 7s. 6d. worth of labour would be exhausted in merely sustaining the original condition of the ox, without any accumulation of meat since first put up, on the other hand, if the ox can be induced to consume the food with a good appetite, so as to be raised to the above condition in *twenty* days instead of forty—twenty days support of the animal system or seven and a-half bushels of the turnips will be consequently saved, or the amount there is consumed will become surplus nutriment and be laid in as fat.

As cattle thrive and fatten faster in warm weather than cold, the earlier in the season they are tied up the better, provided their food is ready for them, and it will be better for the Farmer to take up a portion of his turnips before they have attained their full size, than to delay the business till the end of the season.

If cattle are put up in good condition and carefully attended to they should be ready for the butcher in four months, Farmers however should be provided with food for six months consumption at least, he will thus have a greater choice of market days, and otherwise he will be no loser by the delay, as his cattle will pay him fully as well for the *last two* months as they will do for the *first four*. With respect to the ages at which cattle are put up to fatten, your Committee believe that two and a-half years is the best age for the breeds of cattle now in the Province, or about three years old when killed, that after they are past eight or nine there is small chance of their paying for stall feeding; old oxen and cows that are past milking are therefore inadmissible, and should be made the most of on the pasture.

Many of the above remarks on the fattening of cattle equally apply to the fattening of hogs; in addition it may be observed that hogs are found to relish mashed or meal food, and to fatten faster upon it when slightly fermented, and the condition of the Pork is rendered more solid and improved by it, and occasionally giving the hogs a small portion of charcoal is found to be beneficial as helping their appetite.

Before leaving the subject your Committee would impress upon the mind of the Farmer that it is not to the enhanced value of his stock alone that he is to look for reimbursements for the food consumed, and the trouble incurred in stall feeding, the augmented quantity and the greatly enhanced quality of his manure will enable him to reproduce the food consumed and set a going as system which once fairly established is self supporting.

In conclusion, while we would urge on Farmers the great importance of cattle feeding, we feel that it cannot be entered on with propriety till there is a surplus of food provided beyond what is necessary to keep the permanent stock in good condition: to make one or two animals fat at the expense of the rest of the stock would be bad policy, and utterly opposed to the spirit we would wish to see prevalent among the Farmers of this Province.

And now we have finished our task—imperfectly we admit—but honestly and with the best disposition to make ourselves useful, unfortunately we can lay claim to but little knowledge on this or any other subject connected with Agriculture, but that little will always be at the service of the Society. We are, &c.

ROBERT GRAY,
CHARLES HARRISON, } Committee.(*a*)

(*a*) COMPOUND FOR FATTENING CATTLE.

Flax-seed and oil-cake have long been considered very valuable for fattening cattle. The English farmers prize these articles highly, and great quantities are imported and used in the British Islands. Oil-cake is even carried from this continent to fatten English beef. One great advantage which the English farmer thinks he derives from the use of it, is the improved quantity of the manure, and this is considered of such consequence as to balance a large portion of the expense of the cake. Flax-seed or linseed *oil*, has likewise been sometimes used, mixed with bran, &c., for fattening animals, and the effect has been a very rapid gain. We have occasionally used flax-seed for cattle with good advantage, by boiling it and mixing with meal, cut hay, &c. We recollect the practice of one man in particular, who, more than twenty years ago, was considered to have great success in fattening cattle, he boiled a quantity of flax-seed, or instead of that, pulverized oil-cake, with potatoes, and scalded meal, (either from barley and corn,) in such quantity that when the mixture was cold it could be cut out in pieces, and in that shape was given to the cattle while they were in their stalls.

In the third volume of the American Farmer, is an article by Nathan Landon, of Litchfield, Conn., on the subject of feeding cattle with cut straw, oil-cake and flax-seed. He says he fattened an ox and a three year old heifer, with less expense, even, than that of common keeping, by the following process. He says—"I boiled about two quarts of flax-seed and sprinkled on to cut straw, which had been previously scalded and seasoned with salt, together with some oil-cake and oat-meal, working them together in a tub with a short pitch fork, till the whole became an oily mush. I fattened the heifer first—she was of ordinary size, and in good order to winter. I gave her about three pecks, [of the mixture] which she ate voraciously, and in the course of four days, when the seed was gone, she was visibly altered. I fed her regu-

larly in that way about two months, in which time she had eaten about one bushel of boiled flax-seed, with the other ingredients in proportion—when she was butchered, she weighed 584 pounds, 84 pounds of which was tallow. She would not have sold before fattening for more than $16. I sold two quarters of her beef for $18, 13. She cost me not more than $10, exclusive of the hay and straw she ate, which was chiefly scalded as above. On the first of February I began with the ox. I fed him about three months, but not altogether so well as I did the heifer. He digested about one pint of boiled flaxseed a day, prepared as above, which I suppose formed half the fat in these two cattle. The ox was short, measured [girthed] seven feet two inches, and when killed, weighed 1082 pounds, and had 182 pounds of tallow. He cost me while fattening, twenty-five cents a day; he had previously cost me thirty-five cents. My nett gain in fattening these two cattle, was more than all I have cleared before in fattening oxen and cows in fifteen years; and this is owing, I think, chiefly to the use of flax-seed. I never fattened cattle that appeared so calm, so hearty, and digested their food with so much natural ease and regularity as these. I kept my cows in the same way in the month of March for one third the expense of hay. It makes excellent milk and butter."

We have lately seen frequent recommendations of an article used in England for fattening cattle, called "Warnes' Compound." Sir Charles Burrell, in a letter published in the Farmers' Journal, gives an account of the mode of making this celebrated compound, from which we gather the following. It is said to be a very ecconomical and efficacious food.

1st. Let a quantity of linseed be reduced to fine meal, that is to say, let every seed be thoroughly broken. 2d. Put about 156 pounds of water into a copper, and let it boil. 3d. Stir into the water quickly 2 lbs. of the linsed meal, and let it boil for about five minutes. 4th. Let 63 lbs. of barley or bean meal be sprinkled upon the boiling mucilage by the hand of one person, while another as rapidly as possible stirs and works it in. The whole will now have assumed the form of a thick mess or pudding. The fire should be put out, and in a short time the food may be given to the cattle. When cold the compound should be perfectly stiff. Many farmers put it into moulds like those used for bricks while hot. The compound is generally given in small quantities at first, and increased at pleasure—for the first week, 5 lbs. or 7lbs. per day, when according to the size of the animal and quantity of other food given, the quantity may be increased to 14 lbs., 21 lbs., or 28 lbs. per day. To make cattle compound with potatoes or white carrots, nothing more is required than, after having been properly steamed or boiled, to remove them from the vessels, *as hot as possible*, *into a trough*, then sprinkle some linseed meal upon them, and knead the whole into a mass with the rammer. The compound may be put hot into the moulds and made into cakes, or used from the trough. Less labor will be required, if the roots are removed the cooking vessels in small quantities, and incorporated with the meal. The proportions must be left to circumstances and to the cost at which cattle are intended to be fed. The effect of giving only one pound of linseed meal per day to a bullock, when incorporated with potatoes or carrots, will soon become visible; but if a pound or two more were added, the animal would fatten at a rate which those alone who watched the cattle could believe.

To the New Brunswick Society for the encouragement of Agriculture, Home Manufactures, and Commerce throughout the Province.

Your Committee, to whom it was referred to enquire and Report, &c., on the best Cash Markets for Beef and Pork, and the most practical and effective modes for putting up the same fit to command such Markets, and if necessary to prepare and submit a Bill to the Legislature for the purpose, beg leave to say that they have attended to those duties and respectfully

REPORT.

1st. That they have made considerable enquiry on the subject of markets from Merchants of high standing and experience in various parts of the Province and have derived information from "prices current" as given in the English newspapers and otherwise, and find that the English—the American and the Home markets are chiefly worthy of consideration. As to the English market, it seems that it is largely supplied with Beef and Pork not only from Europe, Great Britain, and Ireland but also from the Canadas and the United States at remunerative prices, and it appears to be the general opinion, that with proper attention to the producing and putting up of these articles for exportation, they might be sent with advantage from New Brunswick. This opinion has been given to one of the members of your Committee, by the Hon. William Crane, the Hon. J. Cunard, Francis Ferguson, Esq., and several other experienced Merchants residing in the Province, and is, in all probability correct; the English papers give the last prices current of United States Beef and Pork, in the Liverpool markets, which may be taken as a standard of the English markets, generally, but to form an estimate from prices, it must be recollected that the quality or brand of the article should be known and kept in view. The United States and Canadian laws to regulate the putting up Beef and Pork for exportation, generally distinguish those articles, by four descriptive qualities or brands: viz., *Beef*—1st. "Extra Mess"—consisting of the most choice pieces of the fattest cattle weighing not less than 600lbs exclusive of hide and tallow—2nd. "Mess Beef," of the choice pieces of large and fat cattle, without hocks, shoulders, clods or necks, and to contain in a Barrel two choice rounds not exceeding eight lbs. each—3rd. "Prime Beef," of pieces of good fat cattle containing in a Barrel not more

than one half of a neck, two shanks with the hocks cut off, and the hind legs, at the smallest place, above the joint—4th "Cargo Beef" of such cattle with a proportion of good pieces—not more than one-half of a neck—three shanks with the hocks cut off above the joint as aforesaid and to be otherwise merchantible—*Pork* 1st. "Mess Pork" consisting of the sides of good fat hogs exclusively—weighing 250 lbs., or upwards, taken from the shoulder to the hip, casting off the flank—2nd. "Prime Mess Pork" consisting of good fat hogs, one carcass to the barrel, the lard and trimmings taken off—3rd. "Prime Pork" packed from good fat hogs, ranging from 160 to 200 lbs. and of which there shall be in a barrel not more than three shoulders having the legs cut off, at the knee joint,—not more than 24 lbs. of heads without ears, and the snout cut off at the opening of the jaws, and the brains and bloody grizzle taken away and the remainder made up of side, neck and tail pieces—4th "Cargo Pork" taken from carcasses weighing not less than 100 lbs. each and of which there shall not be in one barrel more than 30 lbs. of head and fore shoulders, and the remainder to be merchantible pork. The current price in the Liverpool market, in February last past was, for United States, "Prime Mess Beef" (which appears to be 2nd quality,) per Barrel 200lbs. 50s., to 55s. sterling,—it seems that the shipping charge, Insurance agency &c., of a Barrel of Beef or Pork from the City of St. John to Liverpool would be about 8s sterling—this sum deducted from the above would leave the price from 42s to 47s at St. John sterling or about 50s 6d. to 56s. 6d. our currency—and if the price of Beef alone be sought for, before being put up and as brought in quarters to Fredericton or other parts of the Province,—the price of the Barrel, cutting up, packing, salt, salt-petre, inspection, freight, cartage &c. &c. must be taken into account, amounting to about 7s. 6d. and further reducing the above prices 43s. to 49s. per 200 lbs. or from 2 1-2d to nearly 3d. currency per lb.—so at the above period, the current price in the Liverpool market of "Prime Mess Pork" (which appears the 2nd quality) 54s. to 56s. sterling—reduce the shipping charges, and add for the currency as above, and it will stand at from 55s. to 58s. currency per barrel at St. John, and throw off the charges as before and the price will be from 48s. 6d. to 50s. 6d. in Fredericton. It must be recollected however, that the above prices appear to apply to the 2nd quality of Beef and Pork only, the first quality bringing about 14s. or 15s. currency, higher; and that the United States pork does not command the best name or market, but is commonly a drug in consequence of its being fat, soft, oily and otherwise objectionable—the Irish Pork, to which New Brunswick Pork is similar, commanding,

in the English market, per barrel, 9s. or 10s. more than that brought from the States: hence it appears very probable that England would afford a good cash market, at remunerative prices, for Beef and Pork, especially *Beef* sent from New Brunswick.

As to the American markets, the high Tariff of the United States, may disable us from taking pork thither, but beef is cheaper in New Brunswick than in any part of the United States, and your Committee are informed that notwithstanding the high Tariff, Beef is exported from Nova Scotia to Boston and other parts of the United States, but to what extent they have not the means of ascertaining.

It is also the opinion of Merchants of high standing, especially the Hon. William Crane, that Beef and Pork raised in this Province would find a good market in Newfoundland, the West Indies and the Bermudas.

But the great, the profitable, and for many years, the inexhaustible cash market for the New Brunswick farmers Beef and Pork is our Home market, for the supply of our ship-owners, fishermen, lumberers, manufacturers, labourers, and nearly all classes in New Brunswick.

The amount of Beef and Pork yearly imported into this Province, cannot be ascertained with exactness, but upon the best calculation that can be made, the quantity of beef and pork annually imported into the various parts of this Province cannot be less than 100,000 Barrels, or to the amount of nearly £300,000. The quantity stated in the Treasury returns affords no guide, as it is only a part of the Beef and Pork imported, or the amount which might be supplied, by the New Brunswick farmer, for, independent of a large amount which escapes duty, the Colonial shipping alone, is supposed to require about 30,000 barrels annually and this being bonded in the Ware House, and paying no duty does not appear in the Treasury returns, so the British and Foreign Shipping coming to the different parts of this Province which on the return voyage would be supplied by our Farmer, (were these articles attended to in New Brunswick,) are furnished by Foreign markets—so the extensive coasting trade carried on in different parts of the Province, is subject to the same remark, and as a reason generally urged why the lumbering interest is less profitable than it might be, the meat required for the extensive *milling and lumbering* operations is chiefly imported from Foreign markets; hence the articles in question, used in almost all departments, are passed into the Province, by every avenue, land or waters, from the Restigouche round to the St. Francis, at remunerative prices, and the money goes out for them, while our farmers are thinking themselves with-

[illegible] it is observable also, that if the energies of the people be put forth to improve the condition of the Province, by encouraging manufactures, fisheries, and a good description of emigration, the demand for the articles in question would soon be doubled. The Beef and Pork imported from abroad, into St. John, for Ships' use, is chiefly of the second and third qualities and the price of those articles in the St. John market, is generally governed by the quality or brand, though considerably fluctuating and without any fixed standard. Last fall the Hon. John Robertson of the City of Saint John, imported a quantity of "Mess Beef" (viz: 2nd quality) for his ships' use, costing him, in New York, from £2 15s. to £3 per barrel and 5s. per barrel Import and Ware house charges, making £3 to £3 5s. per barrel, also from the same place, a quantity of "Prime" (viz: 3d quality,) Pork, at £2 5s., freight &c. 5s., making £2 10s. "Prime (viz: 3rd. quality) Beef" is very generally used by ship-owners, especially for short voyages, it costing about 15s. less than "Mess" or 2nd quality Beef,—"Prime Mess (or 2nd quality) Pork" not bonded in the Ware-house, has varied in price in the Saint John market, for the last three or four years, from £3 10s. to £4 10s. per barrel. Take then the lowest prices for the 2nd quality of Beef, in the St. John market as paid by Mr. Robertson in the Ware-house, without duty, viz: £3 to £3 5s.,—cast off 7s 6d. as an allowance for the barrel and other charges as before, and the price of the beef in quarters, in Fredericton or other parts of the Province, 2nd quality, would stand at £2 15s per Barrel, or 3 1-4d. per lb. add the difference of 15s. for the first quality, and it would stand in quarters at Fredericton, £4 10s. or nearly 4 1-4d. per lb. so the Ware-house prices of the different qualities of pork can be ascertained in the same way, but in higher proportions.

We will now consider the price of pork imported into St. John as above stated, and paying the duty—take the Prime Mess or 2nd quality Pork as the standard and £4 as the average price, cast off the 7s. 6d. as before, and the price of the pork uncut, at Fredericton or other parts of the Province, would be £3 12s. 6d. or upwards of 4 1-4d. per lb.,—add 15s. for 1st quality, and the nett price would then stand at Fredericton or other parts of the Province £4 7s. 6d. or upwards of 5d. per lb. The price of the 3rd quality of Beef or Pork may be pretty correctly ascertained by deducting about 15s. from the price of the second quality. As to the fourth quality of Beef or Pork it is rarely carried to market but like the cuttings and trimmings of the better qualities is generally kept for home consumption.

Hence it appears not only that there are just grounds for believing that a good market exists in England and elsewhere, available for our New Brunswick Farmer, but also that it is obvious he has a great and inexhaustible cash market, with good prices at his own doors, for all the beef and pork he can raise,—provided, *it can be put up fit to command such market.*

This brings us to the second consideration—namely, can beef and pork raised in this Province be put up fit to command such markets?

It is a strange anomaly, that while in Nova Scotia, a Province no better for raising Beef than this, they should export beef in spite of the heavy Tariff, into the United States, and that we should import it—and that though *fresh* Beef is lower in this Province than in any part of the States, we should nevertheless, largely import *salt* Beef from the United States to New Brunswick. If you ask the New Brunswick farmer why he does not raise more Beef and Pork for sale, his answer is, "No market for it." If you ask the New Brunswick ship-owner or merchant of this, he answers—"there is a good market, but it is not produced by the farmer" and each answer is true, in the existing state of affairs, for the farmer has no market for the article in the state in which he would furnish it to the merchant: perhaps old worn out oxen or cows, *grass* fed or half fattened, the meat calculated to become hard, shrunken, and wasted, without the knowledge of the proper mode of curing, with no fit barrel and proper putting up to preserve it from spoiling, or any inspection or brand to give it character, *there is "no market for it."* So it is equally true as said by the merchant, "*there is a good market* for a *proper* article, *properly* put up to answer the purpose, but the farmer does *not* furnish this, indeed all the experienced merchants and ship masters say that the grass fed Beef in *soft* wood barrels will not stand the salt, becomes hard and tasteless, the pickle runs off, the meat spoils and is thrown overboard by the sailors, it will consequently *not do* to purchase: so with Pork in *soft* wood barrels, it will not keep for long voyages, and of course in good markets will not sell, for these reasons principally, the merchants, ship owners and others in New Brunswick are *compelled* to buy Foreign Beef and Pork, and leave our farmers, *without a market.*

The evil occurs either in the condition of the material itself, or in the mode of putting it up and sometimes both; *can those evils be remedied?* Undoubtedly they can,—as to material, there is no doubt, that if Beef and Pork can be brought to a proper condition in the Canadas and the North Eastern States the same can be done in New Brunswick, it only requires a proper selection of animals, with proper

attention in feeding them, your Committee of their own personal knowledge know, and any person of ordinary experience, who will look at the foregoing qualities of Beef and Pork taken from the New York and Montreal standards, will perceive, that there can be no trouble whatever, in bringing Beef or Pork up to the highest of these standards, and if a fixed standard of qualities be, by law established, with the view of sale, our farmers will then have a guide and no difficulty in coming up to that standard.

But this is not all, for to give such Beef and Pork a proper designation of character, so that they may be confidently purchased at home and abroad, compete with skilful dealers in the markets from other countries, and meet the expectations of those who deal in them, an Act of the Legislature is required to prescribe a proper description of hard wood barrel, and other particulars in reference to the manner in which the article should be put up, and requiring to be selected a competent inspector, of skill and experience in the business to inspect and brand the article to put it in a complete marketable shape, as is done in all the countries where Salt Beef or Pork is cured for market, as in Europe, Great Britain, Ireland, the States, Montreal and elsewhere. As there never has been any law existing in New Brunswick to regulate the putting up of Beef and Pork for exportation, that branch of business has *not* been attended to, and consequently the article with the putting of it up, has *a character to make* before it can have success —the competency of the inspector, and the rigid performance of his duty is all important for the success of the undertaking, as the skilful and complete manner in which the article is put up has chiefly to do with *remunerative* prices,—in fact it is the only way in which New Brunswick Beef and Pork could be made fit to command such markets —and the make and appearance of the barrel is as important for the successful sale of the Beef and Pork, in a market of keen competition, as decent clothing is for the favourable appearance of an individual among strangers—convinced that at no distant day, when the attention of the public becomes fully awakened to the importance of the subject now under consideration, our farmers will not only enrich themselves by supplying the New Brunswick market—greatly to be augmented as it is hoped, by the operations of Provincial enterprize—but that Beef and Pork, ere long, will rank among our most extensive and profitable exports, your Committee feel that too much attention cannot be paid to details, especially in the outset of such an enterprize. We should particularly aim, at imitating the best examples, to gain the highest character, and aim at the highest character, to obtain the highest prices—secure gain and escape loss—especially when it is attended

with no additional cost; the consideration which this topic deserves may be better illustrated by referring to the effect of the packing establishments in New York and the various parts of the States where improvement is wanting as compared, with those of Ireland,—the most skilful curers and packers in the world, where they put up the article in such a way that the meat will keep in good condition for years in any climate, and when opened after a lapse of several years, as sweet as when put up and the brine perfectly clear. In a letter of Mr. Peters, an American correspondent of the Albany Cultivator, writing from England in 1842, and who, having visited all the best packing establishments in Europe, Great Britain and Ireland, became master of the whole subject of curing and packing provisions—whose communication re-published in the Head Quarters of 23rd ult., contains admirable suggestions on this subject; he says, "competition is very keen among the Irish and Continental provision curers and great skill is used to make the best article." * * * "A friend in London unpacked several packages of Irish and Hamburgh cured provisions, by the side of American—the contrast was anything but flattering to our taste and skill; I could very readily see, why our beef and pork bore so bad a name in the market and was so much a drug—the meat was not inferior but it was badly messed, worse cut, and cured, and the brine nearly as red as blood, and presenting, by the side of the other, not a very palatable appearance:" again he says, "no pains should be spared, in preparing and putting it up, as the neat and tastey appearance of the packages, will ensure a more ready sale, then if put up in a slovenly manner;" and the writer then concludes, "I trust the season will not pass, without finding several establishments preparing and curing provisions *according to the Irish method.*"

It appears also by the Albany Culiivator for 1850, page 57, in a circular by Messrs. Allan & Anderson, extensive provision dealers in London—sent out in relation to the curing and packing of Pork for the English markets, that the Irish pork was preferred in the London markets, even at advanced rates, while the American became and continued a dull dragging Trade—the circular thus proceeds "some few of the first arrivals of New York and Baltimore brands came, of prime quality and brought remunerative prices—but almost all the western brands have come, particularly bad,—defective in cure—wretched in colour—and the meat, soft and inferior. The chief defect, in almost all American Prime Mess Pork, is the colour; instead of being the bright cherry red, characteristic of skilfully pickled meat, it is a dirty, dull, unsightly brown. That this is remediable,

and arises in the manufacture, is proved by some few brands coming otherwise. But unless it be obviated, the preference will continue to be given to Irish and Hambro, although *inferior* meat, at *much higher prices.*" With these views your Committee drafted a Bill to regulate the inspection of Beef and Pork for exportation, having before them as their guide an abstract of the New York State Exportation Law,—the above mentioned letter of Mr. Peters and a valuable pamphlet, furnished by the kindness of the Hon. Mr. Rankin, written by Mr. William Moore, the Chief Inspector of Beef and Pork at Montreal and whose brand is said to be equal to any in the world. Your Committee reviewed this Bill personally and individually and with reference to its practical operation and showed it to several practical men of high standing who concurred with your Committee in the utility of all the provisions therein, after which it was brought before the Agricultural Committee of the House of Assembly now in Session, who approving of the measure, brought it before the House as a part of their report and the same has undergone considerable discussion and stands for further consideration. This Bill, a copy of which is herewith submitted as a part of this report, gives the views of your Committee more in detail, as to the most practical and effective modes for putting up Beef and Pork fit to command cash markets, and they trust it may meet with the approbation of the Legislature.

In conclusion your Committee beg to observe, that while they are sensible that this report is less complete than it should be, they trust it may have a tendency, to draw more attention, to a matter of such vast importance, and, in connection with the subjects of the four preceding Special Committees, will ultimately enable us, to derive from our *own resources*, that, for which, we are now accustomed to *drain the Province of its money, to pay* to other countries.

All which is respectfully submitted,

R. CHESTNUT, Chairman,
DAVID S. KERR,
JAMES TAYLOR,
ROBERT JARDINE.

Fredericton, 23rd March, 1850.

A BILL To regulate the putting up of Beef and Pork, within the Province for Exportation.

Whereas this Province possesses great advantages for the raising of Beef and Pork, and no established mode existing as to the putting up of these articles for exportation, provision for the purpose is necessary—

I. Be it enacted by the Lieutenant Governor, Legislative Council and Assembly, that there shall be established at some suitable and convenient place in each and every County of this Province, a sufficient Store or Yard to receive such Beef and Pork as may be brought for inspection, without any charge for storage, provided that the inspected Beef and Pork be removed within three days after notice given to the owner or agent, of repackage.

II. And be it further enacted, That it shall be lawful for the Lieutenant Governor, or the Administrator of the Government for the time being, by and with the advice and consent of the Executive Council to appoint, for each and every County of this Province, respectively, or for several contiguous Counties, a fit and proper person to be inspector of Beef and Pork: Provided always, that previous to the appointment of any such person it shall be made to appear by sufficient certificates, vouchers, or other proper evidence, to the satisfaction of the Lieutenant Governor or Administrator of Government for the time being, and the Executive Council, that said person is fully qualified for the efficient discharge of the duties hereafter required: And provided also, that such person before entering upon the duties of his office, shall give a bond with one or more sufficient sureties, to the Lieutenant Governor or Administrator of the Government for the time being, to be taken by, approved of, and filed with the Secretary of the Province in the penalty of three hundred pounds, conditioned for the faithful performance of such inspectors duties and the providing of a sufficient Store or Yard in some proper and convenient place within the County or Counties respectively to which he may be appointed inspector as aforesaid, for the storing or preserving of such Beef and Pork as may be brought to him for inspection, within such Counties respectively and without charge for storage, provided the same be removed within three days after notice given to the owner or his agent of such repackage.

III. And be it further enacted, That no Beef or Pork shall be exported or shipped for exportation from this Province, or be sold

to the owners or agents of ships or vessels for sea voyages, unless previously inspected, packed, and branded by an inspector, duly qualified and appointed as aforesaid, except Beef and Pork which may be imported into this Province from any other place, and packed and branded agreeably to the laws of the place from which such Beef or Pork may be brought, and except also fresh Beef for Ships' Stores, and Beef put up by a duly licensed butcher, in barrels, half barrels, tubs or kegs for Ships' Stores, and Beef put up by a duly licensed butcher in barrels, half barrels, tubs or kegs for exportation, if put up by the butcher killing the same, with his name and the weight contained, branded on the head of each such package respectively, and any person exporting, shipping for ex portation, or disposing of any Beef or Pork contrary to the foregoing provisions, shall forfeit for every barrel, half barrel, or package, so disposed of a sum not exceeding three pounds to the use of the person suing therefor.

IV. And be it further enacted, That all tierces, barrels, or half barrels in which Beef or Pork is required to be repacked by an inspector, shall and they are hereby required to be of good split, well seasoned, white oak, or white ash wood, free from sap and every defect and to be of sufficient strength and completeness, the tierces respectively to contain at least 300 lbs., and be capable of packing from fifty to fifty-one pieces six pounds each of Pork, or thirty-eight pieces eight pounds each of Beef and no more, with eight substantial wooden and three iron hoops on each end thereof well set and driven, the barrels to measure seventeen and a-half inches between the chines, to be twenty-eight inches long, one third of the length at each end thereof, covered with good white oak, white ash, or other substantial hoops, the heads of the said barrels to be not less than eighteen inches long, and three quarters of an inch thick, and the staves thereof, on each edge and at the bilge to be not less than five-eighths of an inch thick, the hoops to be well set and driven, branded on the bilge with the initials of the cooper's name, and to contain at least two hundred pounds, and the half barrels to be in proportion to and of like materials as the barrels, with the initials of the cooper's name, to contain not less than fifteen nor more than sixteen gallons and to pack of pieces not less than four pounds each at least one hundred pounds.

V. And be it further enacted, That whenever any Beef or Pork shall be repacked agreeably to the provisions of this Act, the casks thereof being bored at the centre of the bilge with a bit of one inch in diameter shall be pickled with saturated brine and, if found to

be in larger tierces, barrels or half barrels than by this Act is prescribed, the said casks shall be condemned or the same shall be filled up by the inspector with good meat at the election and expense of the owner thereof.

VI. And be it further enacted, That it shall be the duty of the inspector and he is hereby required to examine and sort all Beef and Pork inspected by him, and shall brand no Beef or Pork not well fattened and packed in proper casks.

VII. And be it further enacted, That in the inspecting and branding of any Pork by virtue of this Act, there shall be four qualities, the first quality shall consist of the sides of good fat hogs exclusively, weighing 250 lbs. or upwards, taken from the shoulder to the hips, casting off the flank, and shall be branded "Mess Pork," the second quality consisting of good fat hogs one carcass to the barrel, the lard and trimmings taken off, shall be branded "Prime Mess Pork," the third quality to be packed from good fat hogs weighing from 160 lbs. to 200 lbs., and of which there shall be in a barrel not more than three shoulders, having the legs cut off at the knee joint, not more than twenty-four pounds of heads, without ears, and the snouts cut off at the opening of the jaws, and the brains and bloody gristle taken away, and the remainder made up of side, neck, and tail pieces shall be branded "Prime Pork," the fourth quality to be packed from carcasses not less than 100 lbs. each, and of which there shall not be in one barrel more than thirty pounds of head and four shoulders and the remainder being merchantable Pork shall be branded "Cargo Pork," such Pork so repacked shall be cut from the back bone to the belly in pieces, about five inches wide, and weighing not less than 4 lbs., and tierces and half barrels, as to quality, shall be in like proportion otherwise the casks containing such Pork shall not be branded as merchantable.

VIII. And be it further enacted, That for every barrel of Pork branded as aforesaid, there shall be sixteen quarts of good pure salt equal in weight and quality to Turks Island, and a proportion whereof shall be coarse salt, and a new pickle as strong as salt can make it, and saltpetre added at the rate of three ounces to each barrel: Provided always, that if any Pork shall be inspected and branded when fresh, there shall be not less than twenty-four quarts of such salt exclusive of such pickle, and tierces and half barrels in proportion.

IX. And be it further enacted, That thin, soft, rusty, measly, or tainted Pork shall not in any case be branded, but the inspector

shall mark the head of the cask containing such Pork with paint, and his name to designate the true character of such Pork, and if any person or persons shall at any time alter the mark of such inspector or add thereto contrary to the true intent and meaning this Act, such person or persons, shall forfeit the sum of three pounds for every tierce, barrel, or half barrel so altered, shipped, or disposed of, or attempted to be shipped or disposed of to be recovered to the use of the person suing therefor.

X. And be it fnrther enacted, That no Beef shall be repacked for exportatien or to supply the shipping of this Province for sea voyages, unless of fat young cattle not under three years old, in pieces as square as may be not exceeding twelve or under four pounds weight, such Beef to be divided into four qualities, namely, "Extra Mess," consisting of the most choice pieces of the fattest cattle, weighing not less than six hundred pounds exclusive of hide and tallow, "Mess Beef," of the choice pieces of large and fat cattle without the hocks, shoulder, clods, or necks, the cask to contain two choice rounds not exceeding eight pounds each, "Prime Beef," of pieces of good fat cattle containing in a barrel not more than one-half of a neck, two shanks with the hocks cut off, and the hind legs at the smallest place above the joint, "Cargo Beef," of such cattle, with a proportion of good pieces not more than one half of a neck, three shanks with the hocks cut off above the joint as aforesaid, and to be otherwise merchantable, and the aforesaid names and qualities shall be respectively branded upon each cask together, with the respective quantities, by the inspector who inspects the same.

XI. And be it further enacted, That into every barrel of Beef so inspected and repacked, there shall be put not less than twenty quarts of pure salt, four ounces of saltpetre, and a new pickle such salt and pickle to be of like quality proportion and strength as by this Act is required for Pork, and tierces and half barrels in like proportion, and all bloody and neck pieces offered for inspection shall be properly cleaned before the same shall be put up and repacked as aforesaid.

XII. And be it further enacted, That on the head of each cask of merchantable Beef or Pork repacked and inspected agreeably to the provisions of the Act, shall be branded, the weight of its contents with the initials of the christian name and the surname of the inspector at full length, or both at full length, with the words "City of Fredericton," or "City of St. John, Province of New Brunswick," if inspected at either of these places, and the name

of the County and the words "Province of New Brunswick" if inspected in any other County of the Province.

XIII. And be it further enacted, That the inspector shall be entitled unless it be otherwise agreed between the parties, to receive the market price for any salt or saltpetre, necessarily required and furnished by him, to complete his inspection agreeably to this Act, one shilling and three pence for the inspection of each tierce, one shilling for each barrel, and eight pence for each half barrel re-packed and inspected by him, eight pence for flagging, pegging, nailing, salting and pickling each barrel, two pence for each hoop put on, and for tierces and half-barrels to be remunerated in like proportion such charges and remuneration, to be payable to the inspector before the inspected cask is removed from his charge.

XIV. And be it further enacted, That no inspector shall be concerned in the purchase of cattle or hogs with the intention to pack them for sale on his own account, nor shall in any manner partake of the profits or loss of any Beef or Pork when intended for packing, under the penalty of one hundred pounds for each offence, nor shall he be allowed to inspect or brand any cask out of the county or counties for which he may be appointed inspector, nor shall he in any case lend or hire his brands under the penalty of ten pounds for every tierce, barrel, half barrel or cask, so improperly inspected or branded contrary to the provisions of this Act.

XV. And be it further enacted, That the Store or yard of the inspector of the County of York shall be in the City of Fredericton, between Saint John and Smyth Streets at some convenient and proper place near the margin of the river, and that the said inspector of the County of York shall not inspect at any other place within the said County of York, except at his said Store or yard in the City of Fredericton aforesaid, under the penalty of three pounds for every tierce, barrel, half barrel or cask so repacked and inspected contrary to the provisions of this Act, and if any person or persons other than such inspector shall brand any tierce, barrel, half barrel or cask he or they shall forfeit the like sum of three pounds for every such tierce, barrel, half barrel or cask so branded contrary to the provisions of this Act.

XVI. And be it further enacted, That no dealer in Beef or Pork, inspector or other person acting on behalf of such dealer, shall suffer any Beef or Pork after inspection, to be exposed to the heat of the sun or inclement weather longer than twelve hours, under the penalty of thirty shillings for each offence, to be recovered in the name and to the use of the person suing therefor.

XVII. And be it further enacted, That any person intermixing, taking out, or shifting Beef or Pork of casks inspected or putting into such casks other Beef or Pork for sale or exportation, or altering the brand or mark of the inspector, shall forfeit the sum of five pounds for each cask, respectively to be recovered for the use of the person suing therefor.

XVII. And be it further enacted, That any person slaughtering cattle or hogs to be put up for inspection contrary to law, shall forfeit the sum of five pounds for every head respectively to be recovered to the use of the person suing therefor.

XIX. And be it further enacted, That any person selling or disposing of empty barrels or the heads of barrels that have contained Beef or Pork without having first obliterated the inspector's brand or mark, shall forfeit the sum of thirty shillings for each barrel or head to the use of the person suing therefor.

XX. And be it further enacted, That all Beef or Pork intended for exportation or the shipping of this Province, shall be cut up, cured, put up, and inspected as near as may be agreeably to the modes now in use by such packing establishments in Ireland, as are accustomed to put up and furnish Beef or Pork for the London and Liverpool Markets.

To the New Brunswick Society for the encouragement of Agriculture, Home Manufactures, and Commerce throughout the Province.

The Committee appointed to enquire and report as to the best modes of encouraging House-hold and Provincial Manufactures, and the Mechanical Arts, together with the different kinds thereof, and as to what Factories may be undertaken in New-Brunswick with reasonable prospect of success, beg to Report, that they have given considerable attention to these highly important matters—have addressed circulars of enquiry to a large number of persons in different parts of the Province, and sought information through other channels, but from the limited period of time since the appointment of the Committee, it could not have been expected that they would be able to collect such an amount of information, as to enable them to give any thing like a full, or detailed report at this meeting, upon so great a variety of subjects of such magnitude.

While it is generally admitted that Agriculture forms the ground work, or basis of a country's prosperity, it is equally apparent that a profitably employed manufacturing population is of great importance, as affording a sure and steady market for the surplus productions of the Farmer, furnishing necessary articles of use and comfort, and creating a home trade, without withdrawing the circulating medium, or exausting the resources of the country by too excessive importations.

Much of the prosperity of England is acknowledged to have resulted from her extensive, and varied manufacturing operations, it has been estimated that while the agricultural operations of that country afforded employment to but a sixteenth part of the population; the different description of manufactories gave employment to upwards of one eighth of the gross population.

Your Committee are fully of the opinion that until the principal articles of manufacture used in this Province, are much more extensively produced by our own population at home, than has heretofore been done, anything like an approach toward a state of general and permanent prosperity will not be experienced among us.

While an increased population, without adequate means of profitable employment, tends rather to burthen than benefit a country, any system that furninshes labour to an idle, or half employed population, or serves to increase a productive one, must be of the greatest advantage.

By way of illustrating the effect of importing articles from abroad as compared with their manufacture at home, we will suppose that A, and B, each possess a cash capital of one hundred pounds; A sends his money abroad and receives in return, its value in some description of manufactured article, required for use in the country, no benefit arises from the transaction, aside from the use of the article, but the small profit that results from the importation and vending the same, and the money is withdrawn from the country. On the other hand B. expends his money in manufacturing the same kind of article, or some other of equal use and value, at home. He gives employment to a number of persons who, while thus engaged, consume the productions of the Agriculturist, and also use various other descriptions of manufactured articles, likewise produced in the country by the labour of others, and the capital thus employed is retained in the country, and at hand to repeat the operation, while A must send away an additional hundred pounds every time he repeats his operation. The effect upon the prosperity of the country, of manufacturing among ourselves, must be felt to its fullest extent where the raw material can also be produced at home, but even when that has of necessity to be imported, the advantage is—still great, to the extent that the value of the manufacturered article exceeds that of the raw material.

As to the best modes of encouraging Domestic Manufactures, your Committee would suggest that a sure method would be for the people generally to purchase such articles as are already produced in the country, exclusively, whether for direct use, or for trade, instead of imported articles.

If a determination to do this should be manifested by the inhabitants, then persons engaged in manufactures, would be encouraged to increase their operations, by enlarging their establishments, and the introduction of new and improved machinery, by which they would be able to compete more successfully with the imported article, as well in respect to quality, as appearance and price, but so long as entire indifference is manifested in the matter: or what is still worse, a decided preference given to articles imported, no such encouragement is afforded to our present manufactures; nor yet to others to invest either capital or labour in new branches of manufactures, not yet tried in the country.

Your Committee would also suggest for the consideration of the Society, the propriety of offering bounties, as soon as the funds of the Society will admit of it, for the establishment of such new description of Factories, as the Society may be satisfied will be productive of advantage to the proprietors and the country at large.

Among the articles already manufactured in the country, or which your Committee believe could be done to advantage. They would mention the following:—

1st. Woolen Manufactories, for all descriptions of Woolens required for Home use.

2nd. Cotton Manufactories, for making Cotton, Cassinett or mixture of cotton and wool.

3rd. Iron Furnaces, for the manufacture of Iron in its various conditions, Castings, Stoves, &c.

4th. Paper Manufactories, for making wrapping, writing, sheathing, Printing Paper, &c. &c., and Paper Hangings.

5th. Soap and Candle Manufactories.

6th. Hat, Cap and Bonnet Manufactories.

7th. Tanneries, including the lighter and finer descriptions of Leather, not hitherto manufactured in the Province.

8th. Leather Manufactories, for Boots, Shoes, Harness, Saddles, Whips, Trunks, &c. &c.

9th. Potteries of all sorts for Home use.

10th. Brick and Lime Kilns.

11th. Hardware and Cutlery Manufactories for all kinds of iron vessels, implements and edged tools.

12th. Rope Manufactories or Rope Walks.

13th. Manufactories for Waggons, Carriages and other vehicles.

14th. Manufactories for Wooden Wares, including Household Furniture, &c.

15th. Manufactories for all kinds of Agricultural Implements.

16th. Stone Manufactories for Grind and sharpening Stones, Grave Stones, Building Stones, &c.

17th. Fulling Mills for dressing Homespun and other Cloth.

18th. Nail Factories.

19th. Cooper Manufactories for the making of all kinds of Pails, Tubs, Tierces, Barrels, half Barrels, Firkins and other Casks, and especially those fit for the exportation of Beef and Pork.

20th. Factories for Pot and Pearl Ash.

The largest portion of the different descriptions of manufactured leather used in the Province has been for a considerable time produced at home, still too much is imported. A reference to the returns will show that in 1848 manufactured leather to the value of upwards of eight thousand pounds sterling was imported into the Port of Saint John and its out Bays, exclusive of the extensive importations of Shoes, Boots, Harness, Saddles, &c., while there was but about one thousand pounds worth of hides, or the raw material, imported during the same period. In 1849 there was leather

imported to the value of upwards of nine thousand pounds sterling —while the importation of hides did not amount to fourteen hundred pounds, sterling, whereas the raw material alone, as far as may be required in addition to what the country produces, should be imported, and the use of imported manufactured articles discountenanced.

Again wooden manufacturs, such as Farming utensils, Household Furniture, and articles of various kinds, are annually imported into the Province to a large extent, while our country abounds with every description of wood required for such purposes, of comparatively little value. The same remarks may be made in reference to our castings, and a variety of other articles. Shut out as our manufacturers are from other markets, by high protective tariffs, your Committee conceive it to be exceedingly unwise to divide our own limited market, with the manufactures of other countries.

The manufacture of Soap and Candles has been carried on to such an extent in the Province for a few years past, as to almost entirely supercede the use of the imported article, in 1848 the value of these articles imported into the Port of Saint John and its out Bays, did not exceed nine hundred pounds sterling, while the raw material, tallow, was imported during that year to the value of nearly six thousand pounds sterling, in addition to what was produced in the country.

Your Committee are pleased to learn that a *Pot Ash* Factory is about to be established in Fredericton, and trust that the undertaking will receive due attention and encouragement from the members of this Society, and the public generally.

Although this undertaking may be viewed as a small matter, still your Committee regard it as a move in the right direction, and entitled to consideration, they find that in the year 1848 Pot and Pearl Ashes were imported into the Port of Saint John and its out Bays, to the value of nearly one thousand pounds sterling, although vast quantities of ashes are thrown to waste in the country, not even being applied to the land as manure.

With respect to Paper Factories, as well as other Factories, which your Committee are obliged to pass over at this time, they would remark that they have taken the requisit steps to procure information, which may be submitted at a future time.

The manufacture of woolen and cotton goods, is perhaps as well adapted to promote the welfare of the Province as that of any other article, to which your Committee could invite attention.

The Province is annually drained of many thousands of pounds for the purchase of expensive Broad Cloths, and other articles of woolen manufacture, whereas an article better adapted to the use of the country might be furnished at home at a much less cost: our country is unquestionably well adapted to the raising of sheep, and consequently the production of wool, of an excellent quality, vast quantities of which have hitherto been sent away from the country on the skins, at low rates, to be manufactured in other countries, while we have not only been importing our cloths from abroad, but actually receiving back the skins in the shape of morocco, so-called, and other Fancy Boots, Shoes &c., paying therefor double the amount originally received for the skins and wool together, and our population leaving the country for want of employment.

The only Woolen Factory at present in operation in the Province, where every part of the process of manufacturing cloth from the wool is performed, is that of the Messrs. Snow in Kings' County.

Your Committee have examined samples of cloth produced at this establishment, and consider them better value, at the prices charged than anything they have seen from abroad, not only as a strong article for ordinary use, but also samples of a texture sufficiently fine for the wear of any class of persons in the country, or on any occasion.

The same remark may be made in reference to several smaller Factories in different parts of the Province, where the process is attended to, except the spinning and weaving.

You Committee learn that the Messrs. Snow, are enlarging their establishment, and introducing steam power, in order to be able to meet any extent of demand that may arise for their productions. The manufacture of Cotton is probably calculated to furnish employment to as large a number of persons as any other that can be named, especially to females and boys, who are not adapted to work of a more laborious character, and for want of such employment at home, are compelled to seek it broad, or remain in idleness.

Your Committee are aware that they will be met at this point with the usual objections, that in the manufacture of an article where labour constitutes so large a portion of its value, we cannot compete with the British Manufacturer, who procures labour at so reduced a rate, nor yet with manufactures in the United States, where not only the raw material is grown, but bread stuffs, &c. produced to such an extent among themselves.

With regard to the first objection your Committee would remark, that although labour is much lower in England than in this Province, still in some other respects the advantages are on our side, as for instance the extensive water privileges, sites for erections, &c., which can be procured here for a mere trifle, would there cost a very large sum. Again in addition to saving the entire cost of importing the manufactured article from England such as commissions, insurance, freight, &c. The raw cotton can be produced here at less cost than in England, inasmuch as our timber ships going from England to a southern port for a cotton freight, could bring a cargo to Saint John with one-third the length of voyage that would be required to go to England, and would then be here to take a cargo of lumber to Great Britain, instead of having to recross the Atlantic in ballast, as they frequently do to procure such cargo.

But a full and complete answer to this objection is to be found in the fact that the manufacturers of cotton in the United States have been able to compete snccessfully with those of Great Britain. It is true that the markets of the United States were secured to her own manufactures by high protecive duties, which no doubt tended to facilitate the introduction and extension of factory operations in that country, but it appears by statistical information published both in England and the United States as easily as the year 1834 when cotton factories had been but recently established in the latter country, that in all the coarser descriptions of cotton fabrics the American manufacturer was competing with the British in a large number of Foreign Markets, such as *China, Bengal, Chilli, Malta, the Cape of Good Hope*, and other places, and in several of those places the use of the British article was entirely superceded by the American, and such is now the case, to a consideracle extent, in reference to New Brunswick, for since the duties here on British and Foreign Goods were equalized, under the non-differential instructions from the Home Government, a large portion of the cotton goods used in this Province, have been imported from the United States, instead of from Great Britain as before, and is constantly increasing.

In reference to the second objection your Committee have to remak that although cotton is grown, and breadstuffs produced in abundance in the United States, it must be borne in mind that they are principally produced in the Southern and Western States, While the Factory operations under consideration were for a long time almost exclusively confined to the North-eastern States, and are still so to a very great extent, to which the transfer of either

cotton or bread-stuffs from the South or West is equally as expensive as to New Brunswick; indeed freights can frequently be procured from Southern ports, or even from New York, for Saint John, at lower rates than for Boston or any other port in the Eastern States, from the fact that British vessels sailing to a Southern port for a cargo of cotton for Great Britain, and failing to procure it, as often happens, are obliged to come to Saint John in ballast, and take a timber freight to England, as by the existing Navigation Laws of the United States, British vessels cannot take a cargo from one port to another in that country.

Again wages are higher in the United States than in this Province, as appears from the circumstance of so many persons leaving our country for the United States, where they find ready employment, especially that of some fifty of our young women taken away at a time to labour in the Cotton Factories of that country, and your Committee are informed that the proprietors of these establishments are still looking to this Province for a further supply of labour, that arrangements are now in progress to procure from New Brunswick some 250 or 300 females in the course of the coming season for that purpose.

With these facts before us, your Committee would ask the members of this Society, and the public generally, whether the time has not now come for the establishment of Cotton Factories among us. Whether the interests of the country do not call for the erection of such establishments, to an extent at least sufficient to produce all the courser descriptions of Cottons required for home use.

Another objection urged against undertaking such Factories is, that we have no capital in the country for such purposes. In reply, your Committee would say, that the same capital that would build a ship, or erect two or three saw mills, would establish a Cotton Factory, upon a small scale, still the former have been engaged in to a ruinous extent, and the latter totally neglected.

Had the Legislature, some years ago, offered a reasonable amount of bounty for the first Cotton Factory that should be put in operation, with some given amount of capabilities, and thereby drawn the attention of capitalists to the subject. Your Committee have no doubt but ere this, such Factories would have been in active operation, to a limited extent at least, in this Province, affording employment to the young women of our country, and others at home, instead of being forced to seek a livelihood in a Foreign land, exposed among strangers, far from their friends and homes, in manufacturing articles for our own consumption.

Manufacturers in the North-eastern States have no advantage over this Province in the prices of food, as they are as dependent on imported bread-stuffs as we have been, and more so than we need be with such an improved system of Agriculture as it is hoped will ere long be adopted generally in this Province, even at the present time the expense of living is by no means less, in those States than with us.

It is urged by some that our Farmers cannot supply the present population of the country with food, hence should the population be increased by manufacturing operations, the importation of food must be increased in the same proportion, to this your Committee reply, that nothing will so effectually encourage the Farmer to extend his operations as a steady cash market at home for his surplus productions, and this can only be secured by a larger manufacturing population, it must be admitted that our lumber business has heretofore furnished a considerable market for certain articles of farm produce, but as that branch of business has been extremely fluctuating, and frequently ruinous, it has proved to be a very unsafe source for the agriculturist, or any other class of persons to depend on.

Should we even be obliged to import from abroad a portion of our wheat flour, it is but one item among the many articles of food required, and which may be produced to advantage in the Province, to any extent that the demand may call for.

Your Committee have frequently heard the prosperity of the State of Maine spoken of, as contrasted with that of New Brunswick, and would submit for consideration, whether the contrast is not attributable, in a great measure, to the want among us of Manufacturing operations, so extensively prosecuted, in the adjoining State, as it is well known that the agricultural capabilities of that State will not at all compare with those of our Province.

The following statistical account of the Manufactures in the State of Maine is given for 1840, and it may be supposed that those operations have greatly increased since that period.

The value of home made, or manufactures in the farmers, or other houses was $891,397. There were 21 Woolen Manufactories employing 532 persons, producing goods to the value of $412,336, and employing a capital of $316,105.

26 Cotton Manufactories, with 29,736 spindles, employing 1,414 persons, producing goods to the value of $970,397, with a capital of 1,398,000 dollars. 16 Furnaces, producing 6,122 tons of cast iron, and one forge for bar iron, employing 48 persons, and a capital of $185,250

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15 persons employed in producing 50,000 bushels of salt, with a capital of $25,000.

280 persons produced granite to the value of $98,720

6 Paper Factories, employed 89 persons, producing to the value of $84,000, with a capital of $20,600.

37 persons manufactured Tobacco to the value of $18,150, with a capital of $6,050.

Hats and Caps were made to the value of $74,174, and straw Bonnets to the value of $8,807, together employing 212 persons, and a capital of $28,050.

395 Tanneries employed 754 persons, and a capital of $571,993.

530 other Manufactories, such as saddleries, &c., producing articles to the value of $433,846 and employing a capital of $191,717.

21 Potteries employed 31 persons, and produced articles to the value $20,850 with a capital of $11,353.

864 persons manufactured Brick and Lime to the value $261,586, with a capital of $300,822.

339 persons producing Machinery to the value of $69,752.

119 persons produced Hardware to the value of $65,555.

4 Rope Walks employing 31 persons, producing cordage to the value of $32,660, with a capital of $33,000.

779 persons produced Waggons and Carriages to the value of $174,310, and employed a capital of $75,012.

Flour, Saw and other Mills employed 3,630 persons producing manufactures to the amount of $3,161,590, with a capital of $2,900,592.

Ships were built to the amount of $1,844,902.

Furniture was manufactured to the amount of $204,875, employing 1,453 persons and a capital of $668,558.

[illegible] Brick and 1,674 wooden buildings were erected, employing 2,482 persons, and cost $733,067.

34 Printing Offices, 14 Binderies, 3 Daily, 2 semi-weekly and 30 weekly Newspapers, and 5 Periodicals, employing together 197 persons and a capital of $68,200.

The whole amount of capital employed in the State, was by official returns, estimated at $7,744,224.

Such were the manufacturing operations of the State of Maine ten years ago. And your Committee can see no good reason why the principal part of the manufacturers enumerated in the foregoing statement may not be produced to advantage in this Province, as far, at least, as respects our own consumption.

In conclusion your Committee would remark that they intended to give an estimate of the cost of certain descriptions of Factories,

Such is a Cotton Factory. Paper Mill &c. The number of persons such establishments would give employment to, annual cost of conducting them, with the probable extent of demand for the articles produced for home use, profits that would arise from the operations &c., but this could not be done without the aid of statistical accounts from other places—which the Committee could not avail themselves of in time for this report.

Respectfully submitted,

JOHN T. SMITH,

Chairman of the Committee.

Fredericton, April 3rd., 1850.

To the New Brunswick Society for the encouragement of Agriculture, Home Manufactures, and Commerce throughout the Province.

The Special Committee appointed in January last at the General Meeting of the New Brunswick Society for the encouragement of Agriculture, Home Manufactures, and Commerce throughout the Province, "to enquire and Report to the Society on the best modes of imparting information to the farming and working classes in this Province, and the most efficient way of disseminating Agricultural and other useful information among such classes," has the honor to Report.

Deeply impressed with a sense of the vast importance of the subject thus submitted to their consideration, and feeling the utmost anxiety to afford the best practical solution to the question proposed, the Committee have used every exertion to obtain such information as might enable them to offer to this Society, and through it to the whole Province, the most useful and at the same time the most available information, for the furtherance of the objects in question, but they have encountered numberless and in many cases insurmountable difficulties in the prosecution of their task—difficulties such as must ever attend the steps of Pioneers in an unknown and unexplored track, and which they mention here merely as some apology for the imperfect manner in which they have executed the duty entrusted to them.

In a new country and with a thinly scattered population, it is almost impossible to employ any of those means, or to utilize any of those resources, which are so advantageously applied in Europe to the dissemination of information among all classes. Mechanics' Institutes, Book Clubs and Reading Societies, which are so useful in large towns and in populous neighbourhoods, would do nothing whatever for the hundreds or thousands in this Province, who, residing in remote localities, would find it impossible to avail themselves of their advantages, and since it is evident that no plan which has hitherto been tried can effect the good required, the Committee have felt it to be their duty to sketch out some new method which may enable the farmer and the working man to obtain the knowledge most useful to him, and to spend the long evenings of a dreary winter in a pleasing and profitable manner.

And first as to the nature of the information to be imparted.

It is the apparently well founded opinion of those who are most competent to judge, that the Province of New Brunswick possesses a

great deal of excellent land which is somewhat indifferently cultivated, and the readiest and best means of increasing the prosperity of its inhabitants, and of attracting respectable and intelligent Immigrants from the Old Countries, would be to improve the present defective system of cultivation and to develop the resources of the soil in such a manner, as would afford the most satisfactory proofs of its abundant fretility under skilful management, and thus convince even the most sceptical, that neither the climate nor the soil are the real obstacles to the Farmer's success but that his want of information as to the best method of encountering the one and of tilling the other must be so regarded.

Sound practical plain information on all subjects connected with Agriculture is therefore the chief object to be attained, and in order to effect this the Committee recommend the preparation of a manual to be entitled the Book of the Farm, which, published in a cheap form should embrace as succinctly and as intelligibly as possible the best and soundest instruction on such points as the following:—

The nature and qualities of different soils.

The proper rotation of Crops.

The collection and preparation of Manures.

The draining of Land.

The breeding, management, feeding, &c., of Cattle.

The best method of keeping farm accounts.

The manufacture of Dairy produce.

And generally on all subjects connected with, or appertaining to, the skilful management of a Farm, to which should be added so much of Agricultural Chemistry as would teach the Farmer in what way and in what respect different crops exhaust the soil, and in what way and in what respect different manures renew its fertility.

This manual or Book of the Farm, should then be placed in the hands of every Parish School Teacher throughout the Province and the necessary steps should be taken to induce the Government to make it a "Text Book" for the use of those Schools.

This would secure a vast amount of valuable information to the rising generation and in order to render it available to the Farmers and working men, some intelligent Teacher should be selected in each locality to whom could be entrusted the task of delivering short but comprehensive Lectures throughout the winter, and who should previously have received a sufficient amount of instruction from a competent person employed by the Society for that purpose, and who would teach him how to perform such simple experiments as would best illustrate the subject, and for the performance of which it would

be desirable to furnish at small expense, the needful apparatus to each Teacher so selected.

These Teachers would, as corresponding members, be required to furnish semi-annual Reports to the Society of the results of their exertions, and there is little doubt that the importance of the position they would thus acquire would sufficiently remunerate them for their extra labour until the Society should be in a position to offer some additional recompence.

A similar course could easily be adopted for disseminating information on various other subjects, such as History or Geography for each of which a course of familiar Lectures might be prepared, to be delivered in like manner by the Teachers, who would amenable as many of the inhabitants of each district as possible and thus form a reading society which would immediately prove most beneficial to all its members, and serve as a nucleus for the future establishment of a district society or Farmer's Club, which it would be advisable to supply with a small Library of Books on Agricultural subjects, and in which all matters connected with the cultivation of the land might be freely discussed. The circulation of some of the cheap American Periodicals on Farming, such for instance as the Albany Cultivator, would also prove of very great service, but better than all would be the publication by the Society of a Farmer's Journal which should contain an account of the management and cultivation of every description of land in all parts of the Province, with ample details of experiments for improving the soil, of new systems of tillage, of plans adopted for the better breeding and fattening of Cattle and in short of all matters interesting to the Agriculturtst. Such a Journal as this would supply the Farmer with a faithful account of the labours of others, and of the results of those labours, and serve as an unerring guide for the direction of his own efforts to cultivate his land and to manage his Farm to the best advantage.

Such is the opinion of the Committee, are the only plans that can at present be adopted for disseminating Agricultural and other useful informatlon among the farming and working classes in the Province. They offer these suggestions as the best that have occurred to them, and in the hope, that if not immediately available, they may at all events serve as hints to others better acquainted than they can possibly be with Agricultural affairs, and thus obtain for the Society their assistance and co-operation.

The Committee cannot conclude without calling the attention of the Society to the establishment of a self-supporting Agricultural School and Model Farm—not as recommending its immediate adop-

tion, but as a powerful means at some future time and under judicious management of supplying the Province with a constant succession of skilful and intelligent Farmers and of raising the cultivators of the soil to that station which the importance of their avocations and the real dignity of labour entitle them to fill.

All of which is respectfully submitted,

M. d'AVRAY, Chairman.

Note.—The following minutes were accidentally omitted, previous to the setting of the Reports :—

NEW BRUNSWICK SOCIETY,

For the encouragement of Agriculture, Home Manufactures and Commerce, throughout the Province.

Pursuant to notice a meeting of the New Brunswick Society for the encouragement of Agriculture, Home Manufactures and Commerce throughout the Province was held at the County Court House on the 23rd March, 1850.

The President, Professor Robb took the Chair.

In the absence of Mr. James S. Beek, Mr. John A. Beckwith acted as Secretary.

The President of the Society stated that the meeting was called under the 6th rule of the Society which provided that a general meeting should be held during the sitting of the Legislature, and that one of the special committees nominated at the general meeting in January, was, he believed prepared to report.

David S. Kerr, Esq., from the committee appointed to report at this meeting on the best cash markets for Beef and Pork, and also the most practical and effective modes for putting up the same fit to command such markets, and if necessary to prepare and submit a draft of a Bill to the Legislature for that purpose, read a most able and lucid report on the subject and exhibited the Draft of a Bill, which had been submitted to the Legislature in accordance therewith, wherefore it was ordered, that the said report be accepted.

The following resolutions were then submitted to the meeting in able and appropriate speeches from the movers and in some instances, by the seconders, and were all passed unanimously.

By James Brown, Esq., seconded by the Hon. J. W. Weldon.

1st. *Resolved,* That in the opinion of this Society the business of Agriculture in New Brunswick ranks first in the scale of import-

ance, that upon its resources and improvements, the merchant, the mechanic, the manufacturer and all other members of society are materially dependent for subsistence and wealth.

2nd. By the Lord Bishop of Fredericton, seconded by the Hon. the Master of the Rolls.

Resolved, That in the opinion of this Society, the encouraging and extending the manufacturing interests in every part of New Brunswick, will materially tend to introduce and accumulate capital in the Province, will encourage and draw to our shores and retain many classes of useful labourers, will afford additional markets, and otherwise benefit our farmers; and largely contribute to increase the wealth and raise the character of New Brunswick.

3rd. By David S. Kerr, Esq. seconded by Mr. Editor Hill.

Resolved, That as it is highly desirable, to encourage and improve the mercantile interests of this Province, by basing them upon a more sure and prosperous footing than now exists, it is the opinion of this Society, that the advancing of Agriculture and manufacturers in New Brunswick, and thereby introducing additional capital and producing additional commodities of a permanent and profitable description available to our merchants for the supply of the different markets, will greatly conduce to the attainment of the desired end.

4th. By the Hon. Harris Hatch, seconded by C. L. Hatheway, Esquire.

Resolved, That the resources and productions of this Province have been hitherto much neglected, and all classes should unite in a vigorous effort to make those resources and productions more available and profitable.

5th. By the Hon. Edwin Botsford, seconded by D. S. Kerr, Esquire.

Resolved, That this Society is highly gratified with Professor Johnston's account of the Agricultural capabilities of this Province, and its resources generally, and is cheered with the prospect that the Legislature and the people will unite their efforts to make those capabilities and resources available.

6th. By Andrew Barbarie Esq., seconded by James Taylor Esq.

Resolved, That this Society rejoices in the cheering results of superiority in the capabilities of New Brunswick, displayed in the Lecture of Professor Johnston, in his comparison of the general average of Wheat, Barley, Oats, Rye, Potatoes and Turnips, produced in New Brunswick, with the like average of similar articles, yielded in the Canadas and the most productive portion of the United States.

7th. By Mr. J, A. Beckwith, seconded by D. S. Kerr, Esq.

Resolved, That whilst it appears by Professor Johnston's report that this Province on an average possesses capabilities equal and even superior to the Canadas or the States, for producing food, viz: Barley, Oats, Rye and Potatoes, the price of the most of those articles available for the farmer in the New Brunswick Market, is on an average double the price in similar Home markets in the Canadas, or the United States.

8th. By Robert Chestnut, Esq., seconded by Mr. W. Watts, Sr.

Resolved., That this Society receives with gladness, the views of Professor Johnston expressed by him at the St. John Institute whilst dealing with the objection of our winters, that after the best examination and comparison he could make he was of opinion that there was nothing in the circumstances of this Province, so different from those in prosperous countries, especially the Canadas and North Eastern States, as to diminish the profits of the New Brunswick Farmer in comparison with those in such other countries.

9th, By James Brown Esq., seconded by Mr. Editor Hogg.

Risolved, That Oats and Barley which can be produced in New Brunswick, to an extent unsurpassed by any other part of the world, are calculated to be great staple commodities for food and profit in the Province, and that the increased production of Oats and Barley, the extensive erection of Oat and Barley Mills, and the more extensive and general use of Oat and Barley meal for family, and other uses, should receive every possible encouragement from the people of this Province.

10th. By James Taylor Esq., seconded by H. J. Hansard, Esq.

Resolved, That in the opinion of this meeting the interests of Agriculture, Home Manufactures, and Commerce, would be greatly promoted and the utility of this Society much enhanced, by the holding of an annual Show and Fair in some suitable and convenient place in this Province not of exhibition merely, but for the sale and exchange of every description of the productions of this country.

JOHN A BECKWITH,
Acting Secretary.

NEW BRUNSWICK SOCIETY,

For the encouragement of Agriculture, Home Manufactures and Commerce, throughout the Province.

This Society held its regular quarterly meeting agreeably to the Constitution, on the evening of the 3rd. instant and was principally occupied in hearing the Reports of the Special Committees appointed on the 31st January last. The Reports on the best mode of accumulating, preserving, and applying the different kinds of manures —on the raising of turnips, mangold wurtzel, carrots and parsnips, —on the differnt kinds of seeds for general use,—on the best modes of fattening cattle and hogs—on household, and domestic manufactures, and the kind of factories which might be undertaken in New Brunswick with success and on the best modes of imparting and disseminating agricultural and other information to the farming and working classes of the Province were all received and adopted by the Socicty. Those Reports, which reflect great credit on the ability and industry of their authors, and are calculated to be of immense service to the interests of this Province, the Society resolved to publish without delay, together, with the one previously delivered on the best Cash markets for beef and pork, and the best modes of making the same marketable—in a 1000 Copies for distribution to County Agricultural Societies and otherwise. The following Committees were then appointed.

SPECIAL COMMITTEES.

1st. *Resolved*, That the Vice President of St. John, and the Vice President of Sunbury be a special committee, to enquire and report to this Society at its quarterly meeting in July next on the utility of raising flax in diffrerent parts of this Province not only for the use of domestic manufactures but also for the production of linseed and the making of oil cake to aid in fattening cattle for market.

2d. *Resolved*, That J. A. Beckwith and William Greave be a special committee to enquire and report to this Society at its quarterly meeting in July next on the best modes of improving the breed of cattle throughout the Province.

3rd. *Resolved*, That William Greave be a special Committee to enquire and report to this Society at the quarterly meeting in July next on the best modes of improving the breeds of hogs of this

Province, and the most profitable descriptions that can be selected to make pork for home use and exportation.

4th, *Resolved*, That William Greave and John T. Smith be a special committee to enquire and report to this Society at the quarterly meeting in July next, on sheep husbandry, and the description of sheep best adapted to this country especially for manufacturing purposes.

5th. *Resolved*, That the Vice President of Sunbury be a special committee to enquire and report to this Society at the quarterly meeting in July next on the best modes of facilitating emigration in this Province.

6th. *Resolved*, That J. A. Beckwith, Henry Fisher and James S. Beek, Esqrs. be a special committee to enquire and report at the quarterly meeting in July next whether an Agricultural periodical or journal can be got up in this Province and carried on with success.

7th. *Resolved*, That John T. Smith, Samuel W. Babit, James Johnston, and James S. Beek, Esqrs., be a special committee to enquire and report to this Society at the quarterly meeting in July next, and submit plans and estimates for the erection of a cotton manufactory in York, Westmorland, or any other County or Counties of this Province, together with the most appropriate dimensions, the number of spindles and the amount of capital required for such erection, as also the number of laborers—the amount of their wages and the additional capital required per annum for the efficient carrying on of such factory, also the amount of the manufactured articles produced per annum and the available markets at home and elsewhere therefor, and the probable losses and profits of such factory.

8th. *Resolved*, That James Hogg be a special committee to enquire and report at the quarterly meeting in July next, on the erection of a paper factory, with plans, estimates, prices, and returns as above.

9th. *Resolved*, That Dr. Robb, the President, Robert Chestnut, Vice President for York, residing in Fredericton, David S. Kerr, John A. Beckwith, and James Taylor, Esqrs. of York County be a special committee, and with power to add to their number, to enquire and report to this Society, at its quarterly meeting, in October next, on

1st. What Oat, Barley, and Flour Mills, respectively, there are now in the County of York, and what additional Mills of either sort are required, or may be set up and encouraged in such County with advantage, together with suitable and convenient sites therefor,

2nd. What Household and Domestic Manufactures are now principally attended to in the County, (such as carding, spinning, and weaving of Cotton, Flax, and Wool, for wearing apparel, bedding, toweling, table linen, &c., soap, candles, butter, cheese, carpeting, straw hats, straw bonnets, knitting, needle work, &c. &c., and the probable amounts thereof, respectively, and how the descriptions thereof, may be best encouraged, increased, and made profitable in such County.

3rd. What Manufactories respectively, there are now in operation in the country, and what additional manufactories, (such as

1st. Woolen Manufactories, for all descriptions of Woolens required for Home use.

2nd. Cotton Manufactories, for the same, and exportation.

3rd. Iron Furnaces, for the manufacture of Iron in its various conditions, Castings, Stoves, &c.

4th Salt Manufactories.

5th. Paper Manufactories, for making wrapping, writing, sheathing, Printing Paper, &c., and Paper Hangings.

6th. Hat, Cap and Bonnet Manufactories.

7th. Soap and Candle Manufactories.

8th. Tanneries.

9th. Leather Manufactories, for Boots, Shoes, Harness, Saddles, Whips, Trunks, &c. &c.

10th. Potteries of all sorts for Home use.

11th. Brick and Lime Kilns.

12th. Hardware and Cutlery, Manufactories for all kinds of iron vessels, implements and edged tools.

13th. Rope Manufactories or Rope Walks.

14th. Manufactories for Waggons, Carriages and other vehicles.

15th. Manufactories for Wooden Wares, including Household Furniture, &c.

16th. Manufactories for all kinds of Agricultural Implements.

17th. Stone Manufactories for Grind Stones, Grave Stones, Building Stones, &c.

18th. Fulling Mills for dressing Homespun and other Cloth.

19th. Nail Factories.

20th. Cooper Manufactories for the making of all kinds of Pails, Tubs, Tierces, Barrels, half Barrels, Firkins and other Casks, and especially those fit for the exportation of Beef and Pork.

21st. Potash.) May be set up in such County with a reasonable prospect of success, and the kind of encouragement they should respectively have

4th. Any other information from County Agricultural Societies or otherwise, calculated to advance the interests of the Province, in Agriculture, Home Manufacture and Commerce, which such Committee may consider it important to communicate.

CHARLOTTE.

10th. *Resolved*, That the Honorable Harris Hatch, James Brown, Esq., Vice President for Charlottee, Joseph Walton, David Moat, John Mann, and Samuel McFarlane, Esquires, of Charlotte County, and John A. Beckwith, Esq., of York County, be a special committe, with power as aforesaid to enquire and report as above mentioned in relation to the County of Charlotte.

GLOUCESTER.

11th. *Resolved*, That Francis Ferguson, Esq., Vice President of Gloucester, Joseph Read, John Woolner, Henry W. Baldwin, and Samuel L. Bishop, Esqrs., of Bathurst, and David S. Kerr, Esq., of Fredericton, be a special committee, with power as aforesaid to enquire and report as above mentioned in relation to the County of Gloucester.

KINGS.

12th. *Resolved*, That the Rev. Wm. E. Scovil, Allayne C. Evanson, Esq., Doctor Earle, and Captain Otty, of King's County, and Henry Fisher, Esq., of Fredericton, be a special committee, with power as aforesaid to enquire and report as above mentioned in relation to the County of King's.

SAINT JOHN.

13th. *Resolved*, That Robert D. Wilmot, R. Jardine, Vice President of Saint John, Hon. John R. Partelow, Isaac Woodward, and B. Ansley, Esqrs. of Saint John County, and Robert Chestnut, Esq. Vice President of York, residing at Fredericton, be a special committee, with power as aforesaid to enquire and report as above mentioned in reference te the County of Saint John.

RESTIGOUCHE.

14th. *Resolved*, That Andrew Barberie, D. Stewart, Vice President for Restigouche Adam Ferguson, Doctor D. R. Carter, James S. Morse, and John Duncan, Esquires, of Restigouche, and James S. Beek, Esq., of Fredericton, be a special committee, with power as aforesaid to enquire and report as above described in reference to the County of Restigouche.

WESTMORLAND.

15th. *Resolved*, , That the Hon., the Vice President of Westmorland, the Hon. Amos E. Botsford, John Robb, Joseph Avard,

and Albert J. Smith, Esquires, of Westmorland County, and D. S. Kerr, Esq., of Fredericton, be a special committee, and with power as aforesaid to enquire and report as above described in relation to the County of Westmorland.

SUNBURY.

16th. *Resolved,* That Geo. Hayward, Thomas O. Miles, Calvin L. Hatheway, Vice President for Sunbury, and the Rev. J. M. Sterling, of Sunbury, County, and John T. Smith, Esq., of Fredericton, be a special committee and with power as aforesaid to enquire and report as above mentioned in reference to the County of Sunbury.

QUEENS.

17th, *Resolved,* That the Rev. Samuel Scovil, Wm. Foshay, Vice President of Queen's, Thomas Gilbert, John Earl, Thomas J. Hewlet, George W. Hobin, Ebenezer L. Burpe, and D. Palmer, Esquires, of Queen's and Henry Fisher Esquire, of Fredericton, be a special committee, and with powers as aforesaid to enquire and report as above-mentioned in reference to the County of Queen's.

NORTHUMBERLAND.

18th. *Resolved.* That George Kerr, Esq., Vice President for Northumberland, John Wright, James Caie, Hon. Joseph Cunard, John A. Street, Edward Williston, Allen A. Davidson, John Porter, William Carman, Alexander M'Laggan, and Roderick M'Leod, Esq., of Northumberland, and David S. Kerr, Esq, of Fredericton, be a special Committee and with power as aforesaid to enquire and report as above mentioned in respect to the County of Northumberland.

KENT.

19th. *Resolved,* That David Wark, James Long, John D. Ford, Francis McPhelan. William S. Caie, and James A. James, Esqrs. of Kent, and David S. Ker, Esq., of Fredericton, be a special committee and with powers as aforesaid to enquire and report as above mentioned in relation to the County of Kent.

CARLETON.

20th. *Risolved,* That Robert A. Hay, James R. Tupper, Edwin Jacob, Joseph Rydeout, James Jones, Hugh Davis, Nelson Baker, James A. Phillips, William T. Baird, Esqrs. of Carleton County, and John A. Beckwith Esq., of Fredericton, be a special committee and with power as aforesaid to enquire and report as above set forth in reference to the County of Carleton.

ALBERT.

51st. *Resolved*, That William H. Steves, John N. Chapman, Elisha Peck, John Wallace, Isaac Turner, George Cahoun, Thos. B. Moore, Esqrs., of Albert, and D. S. Kerr, Esq., of Fredericton, be a special committee and with power as aforesaid to enquire and report as above mentioned with respect to the County of Albert.

VICTORIA.

22nd. *Resolved*, That Benjamin Beveridge, George H. Giberson, Leonard R. Coombs, A. W. Raymond, Francis Tibbits, P. C. Amireaux, William M. M'Lauchlan, Esqrs., of Victoria, and J. S. Beek, Esq., of Fredericton, be a special committee, and with power as aforesaid to enquire and report as above described in relation to the County of Victoria.

JAMES S. BEEK, Secretary.

OMISSION.

Page 13, in the list of Vice Presidents, Northumberland—George Kerr, Esquire.

NEW BRUNSWICK SOCIETY,

For the Encouragement of Agriculture, Home Manufactures and Commerce, throughout the Province.

SIR EDMUND W. HEAD, BART., PATRON.

The annual meeting of this Society at the County Court House on Wednesday the 8th January, continued by the Meeting of New Year's day, was held agreeably to adjournment. The President took the chair, and pursuant to notice given at the meeting in October last, moved an alteration in the third article of the Constitution by reducing the additional number of the Executive Committee from twelve to five, and the Quorum from five to three, which alterations were seconded and unanimously adopted; agreeably also to notice, he moved an alteration in the sixth article of the Constitution, by doing away with the June and October Meetings which was seconded and agreed to. The President then, as Chairman of the Executive Committee submitted an annual report of the Society's doings for the information of the public, which was received with approbation and ordered to be printed:—the following is a Copy:—

Gentlemen,—At the last meeting of the Executive Committee of this Society it was suggested that as Chairman of the Executive Committee I should prepare the annual report and address, before laying down the office which I have the honor to hold in the Society. I can hardly say that I have had sufficient leisure to do this in detail, but fortunately, great part of it was already done to my hand in the first report of the Society published in July last. After that Report was published it was generally distributed throughout the Country, and at the same time occasion was taken to solicit subscriptions in aid of the Society: Mr. Kerr, whose professional duties took him into most of the Counties, called public meetings in almost all of them and organized local Committees in some of them for co-operating with the parent Society. By that means, and by subsequent correspondence with local Committees, upwards of £100 have been collected, and the Provincial Grant of £200 made contingently to the collection of £100 by private subscription has been secured. Our expenditure for the last year (chiefly for printing) as will be seen by the Treasurer's report just submitted, has amounted to £52 10s 1d and the balance now to the credit of the Society amounts to £217 9s 11d.

An abstract of the proceedings at the various County meetings is given below, and this will be heard with pleasure by all interested in the Society.

Albert.—A meeting was held at Hopewell on the 19th of July T. Gilbert, Esq. V. P., Chairman, and T. B. Moore, Esq., Secretary. Mr. Kerr and various gentlemen addressed the meeting re-

garding the objects and constitution of this Society,—whereupon Resolutions were passed in favor thereof, and highly commending its published Reports:—A subscription list was opened, £5 were immediately subscribed and Col. S. Clark has since paid contributions to amount of £3 5s.

Westmorland.—A meeting was held in the Temperance Hall of Dorchester on the 26th of July. Hon. E. B. Chandler, Chairman, and Dr. C. S. Theal, Secretary. After various addresses, resolutions were passed commendatory of the Society, and a subscription was opened to aid in carrying out its objects: the subscriptions received amount to £2 5s.

Kent.—Owing to an unusual press of business before the Court in Circuit at Richibucto it was found impossible during Mr. Kerr's stay in that place to get an evening disengaged for a public meeting and consequently nothing was done at that time: Mr. Layton subsequently reports that the County Agricultural Society has declined to make any gant of money to this Society, as this was the first year of their existence, and their funds were required for local purposes. He remits 5s as his own subscription.

Restigouche.—A meeting was held in the Court house at Dalhousie on the 27th of August, of which D. Stewart, Esq. V. P. was chairman, and James S. Morse, Esq., Secretary. Mr. Kerr addressed the meeting on behalf of the Society, and after several speeches by gentlemen of the County, resolutions were passed in favor of the Society, and highly commending the measures adopted by it for the general welfare of the Province. A subscription list was opened, and contributions to the amount of £6 5s have been paid to the Treasurer. The Secretary of the County Agricultural Society subsequently announced that that body declines subscribing to the Society on account of the difficulty of collecting their own funds: he offers however to co-operate and afford all needful information.

Gloucester.—A meeting was held in Bathurst Court House on the 5th of September, of which F. Ferguson Esq., V. P. was chairman, and T. Desbrisay, Esq. Secretary. Mr. Kerr addressed the meeting in explanation of the objects of the Society and urged the importance of improving the manufacture of cloth in that section of the Country; resolutions were subsequently passed in approval of the objects and constituion of the Society; a committee was appointed to co-operate and promote the interests of the Society in the County and to collect and remit subscriptions: Contributions received £6 5s. Rev. Geo. Macdonell on behalf of the local Committee subsequently announces that a Fulling Mill is their chief object of local importance, and that a committee had been appointed to collect more information concerning it. He further suggests that appropriations to local Societies in proportion to their subscriptions would answer best; He also thinks that this Society would be the proper party to collect materials for transmission to the great Industrial Exhibition of 1851.

Northumberland.—A meeting was held in the Mechanic's Institute of Chatham on the 14th September; Geo. Kerr, Esq.,

Chairman, and Mr. J. Macdougall, Secretary. Mr. D. S. Kerr's address and explanation of the Society's proceedings were very warmly received, and it was afterwards resolved unanimously "that the objects contemplated by the Society are of vital importance to the welfare of the Province and demand the best exertions of every lover of his Country to promote and extend those great sources of National wealth and prosperity." An influential Committee what appointed to promote the interest of the County, and to ascertain was species of manufactures it was desirable to establish and promote in that locality. Subscriptions reported by Mr. McDougall £2 10s.

A meeting was likewise held in the Court House of Newcastle on the 10th of September of which J. A. Street, M. P. P. was chairman, and E. Williston, Secretary. Mr. Kerr having brought the objects of the Society fully before their notice, a committee was appointed to draft a series of resolutions, and the meeting adjourned: at the adjourned meeting on the 12th, thanks were voted to Mr. Kerr, and a Resolution was passed highly approving of the Society "embracing, as it does, three distinct branches, which have a mutual tendency to strengthen and promote each other, and which are all essentially connected with the welfare of the Province:" a committee was appointed to collect subscriptions and to promote the objects of the Society in that locality, to co-operate with other committees in the County, and to collect information in regard to the establishment of a Carding, Fulling, and Dying manufactory for woolen stuffs under encouragement from the Society.

Subscriptions to the amount of £2 10s have been since reported but not received.

Carleton.—A meeting was held in the School House of Woodstock on the evening of Monday the 24th September, of which C. Perley, Esq., V. P. was chairman, and E. Jacob Esq., Secretary.

Various patriotic addresses were made by the gentlemen present —after which the following Resolutions were unanimously adopted;

Resolved, That in the opinion of this meeting, it is the duty of the inhabitants of this Province to encourage and promote every effort to render our people independent of Foreign aid, by supporting every reasonable attempt to manufacture within the Province those articles of common use for which at present we are obliged to foreign aid, enterprise and skill.

Resolved, That in the opinion of this meeting the means of general improvement recommended by the New Brunswick Society for the encouragement of Agriculture, Home Manufactures, and Commerce, are well calculated to promote the objects of the Society, and that the said Society, is well deserving of public confidence and support.

Resolved, That the thanks of this meeting be given to D. S. Kerr, Esq., for the address which he had made to the meeting and for his zealous efforts in the cause of Agriculture.

On the 26th of the same month Mr. Kerr addressed the inhabitants of Jackson-town, and was ably supported by J. Dibblee Esq., and others from the neighbourhood. The best feelings towards the

society were evinced and promises of aid and co-operation freely tendered.

H. E. Dibblee, Esq., has subsequently remitted the sum of £11, of which £5 were granted by the County Society, and £6 collected by private subscription. The Society's grant was made on the understanding that an appropriation of double the amount will be made from the New Brunswick Society to the County society, in aid of some local object to be hereafter determined. "The reports of the Society are eagerly sought for in that quarter," Mr. Dibblee observes, and a further supply is requested to be made. The materials for manure abound in that County, but he remarks that 'the farmers lack the knowledge to apply them." Mr. J. Dibblee in a letter dated Oct 21, suggests that encouragement should be held out by the society for the manufacturer of cloth, and of farming implements at or near Fredericton; the same gentleman further suggests that a cheap agricultural journal should be freely disseminated among the farmers if possible, and reports that the desire for agricultural information is fast gaining ground in the County of Carleton.

Sunbury.—A meeting was held at Maujerville on the 19th Oct., G. Haywiard, Esq., M. P. P. in the chair: Mr. Kerr explained the plans and object of the society. These explanations were favourably received, and Mr. Hatheway V. P., has reported contributions to the amount of £1 10.

Charlotte.—A meeting was held in the Town Hall on the 29th Oct. whereof Hon. H. Hatch, V. P. was chairman, and Mr. A. T. Paul, Secretary. Mr. Kerr explained the objects of the Society, and after sundry addresses by the gentlemen present, resolutions were passed concerning the objects and constitution of the society, the leading principles of which must have a direct tendency to promote the best interests of the Province. A subscription list was opened, and a local committee appointed to carry out the objects of the society. The subscriptions from this County amounting to £10 or £12, reported but not yet received.

St. John.—By invitation of R. Jardine, Esq., President of the County Agricultural Society, Mr. Kerr addressed that body in their Rooms at St. John on the 28th Nov: Resolutions favorable to the Society were passed, and a grant of £20 was generously made in aid of our subscriptions.

York.—By the kindness of the citizens of Fredericton, the members of the Legislature and others whose names will be published, we are enabled to report subscriptions and donations to the amount of about £15, of which £5 were presented by the Patron of the society, His Excellency the Lieutenant Governor.

A very gratifying meeting was held at the school House in the Harvey Settlement on the 31st of October, of which Mr. R. Wilson was Chairman, and Mr. J. Thomson Secretary. Mr. Kerr addressed the meeting in regard to the objects and constitution of the society, and distributed Reports which were very gratefully received: Resolutions in favour of Farmer's clubs and local

meetings for the discussion of their own wants and objects were passed, and further aid requested from the Society.

No Meetings were held in King's Queen's, or Victoria counties, and no contributions have as yet been reported from thence.

On the whole then, it is obvious that the Society has had the approval of the Friends of Agriculture, and Home Manufactures throughout the Province, who have signified that sentiment in a way not to be mistaken, and enabled it to meet the rather severe test to which the principles of the association were submitted by the Provincial Legislature at its first establishment.

As there may be some difficulty in collecting the sum of £100 so soon after this last year's quest, it may probably be deemed advisable to petition the legislature at this approaching session to make some modification of the terms upon which the Provincial allowance is made to us: it would also be desirable to have the names on all of the subscription lists printed in full with the next report of the Society; and that we should faithfully redeem whatever pledges may have been made to the various local Committees or County Agricultural Associations. Public inspection should be freely invited, and public co-operation most earnestly invoked. Our great permanent and abiding interest as a people has been too long overlooked or sacrificed to others. It is high time that an united effort should be made to secure *our own food and clothing from our own soil*, and until this can be done, and proved to be generally practicable, it is hardly worth while to invite new immigrants to make this Colony their home. At the meeting in April last sundry special committees were appointed which have not yet sent in any Reports: this is easily understood when we consider our proceedings were dependant upon the state of the subscription lists. From unavoidable circumstances these could not be made up until lately, and hereafter we may expect the Reports in question which would be of great public utility.

At the last meeting of the Executive Committee it was decided to leave the Provincial Grant of £200 and the balance of the subscribed funds of the Society unappropriated for the action of the new office-bearers of the Society; by hastily appropriating the monies of the Society they might have been misappropriated, but if the income of the ensuing year, was as large as that of the year just closed, there will remain in the hands of this Society a very considerable sum, and which if properly administered may very beneficially influence the cause of Agriculture, Home Manufactures, and Commerce among us; I would venture to suggest that the new Executive Committee should at once take up the subject of the proposed expenditure for the year, and submit their plans specifically for the consideration and approval of the general meeting to be held in Fredericton during the sitting of the Assembly.

The difficulty in that case probably would be to see that persons unqualified to vote did not do so: this, however, might be got over by getting the contributors to the Society's funds in the respective Counties to empower and instruct a delegate (who might be probably a member of the Legislature) to speak and vote on the appro-

priations: by some such means the united wisdom of the Province might be brought to bear directly upon the encouragement most required for Agriculture, Home Manufactures, and Commerce: this would also give the management of the Society into the hands of gentlemen from every different section of the country, and in fact make it a Provincial institution.

In the neighbouring States, and in some countries of Europe, there is a bureau or department of the Government for the special superintendence of Agricultural matters. I should indeed rejoice to see such an office in this Province, and should augur the best results from its institution, but in the mean time, until we have such a thing, some general Association such as our own for the purpose of directing, stimulating, and promoting by every legitimate method these great interests seem to be imperatively required.

The great majority of our population are and ever must be dependent upon *the land* for their subsistence; when the lumber trade fails, as in time, it will inevitably fail—we must then settle down steadily to Agriculture: in our devotion to lumbering hitherto, we have neglected farming and it is high time that another generation should be rescued from that ignorance of Agriculture as an art and a science—which forces our farming population into the woods and too often keeps them there slaves to an unprofitable employment.

The contingencies of the lumber trade are so great that success in it can hardly be deemed more than a matter of chance; probably however it is this very uncertainty which gives it its zest, for, as Mr. Fox remarked of gambling, "next to the pleasure of winning, there is no pleasure so great as that of losing."

Farmers in most countries have a proverbial dislike for book farming, but this prejudice gives way as general enlightenment proceeds, and the results of practices different from their own can be fairly examined: this Society, then, should I think, urge most strenuously upon the Legislature to strike at the root of this degrading ignorance: Agricultural reading should be provided for every school in the country, and an Agricultural education should be provided for a population which has come expressly to get their living by and from the soil. The want of an Agricultural element in the education of a country like this would argue that our rulers were as averse to book farming as the farmers of the old schools themselves. We hope yet to see the day when the elements of Agriculture will form more or less a part of the teaching of every common School Grammar school and College supported by public

money in New Brunswick. Special Agricultural schools and model farms should we conceive also have early and liberal encouragement. It may seem to be the interest of the commercial portion of the Community to keep our young men ignorant of the dignity and the duties of the Farmer, and to send as many of them as possible into the lumber woods, but experience has shewn that most commonly the farm itself falls into the hands of the merchant; to him however it is valueless, if he had fifty or a hundred of them he would be no richer, for land here is only valuable to the farmer, and very few in this country will ever think it worth their while to become tenants on other men's land. The strong, the great and paramont interest of this country must therefore ever be the Agricultural interest.

This Society might also usefully apply itself to the collection of Agricultural statistics. We want to know the actual state of the Agriculture in every County and to keep pace with its progress and development from year to year: the Agricultural Societies might render more complete accounts of this kind in their annual reports to the Legislature, and there ought to be an annual abstract or digest of the reports of the several Counties so as to give a commanding view of the state of the whole: we think that the duty of making such a digest might properly be committed by the Legislature to this Association.

The subject of a Show and Fair is an important one and demands the most serious attention of the Society: it would be very desirable that one should be held in 1851, although the charge connected with it might be considerable. The bringing of men together for a purpose purely Agricultural—the prominence which the object thereby assumes in the eyes of the public—the comparison of results—the communication of methods—the friendly counsel—the wholesome stimulus of encouragement and competition—all these powerfully tell in favour of advancement—and from year to year the improvement proceeds.

There are none I believe who doubt the effect which the Industrial Exhibition to be holden in London will have upon the arts whose progress it has been designed both to attest and improve. It is a matter of great regret that so little has been done in regard to an exhibition of this Colony at that great show and fair. A Commissioner has been recently appointed to forward such materials as may be designed for the Exhibition in London, but the time allowed is now too short to do justice to the project, and a considerable sum

of money and some special encouragement might have been advantageously applied in furtherance of this object; as early as the month of May last, this Society, in reply to a communication from the Executive Government, stated that "it was prepared to do all in their power to assist in carrying out so desirable an object" and respectfully requested "to know particularly how and to what extent the machinery of the Society could be rendered available in the case." On the 8th of July, however, it was announced officially "that the Government had no farther communication to make on the subject," whereupon the matter dropped. I am of opinion that we ought to have put the evidence whereon we rest our statements as to the great natural resources of this Province into that Court,—and stood by the decision: the Canadians have come nobly forward, and undoubtedly, the substantial proofs of wealth in raw and manufactured materials which they have sent to England will tell most materially in their favour. In that great Exhibition of Industry are the 1500 cubic feet of space reserved for New Brunswick to remain a *blank?*

But to come from great things to small we have ever heard that public Markets tell effectually upon Agricultural improvement; and it is a disgrace to the Seat of Government that she has none. A regular market on certain specified days of the week, to which all farmers should be obliged to bring their produce for sale, would tend very greatly to improve the quality of that produce: no good farmer could refuse to show his, and the bad one would find it to his interest to adopt improved methods. Time would be saved both to the dealer and consumer, and the farmer would rise from the position of a pedlar or hawker to the dignity of a merchant. Should a public dinner in connection with this Society take place during the session of the Legislature it would probably tend to draw all the friends of the cause more closely together, to elicit such information and discussion as could not otherwise be obtained, and to secure a verdict upon the improvement of the Agricultural produce for the year.

It will be a matter of gratification to the writers of the various reports already published by the Society to know they have been most warmly "welcomed everywhere and characterised as the very thing the Country wanted." One thousand copies were printed, of which 700 have been distributed; fifty copies were burnt in the late calamitous fire, and 250 remain for distribution. From all quarters there are demands for more and probably two or three times the number might still be distributed with advantage. Every member of the Society should properly have had a copy, and this must be attended to in future, the funds of the Society cannot be better expended than in

disseminating information; "Line upon line and precept upon precept" are required; slowly the good seed takes root and slowly the fruit is matured; we have the fullest assurance that the desire for information and improvement is becoming general among farmers, and every one who aids them must be regarded as the true friend of his country. A series of useful papers original or selected on the subject most required for the country at present should be prepared by the Society, and distributed—even gratuitously in every quarter. It is very gratifying to know that already the suggestions of the committee on manures are being adopted in different places throughout the Province, and ere long we hope that the principles therein inculcated will be thoroughly and familiarly known to every young agriculturist in the country. A valuable report on immigration by C. L. Hatheway, Esq. V. P., is also recommended for early publication; and there will be work enough for the new Executive Committee in carrying out practically the suggestions contained in that or the other reports now published. Premiums should also be offered to parties who most completely develope the improvement suggested by Professor Johnston or contained in the Society's Reports. We may be permitted also to express our great gratification at the marks and expressions of confidence reposed in this Society by the County Agricultural Societies. Unity of action among the friends of Agriculture is most especially to be desired at this time, and without desiring in any way to control the County Societies we do think that an alliance with them would be for our mutual advantage. The sphere is wide enough and we ought together to form one harmonious whole.

In conclusion, I must congratulate the members of this Society on the position which they have now gained, and to express my hope and belief, that, starting from their new vantage ground they may be able in a short time to give a decided *impetus* to the good cause of Agriculture, Home Manufactures, and Commerce in New Brunswick.

J. ROBB, M. D.,
Chairman of the Executive Committee.

The Society next proceeded to the election of office-bearers for the present year which were chosen as follows:—

Hon. Neville Parker, Master of the Rolls, President.
Robert Chestnut, Esq., Vice President for York in Fredericton.
Thomas Jones, Esq., Vice President for York in the country.
Robert Jardine, Esq., Vice President for St. John.
Hon. Harris Hatch, Vice President for Charlotte.

Calvin L. Hatheway, Vice President for Sunbury.
Rev. N. A. Coster, Vice President for Queens.
Rev. W. E. Scovil, Vice President for Kings.
Hon. Amos E. Botsford, Vice President for Westmoreland.
Hon. John W. Weldon, Vice President for Kent.
Francis Ferguson, Esq., Vice President for Gloucester.
Dugald Stewart, Esq., Vice President fer Restigouche.
Harry E. Dibblee, Esq., Vice President for Carleton.
Leonard R. Coombs, Esq., Vice President for Victoria.
Col. Samuel Clark, Vice President for Albert.
Rev. W. Henderson, Vice President for Northumberland.
Dr. J. Robb, Corresponding Secretary.
Robert Fulton, Esq., Recording Secretary.
Joseph Gaynor, Esq., Treasurer.

Additional members.—Mr. Wm. Watts, Senior, David S. Kerr, John A. Beckwith, John Gregory, and John C. Allan, Esquires.

In the course of the Meeting the following resolutions and special committee were adopted and appointed.

1st. *Resolved*, That the thanks of this Society, are due to its distinguished Patron Sir Edmund W. Head, as also to its President, Vice Presidents, office-bearers, and to its various contributors and supporters in the respective Counties in the Province for the handsome manner in which they have sustained the Society from its commencement to the present time,—the Society hopes to prove itself deserving of those favours and solicits a continuance of such valuable support.

2nd. *Resolved*, That the thanks of this Society are justly due and are hereby tendered to the respective gentlemen, who have rendered their prompt and valuable services in making the reports now published, on various important subjects connected with the welfare of the Province and the Society respectfully solicits the continuance of these valuable labors.

3rd. *Resolved*, That the executive committee do without delay exert their efforts to obtain donations and subscriptions for the Society in order to obtain the Provincial Grant for the present year.

4th. *Resolved*, That the Executive Committee prepare and submit a petition to the Government setting forth the impossibility of judiciously expending the Provincial Grant of last year, without an extension of time, owing to the lateness of receiving it, and praying further time for such expenditure.

5th. *Resolved*, That the executive Committee prepare and submit a petition to the respective branches of the Legislature, at the open-

ing of the session praying for a Provincial Grant, on less restrictive terms than now given, and that a special Grant of money be left at the disposal of His Excellency the Lieutenant Governor for the Society's use, provided it be found practical to hold a show and fair the present year, also that the Legislature will pass the Bill prepared and submitted by this Society last session to regulate the putting up of beef and pork within the Province for exportation.

6th. *Resolved*, That the corresponding Secretary do forthwith, correspond with the office bearers of this Society in different parts of the Province, as also with the Presidents of County agricultural Societies and other individuals with the view of inquiring whether in their in their opinion there be any particular subject or subjects deserving the immediate attention of this Society, and if so, whether such person or persons will consent to be named on a special committee at any meeting of this Society to enquire and report on such subject at a subsequent meeting, and that the corresponding Secretary do report his doings to this Society.

7th. *Resolved*, That the corresponding Secretary collect the different subscription lists—alphabetically arrange the names of the subscribers under the head of the respective Counties where they reside, and have the same publshed and distributed.

8th. *Resolvd*, That the respective special Committees appointed on various subjects, who have not yet reported, be continued, and that the Executive Committee do urge them to send in their reports without delay.

9th. *Resolved*, That the Executive Committee do forthwith take the necessary steps to obtain a small library for the Society's use, especially of such books as may afford the most practical knowledge for dissemination, not to exceed £10.

10. *Resolved*, That the publishers of Newspapers in Fredericton and other parts of the Province are respectfully requested to publish the proceedings of this meeting as may be furnished to the first publisher by the Recording Secretary, and that 50 extra copies of the Amaranth, the Head Quarters, and the Reporter, respectively, containing such proceedings, be supplied to this Society for distribution.

SPECIAL COMMITTEES.

1. *Resolved*, That Dr. Robb, corresponding Secretary, and Robert Jardine, Esq., Vice President for St. John, be a special Committee to enquire and report to this Society on or before the

Meeting in April next, on the utility and effect of thorough and other draining of lands in this Country, as also on the most cheap and practical mode adapted to the circumstances of this Province, of doing the same.

2. *Resolved*, That James S. Beek, and John A. Beckwith Esqrs. be a special Committee to enquire and report to this Society on or before the Meeting in April next, on the advantages to be gained by a proper rotation of crops in connexion with well managed farms, and the best modern modes of doing the same.

3. *Resolved*, That Mr. Robert Gray, and Mr. Wm. Dayton be a special Committee to enquire and report to this Society, on or before the meeting in April next, on the completeness, economy, and management of barns and stables in this Province.

4. *Resolved*, That David S. Kerr, and A. T. Coburn, Esqrs., be a special Committee to enquire and report to this Society on or before the meeting in April next, on the utility and best modes of giving encouragement to settlers on new-land farms, and to the occupying and clearing up of wilderness lands.

5. *Resolved*, That John T. Smith, and James McAdam be a special Committee to enquire and report to this Society on or before the meeting in April next, and submit plans and estimates for the erection of a Woolen Factory, in any suitable place in this Province, where the same may be carried on with advantage, together with the most appropriate dimensions, the amount of capital required for such erection—as also the number of laborers —the amount of their wages and the additional capital required per annum for the efficient carrying on of said factory; also the amount of the manufactured article produced and the available demand or market therefor.

6. *Resolved*, That the Vice President for St. John, the corresponding secretary, John A. Beckwith, William Watts, sen., Hon. W. H. Odell, and Mr. Thomas R. Barker be a special Committee to enquire and report to this Society, on or before the meeting in April next, whether a Provincial show and fair can be held in the Province with advantage, during the present year, and if so, the time place and manner of holding the same, and the probable expence thereof, and with the view of eliciting further information, the subject be brought into discussion, at the meeting to be held during the sitting of the Legislature.

7. *Resolved*, That his Honor the President of this Society, and the Corresponding Secretary be a special Committee to enquire

and Report to this Society on or before the Meeting in April next, on the importance, as well as on the most practical and effective modes of disseminating useful information, in furtherance of Agriculture, Home Manufactures, and Commerce in this Province.

ROBERT FULTON, *Recording Secretary.*

Resolved in Executive Committee, That the Provincial Grant for 1850 be left unappropriated until brought into discussion at the General Meeting to be held during the sitting of the Legislature in 1851, and that the Executive Committee shall submit a scale of appropriations then at the said Meeting.

NEW BRUNSWICK SOCIETY,

For the Encouragement of Agriculture, Home Manufactures and Commerce, throughout the Province.

SIR EDMUND W. HEAD, BART., PATRON.

A general meeting of this Society, during the sitting of the Legislature, took place in the County Court House, Fredericton, on the 19th of March last, a goodly number of the members of both Houses being present, and otherwise most respectably attended.

The society has published and is circulating 7,000 copies in English, and 1000 copies in French, of an excellent little work to show how, without capital, an exhausted soil may be rendered fertile—(and consequently how a good soil may always be kept fertile,) and containing other very useful and practical information. The Society has also published and circulated 1000 copies of an excellent report, together with some smaller tracts on the same subjects.

But to do all this, *funds* are necessary. The society would therefore urge upon all those who are desirous to promote Agriculture, Home Manufactures, &c., the necessity of using their best endeavours in every County and Parish to get subscriptions in its aid, in order that the Executive Committee may be enabled to carry on the good work which has been so successfully commenced, and so usefully prosecuted up to this period.

His Honor the PRESIDENT—(the Master of the Rolls) in stating the object of the meeting, called the attention of those present to the 6th Rule of the Constitution of the Society, which requires that a general meeting be held during the sitting of the legislature. Its members wished the public to become acquainted with the manner in which they transacted the business for which the Institution had been organised. It was a society which had originally been instituted by gentlemen not connected with manufactures or agriculture, but who had in imitation of the example set in other counties, associated themselves for the purpose of doing what in them lay, whether more or less, for the promotion of those important interests.

The present society had its origin in Jan. 1850; and a general meeting was held in the following March, when several members

of the Legislature, then in session, attended and spoke in its favour. Having had the honor to be elected President of the Society, he would now give a brief statement of what had already been done during the past year. Seven different committees had been appointed prior to March last, to investigate distinct and separate subjects; that on the proper curing and exportation of beef and pork, reported at the meeting alluded to, and the information which it contained was highly appreciated by those present on the occasion. The other six committees also had reported; and their several reports had since been published in a closely set pamphlet of nearly one hundred pages. The object of the society was by this means to disseminate information, on the great objects of their association in this Province. In addition to the information thus extended through the press, a gentleman (Mr. Kerr) to whom the society chiefly owes its origin, while on a professional tour had visited the counties of Westmorland, Albert, Kent, Restigouche, Northumberland, Carleton and Charlotte. On these occasions meetings were held, and whether numerously attended or not the result bore evidence to the fact that the common object was very generally appreciated. With regard to the printed Reports of the Society, they were every where gladly received and highly valued. At the annual meeting in January last, a detailed account of the pecuniary state of the society was furnished. That report shewed that £100 had been raised by the society through individual subscription, and the grant of £200 from the Legislature, which was made contingent on the former amount being realised, had been secured.

It was thought better to let the funds in hand stand over till the present meeting, in order to consider the best method of laying them out—not that the Society felt disposed to throw the responsibility off their own shoulders, but they wished to submit their views so as to have the benefit of the suggestions which may be offered at this meeting. After the payment of some small sums now due, the Society would have in hand £240 which they wished to dispose of as follows:—£100 to be appropriated to the printing of such information as should be deemed most conducive to the general interests of the country, £80 towards the encouragement of manufactories, &c., £20 for books for the use of the society, £30 for premiums, prize essays &c., and £10 for contingencies. This was a general outline of the course the society meant to pursue. The means of carrying out their objects were mainly two, one was to disseminate information—the other, to give pecuniary encouragement in cases where they might suppose it would prove beneficial. The Society was

deeply impressed with the necessity of communicating agricultural information, and in pursuance of this object they had printed 1000 copies of their own Reports—seven or eight hundred of which had, as already stated, been distributed. They had also published an agricultural tract both in the French and English languages, thus giving to the farmers of this country, and with a special reference to French inhabitants, the means of acquiring that sort of knowledge which will best promote their advancement in agricultural pursuits. Another measure with this society was the promotion of farmer's clubs hroughout the Province, and the establishment of small Libraries for their use connected with the subject of agriculture. In these clubs or societies the young men would learn the rudiments of that highly respectable and important profession for which they are designed, and in which calling they can never hope to succeed while they remain ignorant of its principles.

The Society also thought that much might be done in the encou ragement of Domestic Manufactures. It was something though not much to say that our houses were the produce and work of the country, the timber, stone, mortar, bricks, and in good part the nails were the productions of the Province, and they were built by our own workmen.

So a large part of the dress of the people was home produce and manufacture, such as woolen clothing, hats, and other garments. Rope Walks had once been in operation in St. John; and in St. Andrews, at present a Paper Mill and a Flax Mill are projected. The building of Ships too, that great branch of domestic manufacture, is carried to a pitch in this Province, which for model and workmanship, as they float in every harbour in the civilized world, carry everywhere testimony of the skill and ingenuity of our mechanics. With such proof before us and with the resources at our command, we may entertain a good hope for domestic manufactures. We live in a critical, and highly important period of the world. Science is making rapid strides over the nations of the globe; and Railways, those great highways of nations, are held in universal repute. Even in these colonies it is proposed to construct one from Halifax to Canada; another from Halifax to the United States, and a third through the western districts of New Brunswick to Canada. But he would be sorry to see those Railroads made for the mere conveyance of passengers through this Province in their transit from our country to another. Far better would it be, to make the country fit for their permanent abode, as the hand of a merciful Providence had originally designed it. Travellers can turn to few countries,

more healthy in their climate and more rich in their natural beauty and resources. The hand of nature has done much for New Brunswick, but the labour and ingenuity of man can do as much more. The climate may be somewhat harsh, but it is in such climates that the natural and physical resources of man are best developed, for, as justly observed by a gentleman now on a mission to England from our sister Province, it is not the mild southern climate that is most celebrated for the production of great men; the strong nerve and powerful mind—the wisdom to plan and the strength to execute, more properly belong to the north. The new and extraordinary power of steam, had already accomplished wonders, but under the control of man's ingenuity, it must yet lead to new discoveries. Already has it unmoored this solid continent, and from its old longtitude of 66 or 67, it has practically drawn it to that of 22 or 23, in close proximity to Europe. Formerly, the average time of a voyage across the Atlantic was *forty* days:—that time is now reduced to *ten*, and still lessoning at each successive pull of the rope as science advances. Had we been at the first settlement of this continent, thus within shaking hands distance with the mother country, who shall say what the history of America might have been. Looking at the effect which Mr. Howe's Lectures are producing now in England, the hopes of these colonies are awakened that it is not a pauper class of emigrants we may in future expect to visit us, but men of wealth and intellect who from the truths thus laid before them will have sense enough to see that in benefiting these provinces by selecting them as their residence, they will be conferring the greatest benefit upon themselves. Let it then be the great object of the people of this Province to make it worthy of such a class of emigrants to choose it as their adopted country, and improve it by their wealth, their skill and their industry.

He hoped the efforts of this Society would be productive of much good all over the province. It may be that it may not fulfil at first all their expectations; but he asked for time, and the exercise of patience on its behalf, and as all would own the great interests which it is designed to promote, he would also ask the friendly aid and co-operation of those for whose sake its efforts were especially intended.

The Hon. Attorney General rose and said, he had been entrusted with a Resolution to move, and although it had been put into his hands a day or two since yet his time was so fully occupied with other pressing matters, that he had been unable to give it sufficient attention to do justice to the important interests which

it involved. He would however make a few observations which he was happy to say were rendered less necessary by the highly interesting as well as eloquent observations of His Honor the President.—The objects of this society were to foster and encourage Agriculture, Home manufactures and Commerce—interests upon which the future prosperity of the province mainly depended. Every man who loves his country must and ought to feel himself identified with the prosperity of the country in which he lives. He was glad to find that Agriculture was placed the first of the three objects of the Society; this was right, because Agriculture is the foundation of all, and will if properly conducted give an impetus to all other branches of industry, and the three objects of this Society should go hand in hand and thereby foster and encourage each other. Much might be done for the encouragement of agriculture, but he believed that of all the means which could be adopted, the dissemination of knowledge, scientific knowledge and information would prove the most effective.—From the very first, agriculture had been regarded as the primary source upon which the very existence of mankind depended, and surely every means by which this useful and ennobling pursuit could be encouraged—every new light which could be afforded in its developement must be regarded as of the utmost importance. It was not the mere labour of handling the plough, but the best manner in which that useful implement can be employed, which should form a subject for investigation.—Much physical force may be expended without an adequate remuneration, but the great secret lay in the application, the judicious application of labour to the purposes for which it is intended. Who, he would ask can read the Georgics of Virgil without feeling, if an Agriculturalist, the native dignity of his vocation, and do not the words of Cicero, who in one of his works, says that "among all the methods of enriching "one's self, there is no one better, no one more profitable and "pleasant and agreeable, no one more worthy of a man and a "gentleman, than that of preparing and tilling the ground" shew that agriculture even in those early times was viewed as an ennobling and lucrative profession. If then the Ancients, laboring under all the disadvantages of the age in which they lived, could so well appreciate the honours and benefits resulting from a proper cultivation of the soil, how much more should we, blessed as we are with all the science and knowledge of the present age, press forward and improve our common means for the common interest. As an instance of what might be affected through the instrumen-

tality of agricultural instruction he would here allude to the Letters of Agricola composed and published in Nova Scotia by the late celebrated Mr. Young in 1823. These beautiful letters had been and still were read with the deepest interest not only in Nova Scotia and New Brunswick, but also on the other side of the Atlantic and in the United States. They displayed the advantage of science in its application to Agriculture; thus giving a proper system to the husbandman in the management of his farm. It was to promote the same object, to induce a love of labour and to give that labour a proper direction that this Society had in a great measure been founded.

The object was important, and deserved the best efforts of every man who loves his country, and the means proposed viz; the circulation of scientific knowledge, and the encouragement of the practical agriculturalist, were well and wisely conceived. The farmer must be instructed not only how to hold the plough and sow the seed, but also in relation to the time to sow, as well as the seeds to be sown, and the special soils to which those seeds were suited. He must be taught to avoid those errors in practice, by which his labour is thrown away, his expectations disappointed, and his land impoverished. Without a knowledge of agricultural chemistry, these risks must ever be run by the farmer. Different soils suit different grains, and these again must be selected with care, and sown at proper seasons. In passing through the country, the traveller will frequently find two neighbours, subject of course to the same climate, and living upon the same quality of land; but whence is it that he sees one of the farms neatly fenced and in good condition, and the other almost worn out and fenceless, and impoverished? The cause is easily discovered. One of the proprietors understands his business, and is consequently thrifty and independent; the other is ignorant, and his farm is so ill-managed that it becomes unproductive. He (hon. Attorney General) was not an agriculturalist; but he had always admired rural pursuits; and should he ever have the fortune to retire from his profession with competency, he could conceive no other retirement so attractive, or congenial to his wishes, as that of tilling the land

Again reverting to the Resolution in his hand, he could see no other means so likely to forward the united interests of Agriculture, Home manufactures and Commerce, as the extension of knowledge through the agency of well-directed information throughout the Province. Here there was no room for petty squabbles or jealousy; or the assurance of support for one party at the expense of another.

The Society takes up the three great interests of the country, and affords equal encouragement to the whole. If Agriculture were well carried on, its stores would supply the manufacturer at his own door. If manufactures prospered, the operatives would give a market to the farmer, and if both prospered they would give a legitimate basis to the commerce of the Province. Again, if either of those great interests asked too much of the other, in doing so it would be sure to injure itself. The farmer and manufacturer in the event of the objects of this society being carried out, will have a market at home; while the merchant will avoid high freights and long voyages.

The efforts of the people of this Province had, he feared, been too long directed to the encouragement of foreign growth and productions rather than their own. The capital of the county has not been laid out to advantage, it has been expended in the purchase of American produce, instead of being directed to raise that produce on our own lands. We had encouraged the industry of strangers, but neglected our own or rather given it a wrong application. It was time that a remedy were applied for this great evil. It is time that the people should learn, if it were only from the errors of the past, a wiser course for the future. We should learn self-reliance, as a people. We should regard New Brunswick with such feelings as those would indulge who are proud of their birth-place, and resolved to make themselves worthy of being its natives. Every man should identify the common welfare of the country with his own, and advance the general interests to the best of his ability. He (hon. Atty. General) was afraid—and in this respect he was not himself free from blame—that there was too much selfishness at the bottom of our general transactions: that we are not animated by that *amor patriæ* which should be the mainspring of our public actions, and that the foolish idea of making money at home, to be expended in another country had taken too much root in the country. We ought to be actuated by a nobler and more patriotic feeling, a feeling which should make us take pride in our own or adopted country, and consider it the country in which we and our children are to live and make our bread. It is the want of patriotism which induces persons from the old country who have accumulated wealth here, either to return again to their native country or to remove to the United States and give the benefit of their capital to strangers.

To counteract those selfish and narrow views, was one of the great objects of this Society;—to teach every member of the com-

munity that he cannot prosper while the general system is deranged: and that a general system of union is required, in order to advance our individual interests.

The people of New Brunswick, independently of their fertile lands, have a most healthy and salubrious climate: a climate which cannot be duly appreciated, except by those who have lived in an unhealthy one. It was said that we have long winters, and a short summer; but if our winters are long, they are required for the purposes of our pursuits; and if our summers are short, they are yet long enough to produce us the best of crops, whenever our lands are properly cultivated. Our object should therefore be, to impart to each other such information as will facilitate the industry of the Province and direct it in its proper channel; and while doing so we will be fostering a system of Emigration, which instead of placing a parcel of paupers on our hands for support, will plant a number of useful settlers in the wilderness, each one of whom would shortly be succeeded by ten following in his footsteps. The question once more suggested itself, in what other way could the general interests of the country be promoted, so well as by the circulation of scientific works in relation to those interests? It was this which would inform the better class of Emigrants, in Great Britain, of our capabilities to afford them a home and a living amongst us; and it was this which would instruct our own population to make the best use of the privileges which they enjoy. Without scientific knowledge it is impossible to turn any pursuit in life to a good account. He (hon. Atty. General) was a Lawyer; but he did not hesitate to say, that had he not paid constant attention to the scientific part of his profession, he never could have arrived at mediocrity in his practpractice. It was so with farmers; if not well informed in relation to their own business, if not taught to admire it for its own sake, and to honour it as a profession, they could never hope to arrive at independence. Instead of being regarded as humbling in its character, Agriculture should be understood as the most ennobling employment which a man can engage in, and the farmer should understand that his profession is second to none in the world.

He (hon. Atty. General) had been in many parts of the United States, and in contrasting their soil and climate with that of this Province, he found that our own country deserved the preference. Our soil was certainly more fertile than that of Massachusetts, while the difference in climate is scarcely perceptible. In these particulars he believed Professor Johnson was right when he gave

our country the preference over the Eastern States of America;—at least it may justly be said that it is inferior to none. The same may be said of our mineral resources; and it was cheering in this respect to know that when our timber shall be exhausted we yet have within our own country never failing sources of wealth to sustain the Manufactures and Trade of the Province. Here he alluded to that great source of national wealth, the Fisheries, and spoke of the want of energy in our own people, who do not properly avail themselves of their advantages, while the Americans, fit out vessels, and after coming from a great distance, make money by catching fish in our waters. He also alluded to the warm admiration with which several of the Scotch farmers in the County of Northumberland spoke of the pamphlet published by this Society last Autumn, and then concluded by reading the following Resolution:—

Resolved, That one of the leading objects of this Society should be the preparing publishing, and circulating, in every part of the Province, such information as may be best calculated to encourage and improve the Agricultural and Manufacturing interests of the Province, and the Commercial interests connected therewith.

John A. Beckwith, Esq., said he had been requested to second the Resolution just read, but from the able manner in which it had been discussed by the learned Attorney General, he should be very brief in his observations. He had seen the great benefit which the diffusion of scientific knowledge through the Press had already conferred upon the County Agricultural Societies, in giving the farmers, among other things, a better estimate of the peculiar character of their lands, and the special management which they in consequence required; and the present Society so far from being in the slightest degree adverse to the local ones, encouraged them by its example, in the dissemination of useful knowledge throughout the whole Province. On this subject, he could confirm every observation made by the learned Attorney General, knowing from his own experience in the country how much the printed information sent forth by this Society had been appreciated by the people. He had himself left copies of the excellent Report published last year by the Society, in the hands of many persons in the Agricultural districts, and on seeing them afterwards they all expressed themselves delighted with the information which they had thus received. This afforded the best pledge to the Society of the usefulness of the course which they had adopted, and the wisdom of following it up with similar pro-

ductions. It was not however in sole reference to our present population, that those Agricultural works would be found useful. It is expected from the efforts now in progress that we are shortly to have an influx of a better class of Emigrants than, generally speaking, have hitherto come to this Province, and he (Mr. Beckwith) held it to be no trifling object achieved, if on the arrival of those people we found ourselves able to place in their hands such information as would enable them not only to form a just estimate of the resources of our fine country, but which would on their becoming settlers teach them the practical application of Agriculculture on their own lands. This was a species of information which could not be obtained from abroad, and was of course the more required in the Province; and notwithstanding all that had been done, it yet became necessary to take up the subject from the very beginning and teach the stranger who comes to settle in New Brunswick, the best method of clearing the wilderness, and sowing his first crops in the new Settlement. Information thus circulated would thus become doubly useful; as it would inform those interested, whether at home or abroad, of what we can do in this Province, and the manner in which it is to be done.

Mr. Wilmot felt much interested in the success of the Society, and would make a few brief observations in support of the views already expressed by the hon. Attorney General, Divine Providence has given us a country as rich in natural resources as we could desire, but in the midst of the blessings by which we are surrounded, we turn our backs upon our best interests, and pursue a course which if followed much longer must end in bankruptcy and ruin. We have been cutting away large quantities of the finest timber in the world from our lands, and instead of employing our own people in its manufacture, we have been sending it abroad to employ the labour of foreigners, who thus thrive upon our thriftless folly and bad management. Any country which can produce food and clothing for its inhabitants includes within itself the elements of wealth and prosperity; but when the whole trade of a country is placed in the hands of a few persons engaged in business, and taken from those who compose the productive classes, it is impossible that the people can prosper. This state of things should continue no longer. We should raise our own food, and produce our own manufactures, and the labour thus expended among ourselves would soon render our country wealthy and prosperous. We have been throwing our resources into the hands of foreigners, who will not reciprocate our wish to meet them, and the mechanic who should have a fair day's

wages for a fair day's work, is thus driven out of the country to get work elsewhere. We should produce our own necessaries, instead of sending for them from abroad, and that too from the very persons who are indebted to ourselves for the raw material, which they return in the shape of manufacture. One point was obvious to the world; we have not only the material for producing a great variety of manufactures, but we have in the highest degree of perfection those water powers and privileges through which those natural resources may be converted into such articles of domestic use as are required in the country. It is therefore worse than folly to send abroad for what may on such easy and reasonable terms be procured at home.

(The Resolution as read by Mr. Street was here moved and uaanimously adopted.

Mr. Botsford M. P. P. said he rose with some embarrassment to speak from a Resolution which had been designed for a gentleman not now present, and which had been only a few moments in his hands. The object of the Resolution was to elicit the opinion of this meeting in reference to the greatest interest—that of Agriculture—in the Province,—and in speaking on this subject, he would confine himself to a few brief observations.

There was no doubt of the Agricultural capabilities of this Province: but their want of developement shows our own deficiency. In his (Mr. Botsford's) boyhood the whole of the North was one great lumbering district, and the raising of Agricultural produce, such as wheat, peas &c. was almost unknown. Now, those very parts were, upon trial, justly called the granary of the Province, and perhaps the world could not exceed the quality of the wheat (72lbs. per bushel) raised in Northumberland. It had been found by agriculturists, that the seed raised in countries where the climate is short, was the best to transfer to those where it took a longer period in growing. This then would give another advantage in the market, to the fine wheat of our own country, as its rapid growth was well known and would procure it a preference in the United States. With the exception of some county societies and the present one, which had been lately incorporated, nothing had hitherto been done in a Legislative way, for the Agriculture of the country. All the energies, and capital of the people had been embarked in lumbering. In 1842, 400 sail of vessels had traded in Miramichi; but they were all engaged in the staple trade, so called, and insted of conferring a permanent benefit on the country, as they would have done had they been engaged in a trade based upon its agricultural interests, they only stripped it of its timber, and filled it with articles of luxury, which proved a curse to

those who received them. Had the amount of £200,000 which should have been received for the article exported, been laid out in the permanent improvement of the country, there would not be a river or brook in the Province that would not have exhibited its effects in the thriving settlements by which they would have been surrounded. Beyond this, let it be remembered, that a similar expenditure might have been made, under a well regulated system in the Province for the last twenty five years, and the benefit which ere now we would have received must be incalculable.

The question now was, how is this society to direct its energies, so as to repair as far as possible the evils which have arisen, and to introduce a better system for the future? One great means would be found in the dissemination of plain and useful knowledge among the people. Professor Johnston's Report was doubtless a work of great research and merit; but it was not *the* work which was best calculated for instructing the farmers of this Province, since in order to understand it many of them must go to school and become acquainted with its technicalities. A plain easy manual, not a learned work on chemical agriculture, is that which is required. To conclude these brief observations he must express his pleasure, at seeing men of all classes, and different shades of politics, engaged and he hoped successfully too, in carrying out the important objects of this society.—He was proud to see one of the learned dignitaries of the land occupy the chair of this meeting as its President, and he was proud to see his honor supported by men of the most extensive talents, learning and influence in the country. It boded well for the cause of Agriculture, when thus supported; and he hoped the influence thus given would never be withdrawn. He (Mr. Botsford) was a lawyer, but he was also a farmer, and took a pride in being one. He had raised his own bread, and felt himself engaged in an honourable employment while so doing; but when he looked around him here and saw learned professors of Colleges, and gentlemen of the Bar, and of the Bench, mixing with practical Agriculturalists in the promotion of our common cause—the welfare of our common Country—he could not help expressing his hope that a new era had arisen in our land; and that agriculture, that great interest of this fine Province, would henceforth be deemed as honorable as it was useful.—Here Mr. Botsford moved the Resolution.)

Resolved, That this Society continues deeply impressed with the extreme importance of union and energetic action in regard to the development of the Agricultural resources of the Province.

Mr. M'Leod, M. P. P., briefly supported it. He said he was much pleased to see the unanimity of the present meeting, and to know the principles by which its members were actuated. He was also glad to see that individuals of the highest standing in the community had connected themselves with this Society, and hoped that their example and influence would have the best effect in the community. He would wish to see the system of practical Agriculture carried on to its fullest extent; and thought in order to do so, gentlemen of the learned professions should appear in cloths manufactured from wool raised in the country, and prepared by the wives and daughters of the inhabitants. He was a farmer himself, and knew well the influence which such a mode of action would have upon the people, who knew well that they deserved this encouragement, as the cloth which they produced was vastly before that which is generally imported.

Mr. Barberie thought that after the able speech made by his Honor the President, followed up as it had been, by those of the learned Attorney General, and of others, but little was left for him to say. He would therefore be brief in drawing attention to his Resolution. He must express his great satisfaction at the step already taken by the Society in promulgating such an amount of valuable information as had appeared in their printed Pamphlets. For their valuable Report, he, as an inhabitant of the County of Restigouche, tendered his best thanks; and in this he did not stand alone, for these reports were eagerly sought by the people, who professed themselves much pleased with the instructions and information which they contained. In his County, the farmers understood the benefits to be derived from a rotation of crops, and had practised that system with great success for several years, and this proved one great benefit already derived from the acquisition of useful knowledge.

Here Mr. Barberie alluded to the publication of an Agricultural tract, translated from the French, (we believe by Professor Robb) which had been printed under the auspices of the Society, and which like the original Reports of the Society, was calculated to produce the best effects throughout the Province. This Society was, he believed, calculated to take the lead of all the Agricultural Societies in the Province, and on this account, that however well the others may raise competition, and lead to the production of fine specimens of produce, of stock, vegetables, and grain at the shows, there their usefulness ended, as they did not follow up their endeavours by sending forth that practical information which the people are so much in need of. The competitors at such exhibitions should always be compelled to give information of the means whtch they had adopted, in the pro-

duction of their articles, for the result of their successful experience would be highly useful to their neighbours.

Mr. Barberie concluded by reading an extract from one of the Agricultural tracts to which he had alluded; remarking also that so far as wearing homespun made by his own people from wool of his own raising was praiseworthy, he must be in the right track, as he had worn such for several years.

Resolved, That this Society desires to express their conviction of the importance of County Agricultural Societies in every case of premiums for stock or crops, exacting from competitors a detail in writing of the method of raising or growing the said stock or crop, and also to shew accurately the profit of effecting the same.

Here a stranger, (we believe a Mr. James,) addressed the meeting at some length: he appeared to be perfectly conversant with the system of Agriculture in England, and gave several valuable suggestions relative to ploughing, and the cultivation of wheat.

Mr. Gilbert M. P. P. observed that with a country such as ours, abounding with the best Agricultural resources, as well as those facilities which promote the supply and manufacture of lumber and the building of ships, nothing was wanted but a proper encouragement to be extended to those important interests. He was glad to see that men of the most influential talents and highest character in the Province had at last become fully alive to those interests, and had united in this society, with the powerful means which they had at their disposal. The Province expected much from such a Body, and what they would do could not come too soon, as it was impossible from the downward tendency of prices and wages, for the people to remain much longer in the Province. It therefore became the duty of all to co-operate with the members of this Society, in the great objects for which it had been organized: and this being done, there could be no fear of its proving unsuccessful. He was glad to see so much unanimity of feeling; and should rejoice to render this society every assistance in his power.

Dr. Robb said that there are in the history of nations as in the lives of individuals certain events more remarkable than others which lead them to consider and reflect upon their real state and position, and that distress and difficulty will thus frequently force them to a wiser and better course of conduct for the future.

It was true for instance that the Potato rot, which at the time was regarded as one of the greatest evils that could befall Ireland, had now given to that country a more enlightened set of Landlords and had taught the tenants a better system of Agriculture.

The failure of our own crops—and the altered policy of the Mother Country in regard to the Timber duties, had driven the people to consider the true basis of their prosperity, apart from the protection afforded to them by the commercial policy of the English Government, and obliged them to give up in great part those uncertain lumbering pursuits in which they had been engaged for the more certain and useful occupation of tilling the land: the people had thus discovered that unless they gave greater skill and attention to the Agricultural resources of the country, ruin and confusion must ensue.

In order to aid in placing the great permanent and abiding interest of the people upon a better foundation, County, and Parish Agricultural Societies had been established in many different parts of the Province, and, now, this Central one, professing to be guided by the same principles, but more extensive and general in its operation, had been called into existence.

One of the objects of this Society has been to train the minds of the farming community to a better acquaintance with the principles of the art in which they are engaged. Without skill all labour is useless. A special education for the farmer had hitherto been denied, and until that was secured for them they could not expect to practice their business with honour or pleasure or profit. Among the many ways of instructing the minds of the farmers meetings or clubs for the special discussion of Agricultural subjects have been found to be of very great importance and utility. It might be said that Farmers Clubs existed already in the country, but the existing Agricultural Societies, with hardly an exception restricted themselves to the award of premiums for the best crops, and farm produce: the competition thus engendered does good no doubt to a few, but the discussion of individual experience is almost wholly overlooked at their periodical meetings. Accordingly he wished to urge the importance of these objects and to recommend the formation of Farmers Clubs in every county and parish of the Province, or the engrafting of them upon the existing Agricultural Societies. It was not for the purpose of gossip he would recommend these Societies—there was no difficulty in conducting them in a grave and business like manner so as to elicit and disseminate very much useful knowledge upon Agricultural matters.

It might be said that such a system was too difficult for a new country like ours, but, this he did not believe, it was almost as easy to work such a system as to talk about it. All that was required was the adoption of a simple constitution and the appointment of a Chairman to preserve order, and a Secretary to record the proceedings: if one was established others would soon follow. He thought that a

printed form of constitution for such clubs, and a list of subjects to be discussed might properly be prepared and published by this Society, so as to assist their first beginings. He called upon the members of the Legislature then present and all friends of Agriculture in New Brunswick to lend their aid in organizing such clubs on their return to their own respective districts.

If it were said that there were few subjects on which farmers could occupy a whole evening he would beg to ask whether less than one evening's discussion could enable any meeting of farmers to arrive at clear conclusions in regard to

Agricultural Education,
Common Schools,
Agricultural Libraries,
Agricultural Lectures,
Agricultural Periodicals,
Agricultural Bureau and Inspector,
County and Provincial Societies,
Measures of Government for improvement of agriculture,
Improvement of Roads and means of transport,
Provincial Show and Fair,
Local difficulties,
Local advantages,
High Farming and Plain Farming,
Drainage, superficial and deep,
Drainage by stone, tiles, slabs, poles, &c,
Deep ploughing,
Effects of Frost,
Lime and Plaster effects and advantages, marl &c,
Portable manures; bone dust, guano, salt,
Soils and Sub-soils of District,
Bog-earth, its application,
Composts; preparing—preserving,
Manures, saving, application and construction of heaps, &c,
Manures, fermented and unfermented,
do. liquid,
Keeping farming accounts,
Fencing,
History of Breed of Stock in District,
Breeds most suited to district,
Improving breeds,
Importing Stock, and condition on which Bounties should be given,
Stall-feeding—Oil Cake,

Keeping of Sheep,
Keeping of Poultry,
Management of Orchards, Gardens, &c,
do. Pasture Lands,
do. Dairy,
do. Bees,
Spade Husbandry,
Preservation of Root Crops,
Culture of Turnips,—Hay,
do. Carrots, Parsnips, &c,
Wheat Culture,
Economical keeping of Farm Horses,
Diseases of cattle, swine, poultry, &c,
Pruning of trees,
Planting and transplanting of trees,
Fall or Spring manuring—top dressing,
Renovation of exhausted land,
Protection of animals from cold,
Profit of fattening cattle,
Horses *versus* Oxen,
Farm Tenancy,
Potatoe Disease,
Wheat fly,
Seed Potatoes,
New articles of culture,
Slicing Turnips, cutting Hay and brusing Oats,
Rotation of crops,
Broom Corn,
Stumping land,
Treatment of New land,
Manufacture of ashes,
do. Maple Sugar,
Culture and weaving of flax,
Culture of corn, and uses of,
Irrigation and warping,
Influence of fishing on farming,
do. Lumbering, do.,
Premiums for County Agricultural Society,
Measures of Provincial agricultural Society,
Manufacture of Potatoe Starch,
Culture and uses of Peas and Beans,
Steaming food for cattle,

Improvement of cheese,
Industrial resources of Vicinity,
Advantage and disadvantages of climate,
Markets foreign and local for Agricultural purposes,
Effect of Bounties on agriculture,
do. Tariff do.,
Green Crops for manure,
Grounds fallow,
Insects hurtful to vegetation,
Curing of Hay,
Root crops for Stock,
Winter work for farmers,
Farmers Banks,
Growth af Hops,
Disposal of Crown Lands,
Modes of settling emigrants,
Places for do.,
Procuring a supply of labour,
Average crops and profits of farming alone,
Curing and putting up of Beef, Pork, Butter, &c,
Selection and steeping of seed,
Improvement of Seed wheat, &c,
History and growth of Settlements,
Construction of Barns &c.

Resolved, That this Society impressed with the value and usefulness of Farmers Clubs, or periodical meetings of Farmers for the purposes of reading and discussing Agricultural matters, recommend the early formation and encouragement of such institutions throughout the Province, and the collection of Agricultural publications in connection therewith.

Mr. English, M. P. P. remarked that as it was getting late in the evening, he would make only one or two remarks. This meeting had been convened in order to promote the prosperity of the Province, and viewing it in that light, he had much pleasure in giving it his support. In answer to the anxious inquiry, what is most wanted to promote the welfare of the people, he would answer, that we do not want good land; for there was not a single tract on the eastern side of the Allegany Mountains to compare in fertility with the Province of New Brunswick. But while he knew, and knew from his own observation, that we do not want a soil, he was compelled to own, that it was rendered in a great measure useless, from our want of Agricultural knowledge. We want an Agricultural population to

produce for the consumer, but this we cannot have until the farmer is sure of a market where he can dispose of his produce. The interests of the Agriculturist and the Manufacturer were thus closely identified with each other; and he trusted that through the information promulgated by this Society, each would learn much to advance their mutual benefit. With these brief observations he would second the Resolution.

Mr. WILLISTON, M. P. P. was not an Agriculturist, and could of course have no knowledge of farming operations; but he was an inhabitant of the Province, engaged in business and deeply interested in the prosperity of the country. The present Society embraced the three-fold objects of Agriculture, Manufactures, and Commerce, and consequently could not fail to recommend itself to every individual in the Province; as these were the three great interests upon which all others were founded, and were closely connected with each other.—He admired this Society for another reason—it had no political character; for whatever might be said about high protective duties, he felt firmly convinced, that if Agriculture, or any other interest could not prosper *without* them, neither could they prosper *with* their assistance. If every business in the Province was equally encouraged then all would thrive, but if some were encouraged at the expense of the rest, then all must mutually suffer. For instance, the farmer furnishes produce for the use of the ship-builder; but tax the ship-building interest so high that the builder cannot make his returns, and where then would the farmer find his market? He believed this Society would exercise a great influence in the country, as the information which it afforded in the case of stock, and as to the formation and management of manures, would make it exceedingly useful to the farmers, who required a better system in the general superintendence of their farms. Here Mr. Williston proceeded at some length to give his views adverse to partial protection, observing that he thought, the establishment of a Cloth Manufactory in the vicinity of Fredericton, would prove highly beneficial to the adjacent country, inasmuch as the quantity of wool consumed in such a place, would encourage the farmers to produce that article on their farms. This was the true principle of protection:—it would, instead of teaching the owners of the soil to look abroad, give them a useful and practical lesson, in this way of self-dependence. It would teach them that their own bread is sweeter than that of strangers; and that their own labour, rather than a sickly dependence on legislation, must henceforth be the source of reliance.

Resolved, That this Society has seen with great satisfaction the

efforts which have already been in many quarters made in improving the character of our Provincial Agriculture.

Mr. Ryan M. P. P rose to second the motion, not to make a speech, which he felt would at that late hour in the evening, be improper. The objects anticipated by the Society, namely, those of Agriculture, Commerce, and Home Manufactures, had his most hearty concurrence; and he was glad that they had united those great interests of the country; so as to afford each and all, an equal encouragement. It must doubtless be in consequence of the imperfect system upon which farming had hitherto been conducted, and the consequent small amount of produce which we had been able to raise, that our climate had been termed bad and our land sterile;—this was doing injustice to the country. We have as rich a soil and as salubrious a climate as can be found in any other country on this side of the Atlantic; and if our lands have not been made productive, the fault is in those who have their management. With these views of the useful tendency and operation of the Society, he would have much pleasure in seconding the Resolution.

Mr. Johnson M. P. P., in allusion to the current report once circulated to the effect that New Brunswick is not an Agricultural County, stated that his own experience had convinced him to the contrary. He had himself off one bushel of seed, raised twenty-two bushels of wheat, which when ground produced five Barrels of the best flour in the Province. His Resolution also included the growth of flax, as a branch of Provincial Agriculture; and he was glad that this species of industry was recommended, as it not only showed that the Society had extended its views in different directions, but it also recommended in this instance a useful article, which grows well upon the North Shore, and which was well calculated for consumption in the home market. The vast benefit of raising our own produce, could scarcely be appreciated according to its real importance; for it saves those high freights and long transits which result from a foreign trade; and gives besides the whole benefit of a continuous round of business, which when carried on abroad, loses a great part of its value. These remarks were particularly applicable to our present case, when the balance of Trade is so much against us, and our labour, that great capital of our country, is wasted upon strangers. Our timber trade too, from a variety of causes, has ceased to be profitable; and being thus in a great measure shut out from foreign trade and left to our own resources, our greatest wisdom should be to encourage every species of trade and industry for which we can raise the means in our own country. (Here Mr. Johnson spoke for some

time on the necessity which existed for farmers to cultivate their intellect, as the days were passed when ignorance could be brought to contend successfully with the growing intelligence of the age.

Resolved, That this Society is encouraged to hope that the culture and weaving of Flax may soon become of very great advantage and profit to this Province, and that the officers of this Society should take means to call the attention of Agriculturalists to the subject.

Hon. Mr. Crane approved of the plan proposed by Dr. Robb, in relation to the discussion of Agricultural subjects in the country; and although not sanguine in his general views of public societies, he still must say that he thought the present one was calculated to produce much benefit in the Province.

He (Mr. Crane) was a country trader; and it was in the country he had made all he was worth in the world,—he had not been unobservant of passing events around him, during the number of years which had elapsed within the scope of his experience,—and the result of his observation was, that the thrifty economical habits of our Grandfathers had been given up, and a new system—one of imprudence and extravagance—most foolishly substituted in its place.—The prospect of immediate gain from the source of lumbering, had in too many instances driven the farmers into the lumber-woods, and after years spent in this uncertain way, in which they imbibed habits which were too expensive for the country, they woke up at last to find their farms gone, and their labour—that great capital of every working community—expended for nothing. It was necessary then that some scheme should be devised, for rescuing the country from the effects which had followed this great imprudence—to stop the draft of men and money from the country, and to give a healthier action to the economy of the people.

For upwards of thirty years, the merchants of this country had the pecuniary resources of this Province vested in their hands; and the result had been as he had now described it. It was now time to introduce another and a better system, as anticipated by this Society; and to encourage the mechanic and farmer, not by a Bounty provision, but by giving them such a protection as would insure them our own market—the merchants he would leave to find a market for themselves.

Resolved, That a portion of the Society's funds may be judiciously applied towards encouraging domestic Manufactories such as Fulling and other Mills.

Charles MacPherson Esq., M. P. P., made a few observations upon the partial manner in which the last speaker had advocated

protection. He (Mr. Crane) would protect two interests, and leave the third to take care of itself! He thought there was something of the stiffness of old feelings and habits in the observations of his friend; and would be glad as a younger man, to share with him a portion of the warmth which he felt himself, taking in return, a part of that wisdom and experience which it was well known his hon. friend possessed in so eminent a degree. He was glad to see his Honor the Master of the Rolls in the dignified position which he occupied as President of this Society. It was a sure guarantee that the business of the Society would be impartially conducted and that while the interests of the Farmers and Mechanics were sustained, those of the lumbermen would not be neglected. He (Mr. MacPherson) was a friend to the farmers; he had been brought up on a farm, and its bread was he thought the sweetest which he had ever tasted in his life; but he wished to see fair play to all, and all prospering together.

Mr. KERR addressed the meeting for a few moments, acknowledging his thanks for the able and handsome manner in which the claims of the society had been responded to. From the most influential parties, and that too from every section of the Province, there now seemed to be only one general wish to prosecute with renewed vigour the objects of the Society; and he as one of its members, felt delighted that in advocating its views throughout different parts of the country. his labour had been more than rewarded in the hopes now opening up for its more extended usefulness.

(The meeting here closed.)

EXTRACT FROM MINUTES.

A Regular Quarterly Meeting was held in the Office of the Master of the Rolls on the 2nd day of April, 1851.

The Hon. N. Parker took the Chair.

Dr. Robb from the Committee on Draining submitted their Report.

Mr. Fulton on behalf of Messrs. Gray and Dayton, read a Report on the arrangement of Barns.

Mr. Kerr submitted a Report On the utility and best modes of giving encouragement to Settlers on New Lands, and on the occupying and clearing of Wilderness Lands.

Read a Report from Mr. J. T. Smith and Mr. J. McAdam on the subject of Woolen Manufactories.

Mr. Watts, Senior, submitted an *interim* Report on the subject of a Provincial Show and Fair.

Mr. Beckwith from a Committee on the management of farms, and on a Rotation of Crops, stated that the publication by the Society of the translation of the Canadian Pamphlet on the same subject had superseded the necessity of a Report from them.

Dr. Robb read a Report from the Committee on the best mode of of disseminating information in furtherance of Agriculture, Home Manufactures, and Commerce throughout the Province.

Dr. Robb from the Committee of Appropriations read a scale of appropriations of the Funds of the Society now on hand,

Whereupon Ordered, That the said Reports be referred to a Committee to revise and superintend the Printing of the same, or parts of the same. Further Ordered, That Dr. Robb, Messrs. Allen, Beckwith, and A. Inches do constitute the said Committee.

R. FULTON, *Recording Secretary.*

REPORT ON APPROPRIATIONS.

The Committee appointed to prepare a scale of Appropriations for the several objects contemplated by the Society, desire to submit the following Report:—

1. They recommend that the sum of £80 be appropriated towards the encouragement of Mills and Manufactures in the several Counties where encouragement had been held out for the same.

2. Also,—The sum of £20 towards procuring useful works of reference for the guidance of the Executive Committe, &c.

3. Also,—The sum of £10 towards the contingencies of the Society.

4. Also,—The sum of say £30 for the printing and distribution of the Tract on Farm Management.

5. Also,—The sum of, say, £30 for the publication of the forthcoming Report.

6. And for the re-publication of the old one in whole or in part, say £30.

Your Committee would also recommend the following Premiums to be awarded by the Society in the course of the ensueing year:—

7. £10 for best 10 Barrels of Beef or Pork, cured and packed according to the Society's directions, and certified by the owner or Captain of a Ship to have been as fit for Ship's purposes, as that which is usually carried.

8. £5 for the best Essay On the management and improvement of Orchards in this Province.

9. £5 for the best Essay On the improvement of the Woollen Manufactures of this Province, more particularly as regards fineness of texture, and permanency of dye.

10. £5 for the best Essay On the best ways of using Turnips and other Roots in the feeding of Stock, together with the best method of storing and preserving the same through the winter.

11. For the best Managed Farm as determined by the answers to a series of numbered questions, to be drawn up on the plan of the New York State Society, and circulated with the Society's Reports for the year, A Silver Cup with appropriate inscription, of the value of £10.

12. For the the second best do., as determined in the same way, A Silver Cup with inscription, of the value of £5.

13. For all others who may furnish full answers to the questions thus proposed, a set of the Albany Cultivator, (or other Publication of equivalent value,) for the year 1852, say 12 at 5s.,—£3.

The Scale of appropriations would therefore stand as follows :—

Mills and Manufactures,	£80	
Books,	20	
Contingencies,	10	
Printing Canada Tract,	30	
" New Report,	30	
" Old Report,	30	
Premiums for putting up Salt Beef, &c.	10	
" " best Managed Farm,	10	
" " second best do.,	5	
" " third best do.,	3	
" " Essay on Orchards,	5	
" " " Turnips,	5	
" " " Woolen Manufacture,	5	£243

J. ROBB,
A. E. BOTSFORD,
D. S. KERR. } *Committee.*

LIST OF PREMIUMS

Offered by the New Brunswick Society for the encouragement of Agriculture, Home Manufactures and Commerce.

I. For the first ten barrels of first or second quality of Beef or Pork cured and packed according to the directions contained in the first series of Reports of this Society, and certified after trial by the Owner, Master, or Consignee of any Ship or Vessel sailing from the Province to have been as good for Ships use as that which is usually imported for the same purpose—the sum of Ten pounds.

II. For the best Essay on the management and improvement of Orchards in this Province, founded on practical observations—the sum of Five pounds.

III. For the best Essay on the improvement of the Woolen Manufactures in this Province, more particularly as regards fineness of texture and permanence of dye—the sum of Five pounds.

IV. For the best Essay on the best ways of using Turnips and other Root Crops in the feeding of Stock, together with the best modes of storing and preserving the same throughout the Winter, to be founded as far as possible on practical experience—the sum of Five pounds.

V. For the best managed Farm of less than 25 acres, exclusive of Wood Land and Waste Land, [regard being had to the quantity and quality of produce, the manner and expense of cultivation, and the actual profits] as determined by written answers to a series of numbered questions contained in the annexed Schedule, founded on that of the New York State Society—a Silver Cup, with appropriate inscription, of the value of Ten pounds.

VI. For the second best ditto, as determined in same way—a Silver Cup with suitable inscription, of the value of Five pounds.

VII. For all others who may furnish full answers to the questions thus proposed, there will be awarded a set of the Albany Cultivator for 1852, or other Agricultural Publications of equal value.

VIII. For Mills and Manufactures in the various Counties of the Province where encouragement on the subject has been already held out—the sum of Eighty pounds.

N. B.—This List of Premiums was published in the Royal Gazette of April 16th and 23rd, and 500 copies of it in a separate form were likewise circulated about the same time.

SCHEDULE.

Soils, &c.

1. Of how much Land does your farm consist? and how much wood, waste, and improved land respectively?

2. What is the nature of your soil and subsoil? Is there limestone in it? What rocks are found in it?

3. What do you consider the best mode of improving the different kinds of soil on your farm? Of clay soil, if you have it—of sandy soil, and of gravelly soil? Answer separately.

4. What depth you plough? What effect has deep ploughing had on various soils?

5. Have you made any experiments to test the difference in a succeeding crop, between shallow, common or deep ploughing?

6. Have you used the subsoil plough? and what have been its effects on different soils and crops?

7. What trees and plants were indigenous to your soil? Give the name of each.

Manures.

8. How many loads of manure (30 bushels per load) do you usually apply per acre? How do you manage your manure? Is it kept under cover; or are there cellars under your barns or stables, for receiving it?

9. What are your means and what your methods of making and collecting manure? How many loads of manure do you manufacture annually? How many do you apply?

10. How is your manure applied; whether in its long or green state, or in compost? For what crops, or under what circumstances do you prefer using it, either in a fresh or rotten state?

11. Could you not cheaply, essentially increase your supply of manure by a little extra labor?

12. Have you used lime, plaster, guano, salt, or any substance not in common use as manure? In what manner were they used, and with what results?

Tillage Crops.

13. How many acres of land do you till? and with what crops are they occupied, and how much of each crop?

14. What is the amount of seed planted or sown for each crop—the time of sowing—the mode of cultivating, and of harvesting—and the product per acre? Have any insects been found injurious to your crops? If so, describe them and the remedies adopted.

15. What kind and quantity of manure do you prefer for each, and at what times, and in what manner do you apply it.?

16. How deep do you have manure covered in the earth, for different crops and different soils?

17. Have your potatoes been affected with any particular defect or disease, and have you been able to discover any clearly-proved cause for it, or found any remedy?

GRASS LANDS, &c.

18. What kind of grasses do you use? How much seed of clover, or the various kinds of grass do you sow to the acre? At what season of the year do you sow,—and what is the manner of seeding?

19. How many acres do you mow for hay, and what is the average product? At what stage do you cut grass, and what is your mode of making hay?

20. Is any of your mowing land unsuitable for the plough, and what is your mode of managing such land?

21. Have you practised irrigating or watering meadows or other lands, and with what effect? What is your particular mode of irrigation, and how is it performed?

22. Have you reclaimed any low, bog or peat lands? What was the mode pursued, the crops raised, and what the success? What length of drains have you on the farm, and how are they constructed?

DOMESTIC ANIMALS.

23. How many oxen, cows, young cattle and horses do you keep, and of what breeds are they?

24. Have you made any experiments to show the relative value of different breeds of cattle or other animals for particular purposes, and with what results?

25. What do you consider the best and cheapest manner of wintering your cattle; as to feed, watering and shelter?

26. How much butter and cheese do you make annually, from what number of cows, and what is your mode of manufacture?

27. How many sheep do you keep? Of what breed or breeds are they? How much do they yield per fleece, and what price does the wool bring? How many of your sheep usually produce lambs, and what number of lambs are annually reared? How much will your sheep or lambs sell per head to the butcher.

28. What do you consider the best and cheapest manner of wintering your sheep as to food, watering and shelter? How many in proportion to your flock (if any) do you lose during the winter. What difference (if any) between fine and coarse wooled sheep in these respects.

29. How many swine do you keep, of what breed are they, how do you feed them, at what age do you kill them, and what do they weigh when dressed.

30. What experiments have you made to show the relative value of potatoes, turnips and other root crops, compared with Indian corn, or other grain, for feeding animals, for fattening or for milk.

FRUIT.

31. What is the number of your apple trees? Are they of natural or grafted fruits? and chiefly of what varieties?

32. What number and kind of fruit trees, exclusive of apples, have you? and what are among the best of each kind?

33. What insects have attacked your trees, and what method do you use to prevent their attacks?

34. What is your general management of fruit trees?

35. What other experiments or farm operations have produced interesting or valuable results?

FENCES, BUILDINGS, &c.

36. What is the number, size and general mode of construction of your farm buildings; and their uses?

37. What kind of fences do you construct? What is the amount and length of each kind? And their cost and condition?

38. To what extent are your various farming operations guided by accurate weighing and measuring? And to what degree of minuteness are they registered by daily accounts?

39. Do you keep regular farm accounts? Can you state the annual expense in improving your farm, and the income from it, with such precision that you can at the end of the year, strike an accurate balance of the debt and credit? Would not this practice conduce very much to close observation, careful farming, and in the end much improve your system, as well as better your fortune?

NOTICE TO CANDIDATES.

1. However concisely the subjects themselves be announced ample information is required concerning them. It is expected that the above questions will be answered with precision and minuteness, the applicant submitting the information according to his best knowledge, and belief of its correctness, of which a Certificate or other satisfactory proof shall be given.

2. The information shall, as much as possible, be founded on experience or personal observation, and not merely on what is already in print.

3. It shall be methodically digested, and if necessary, illustrated by Drawings or Models made to scale.

4. Each Essay or Paper shall be accompanied with a sealed Note containing the name and address of the Author, and inscribed with

a motto which shall correspond with a similar motto on the head of the Essay or Paper.

5. None of the Notes except that attached to the successful Papers, shall be opened; all the other Papers shall be held until claimed by their respective Authors.

6. The successful Essay or Papers shall become the Property of the Society, and may be published in whole or in part by the Society.

7. All Essays and Papers to be sent in, free of Postage, before the 10th December, 1851, to Dr. ROBB, Corresponding Secretary of the Society. The awards are payable on or after the 10th February, 1852. Decisions of the Committee of the Society will be final.

8. One barrel of the Beef or Pork to be brought back for inspection, and Certificate to be sent in on or before the 1st day of May 1852.

9. Premiums in Plate may, if the Executive Committee see fit, be paid in an equivalent of money, on the application of the successful Candidates.

J. ROBB, M. D., *Secretary.*

Fredericton, 10th April, 1851.

REPORT ON IMMIGRATION, &c.

The Committee of the New Brunswick Society for the Encouragement of Agriculture, Home Manufactures and Commerce throughout the Province, appointed at a late Meeting of the Society to enquire into the best method of facilitating Immigration into this Province, Report the following, viz :—

The great facility for procuring passages in European Ships coming to Saint John for Timber has been the reason why so many Immigrants have arrived there, and will probably continue to be an inducement for many more to come during the continuance of the present Timber Trade.

Of the passengers who have arrived it has been observed that they appear to have been influenced by different intentions, and have followed very different pursuits, in most of which however they had not been very successful.

1st. Some have come to this Province for the purpose of procuring land from Government at a cheap rate, and in this they have generally succeeded; although some have failed in the outset for want of suitable instructions, either by a mistake in the proprietor of the Soil, or by an injudicious selection, yet their perseverance has been proverbial and in a second attempt they have seldom failed in becoming respectable freeholders as a reward for their privations and praiseworthy exertions.

2nd. Others have come with a small capital which they have expended in the purchase of cultivated land; in which case they have generally shown themselves better judges of a cultivated soil than of Woodland.

3rd. Others have arrived without capital, but with good health and industrious habits determined to earn the means of procuring Land: and they have hardly ever failed of becoming useful and respectable settlers. In some instances they have rented farms and eventually become Lords of the Soil, but whether as Tenants or common labourers they have greatly contributed to the general plenty, and have been amply rewarded for their industry.

4th. Some have arrived at our Seaports and only remained in the Province as a place of rest where they might procure the means of following their friends to a Foreign Country, and these seldom fail in

their purpose. They have generally earned the amount of their passage and are gone, and excepting only the pauper immigrants they are the most useless, or rather injurious class that visits our Province.

To afford every reasonable encouragement to the useful classes of immigrants who may arrive, and to give them a suitable direction in a path in which they are strangers,—it appears desirable to this Committee that they should be first directed to the Immigrant Agent of the Port where they arrive in order to obtain the requisite information. And as no regular method has been hitherto adopted for acquiring or imparting that information, your Committee recommends the following method as one likely to answer the desired end, viz:—

That in each County there should be an Assistant Immigrant Agent, whose duty it should be to enquire and obtain from all the different districts in the County, information of the number of Farms for sale in those Districts,—partially or thoroughly improved—at prices from £———to £———per acre or otherwise.—The number of Farm-tenants required or dwellings to be let for the accommodation of families,—number of labourers likely to find employment male or female—and at what probable terms or wages—and also what Mechanics are wanted, &c.

What houses or dwellings to let to immigrants.

What farms to be leased to good tenants—with or without stock.

What farm labourers wanted—male or female &c.

What carpenters,—Smiths or Shoemakers, &c.

Answers to these queries, which might be easily condensed in a Tabular form, would enable the County Agents to inform the Provincial Agent of the wants of each County.

It would then be the duty of the Provincial Agent, upon every enquiry or application of immigrants to note in his Book their names in alphabetical order, with their age, time of arrival, date of application, place of nativity or the Port they came from, their occupation, and intention in coming here, and also the place they proposed to journey to.

He will then be able to say to the applicants, that in such a County there are such facilities for your settlement, or that in the County of ——such inducements are held out—choose which you will, and I will give you the address of the Agent.

By this method the Agent's books would form a most valuable Immigrant Directory for future reference, and it is presumed that no Agent will intentionally send useless or pauper immigrants into an Agricultural district, and that when he finds they are bound for ano-

ther country, he can direct them to the packets sailing there—noting the place in his book.

It has been objected that the Salaries of so many Agents in the Province would be too expensive, but your committee are of the opinion that the good maxim of only "rendering to every man according to his work" will remove the necessity for that objection,—and as Agriculturists we can recommend no other rule.

In populous Counties the labour might be considerable, while in some it would amount to very little: but in every situation where the duty is well performed, it could not fail to be most valuable to the Immigrants,—and also to the Province generally.

All which is respectfully submitted,

C. L. HATHEWAY, *Chairman.*

11th June, 1850.

To the New Brunswick Society for the encouragement of Agriculture, Home Manufactures, and Commerce throughout the Province.

Your Committee to whom it was referred to enquire and report &c., on the utility and best modes of giving encouragement to settlers on new land farms, and to the occupying and clearing up of Wilderness Lands, beg leave to say, that they have bestowed on this subject, considerable attention and to *Report* that in their opinion the giving encouragement to settlers on new land farms, and to the occupying and clearing up of Wilderness Lands is vastly important towards serving the best interests of this country.

In dealing with this subject your Committee will *firstly* notice some of the causes which in their opinion, have obstructed emigration in its flow to this Province, and clogged the advancement of actual settlers within it, and *secondly* will propose some practical changes, which, if carried into effect, must greatly improve the condition of back settlers, and largely tend to increase the population and wealth of the Province.

Firstly the Evils.—One of the greatest obstructions, to emigrants and others, wishing to settle on new land farms in this country, is the bad system or absence of system in the Government of the Province in relation to Crown Lands,—unable in many instances from want of previous survey, to inform an applicant (except by prophecy) of the quality or value of lands he seeks to own—he is often necessitated to choose in the dark—to select, in ignorance of the real character and value of the land,—have a survey made, at great expense, and afterwards to attend a sale where another, by bidding above him, may become the purchaser of the chosen spot—in seeking land thus attended, with such uncertainty, and expense, delay and difficulty, besides a multitude of other obstructions, the poor man is often discouraged in the outset and his heart fails him from settling at all, if his courage or his necessities should urge him to persevere, he has often to force his way and have his land laid off without reference to any plan for a future district Township, or other position for a community of people to settle together in, as is laid off in the States—the Canadas and other countries, and is often made to feel this inconvenience all the days of his life.

Another obstruction arising from the system, is the want of a road through the Township or district laid out or projected by competent

authority, that a settler might know, where best, to make his clearings —erect his buildings, construct his fences and make a road, where the public money may be beneficially applied—at present the settler commonly strolls through the woods, unacquainted with the geographical position of the wild he is struggling in—opens a winding path, perhaps, running diagonally across his own and other lots and on which money is frequently, year after year, spent, till finally the rout is abandoned and the money and labour thrown away.

Another obstruction to the settling of new land especially by emigrants, is the want of information as to the position, qualities &c., of land ungranted and the granted land in the immediate neighbourhood with some cleared and which might probably be for sale and the probable prices, together with some idea of distance and means of conveyance from the Sea Port Towns or landing places to the neighbourhood of land available for settlement—a stranger to the country, especially if he have not arrived here, is utterly at a loss what to do, or what direction to steer, to look for lands or how long it will take him to get from a Port, such as Saint John to ungranted or granted land lying in rear of the first tier of lots in the McGundy Settlement, Parish of Prince William, in York County, or Howard Settlement in Dumfries Parish in the same County, or to any other Settlement in a Parish, of any County of the Province.

It often happens too that large tracts of granted lands, unoccupied by the owners, lie on the high way, in the neighbourhood of the settlers, and others lie between the high way and the land of a back settler through which he is necessitated to make the roads and keep them open, at his own expense, thus adding to the value of the rich man's property, who pays nothing towards the roads of the settlement.

Much inconvenience is generally suffered by back settlers, in the want of even a tolerable road to bring to market any produce they may have to sell, or return with necessaries they may require to buy —the like inconvenience is experienced by them in the want of roads to get to Mills.

Great inconvenience is also felt by occupants and others, settling on Wilderness Lands from the want of a Minister of their own persuasion and a good School in their neighbourhood, serious injury is generally suffered by families in the Woods, from the want of proper instructors.

Owing to the distance of some of the Settlements from the Shire Towns or more populous places, or from the great roads of the country and the difficulty of getting to markets, they are comparatively shut

out from getting a fair share of the circuluting medium, obtainable by persons in more improved parts of the Province and it is often very difficult for such settlers to raise never so small a sum of money.

They occasionally suffer much and have scarcely any crop from the want of seed,—frequently in want of seeds of good quality as well as seeds of different descriptions—they are in most cases deficient in raising the different kinds themselves and in attempting to purchase are often at a loss where it may be had, from there being no known place of deposite for the sale of such articles.

The back Settlements are in many instances much prejudiced from the want of Agricultural and other information and with some exceptions are not in the way of getting a fair share of the premiums offered by County Agricultural Societies. Sometimes the premium list is so regulated that a back settler cannot avail himself of it—he may raise an excellent crop and deserve a premium for much that he has done but is unable to produce you an extraordinary specimen of carrots and so with many other things for which he is unable to compete.

While the settlers are out of the way of ordinary competition neither the Legislature nor Societies hold out inducements such as bounties for large crops of grain or other crops, or the extensive clearing up of new land as is, in many cases done in the adjoining States and other countries which induce the settlement of new lands, it is admitted however that this position is open to question, especially if the giving of bounties be not properly limited and narrowly watched to detect imposition.

Farmers in back Settlements lose sadly by not having some system of meeting, to discuss their own wants and to consider together how they may improve their condition in relation to their own Agriculture, Home Manufactures and Commerce—they do not generally appropriate any leisure evening or hour for assembling together to think and act for themselves, but leave it to others to think and act for them.

Secondly the remedies. Crown lands of the Province fit for actual settlement should, at once be laid off and numbered by competent Surveyors or Officers of a district under the Government in shapely and suitable blocks—Districts—Townships or Squares from one to twenty lots or of such a size as might be adapted to the situation of the locality where they were, and actually surveyed, planed and reported on to the Land Office, with such plain description as to the land and timber thereon, that an applicant could obtain the information he required. The expense of surveying, planing and report-

ing upon the lands of each district to be equally divided and added to the upset price of each lot, the cost of survey in this way, would not be a quarter, perhaps not an eighth, nor even a tenth of what a settler generally pays for surveying a single lot. The block or District might be advertised to be sold on a certain day, the *bona fide* purchasers might pay or settle for their lands and get their grants at once; and the officer of the district might become the purchaser, *pro forma*, of the lots not actually sold, and on application to him with a deposit receipt for the money, an applicant could get his land at once. This system your committee are informed is adopted with excellent effect in the State of Maine, and in the Canadas. This proposed alteration forming the necessary basis of what is hereinafter recommended, and there now being between six and seven millions of good ungranted lands fit for settlement in this Province, it is recommended that the old system be at once abandoned and the one suggested be brought into operation and made to apply as far as it is practical, even to reform neighbourhoods which have been partially destroyed by the old system. Under some such mode of laying off lands, ten, twenty, thirty, forty or more families might choose their own company and settle at once, on one or more Blocks, Townships or Squares, and (subject to certain restrictions,) the Government might use its discretion to give a worthy settler fifty acres of land in consideration of his large family and immediate occupation or other good reasons to warrant such a donation.

2. A road judiciously laid out or projected by the Government or other competent authority, with proper plans and returns to the land office, through such blocks or districts as above described, leading from one Section of the country to another or through the district to the high way so that settlers might know where, *best* to make their Clearings—place their buildings—erect their fences—improve their lands, and whereon the statute labour and public monies might be expended with advantage, are subjects of great importance to the convenience and advancement of settlers on new land farms. This system your committee are informed, is practised in the adjoining States and the Canadas, and they can see no reason why it should not obtain in this Province—and further, no service could more contribute to the clearing of the forests of this country, than for the Government to project and lay out public roads extensively through wilderness lands fit for settlement, from one section of the country to another. The natural formation of the soil seems to call for this —the earliest settlements of the Province being commonly on the Sea Shore and on the Borders of Lakes and large Rivers, with

chains of hills and mountains, to a great extent running parallel thereto, so as virtually to shut up the back from the front lands; a well selected road in rear of those mountains, running from one public section of the country to another, would unlock the wilderness—and open a way across the finest soil.

3. A book of reference in the nature of a Directory, chiefly referring as well to granted and part cleared lands which might probably be had at moderate prices, as to ungranted lands laid off with roads by the Government available for emigrant settlers, together with a brief reference to the distances and modes of conveyance from the usual sea Ports or landing places in the Province to the neighbourhood of such lands, published and properly circulated, would be an excellent guide not only for persons, in the parent countries, wishing to come and settle in the Province, but for others desiring to choose a spot to locate themselves and their families for life.

4. As to large blocks or grants of wilderness lands being allowed as hitherto, to be unimproved by the owners—locked up from occupation by high prices, in the prospect of improving their value by forcing settlers to do it, who from necessity are compelled to make roads through such lands and keep them open during winter, is a crying evil and shamefully unjust, not only to the settlers but to the interests of the Province at large and should no longer be tolerated. Such owners, as in the adjoining states, should be compelled to bear their fair proportion of the expense in making the road—their lands assessed for it and in default of payment—the land sold.

5. In the laying out of blocks or districts and the projecting of roads through the same, proper respect should be had to Mill-sites and water powers and to enabling the settlers to get to mills and markets, and every reasonable means should be afforded them for speedily making such roads as convenient and complete as possible.

6. For the better advancement of religion and education, in back settlements, it would be well if the Government, in the survey of districts, should reserve a piece of ground for the use of a minister, and the erection of a place of Worship, and another for a School Master and Scheol House, and in the settlement of Blocks or Districts, it might be well for persons of the same persuasion, as far as practicable to settle together, not for engendering uncharitable feelings towards other Denominations, but to enable them to unite in getting up a Church of their own persuasion, and for the more frequent visits of clergymen of their own denomination—the erection of a comfortable and commodious school house and the employment

of a competent Teacher should receive the early attention of the settlers.

7. The distance of many back settlements from markets and populous places where public money is expended—the state of the roads —want of conveyance, information and notice peculiar to their position, placing them unfavourably in regard to a share of the circulating money of the country, the disadvantage should be met, as far as possible, by aiding them in those things for which the money is required. The Legislature have done this to some extent by passing in 1849, two excellent Acts to enable settlers to make payments to a certain extent for these lands, by working on the roads. As these Acts or their details may not be generally known, your Commitee will give at the end of this report an abstract of them with the Government Regulations for the information of Settlers; where money is to be expended on the great Roads or other Public Works of the Country, a timely notice thereof as far as possible should be extended to the back Settlements.

8. The necessary seed—its quantity, quality, and the different descriptions thereof, not usually on hand or attainable in settlements, is a subject of vast importance to the comfort and prosperity of back settlers. County and district Societies might take the subject into consideration and have a depository in the Shire Town of the country or other known place, and small depositories in each Settlement of which notice should be given and where it might be purchased by back settlers.

9. Agricultural and other information and the chance of a fair share of Agricultural premiums deserve the attention of all persons and Societies having the good of the country at heart; and these subjects ought to be taken into special consideration by County and District Societies, it should be in part, the business of such Societies to put into circulation, in back neighbourhoods, Tracts or Pamphlets on Agricultural, Manufacturing, and Commercial subjects relating to the interests of the settlers *gratis*, and communicate with them as often as possible—the premiums of such Societies likewise should be regulated, as well to encourage the amount of productions—the extent of Clearings and other praiseworthy labours peculiar to the circumstances of *new* Settlements; as to the more perfect yield in small quantities of the *old*—some allowance might also be made to enterprising competitors, bringing their articles with difficulty and expense from afar.

10. As the greatest source of comfort and wealth that a farmer can have in this country, is the profits of Stock and the produce of

the dairy, and as we have a great Home Market for these products, as well as for bread stuffs and meats of all kinds, it should be the aim of back settlers to avail themselves of the advantages of supplying the market as early as possible, a large stock must be fed, but mere hay will not do it, nor is it a crop that can be depended upon, with any degree of certainty—extensive pasture lands—root crops, straw and other feed must be called in aid, for attaining the desired end. To further this combined object, especially for raising our own bread in this country, your Committee think it might be well for the Legislature to offer certain premiums or bounties to new settlers for the extensive raising of grain crops, as has been done with great success in the State of Maine, perhaps it might be extended to the raising of large quantities of a certain kind of root crop, and to the annual laying down of extensive new land fields for hay and pasture purposes.

11. For the better carrying on of all objects connected with the Agriculture, Manufactures, and Commerce of the neighbourhood—the minds of the settlers should, *in the first place* be informed—reading, thinking, conversing with neighbours, and meeting together, at some School House, at a neighbours house or other convenient place, on a leisure evening, to discuss the objects pertaining to the settlers interests, are modes well calculated to improve the mind and thereby lead to improve the condition. Perhaps Farmer's Clubs, on a scale which will be submitted by one of our Committees to night, may be better than any other to attain so desirable an end, it must prove to them a great source of information and pleasure, let them read the various Reports of this Society, as well as other information, and they cannot fail to have ample topics for discussion, it is probable there will be a difference of opinion in their clubs, and it is well that it should be so, that truth may be better elicited, there may be matters in our Reports which some at the meeting may not be prepared to assent to, and perhaps contradict, even this will be beneficial, if it set the dissenting member a thinking and advancing his own ideas among his fellow settlers. As to Agriculture, let them not suppose that it is too soon for them to think of good farming in relation to new land. Instead of considering how they can *restore exhausted* lands, let them reflect how they are to *keep* their new land from being *exhausted*. In reference to Home Manufactures let it be their pride to make themselves independent, and see how many manufacturing establishments are wanted in their neighbourhood, and how soon aided by subscriptions among themselves or otherwise they can erect the necessary Mills, Blacksmith's and other Shops, and how rapidly they can annually add to them. In regard to their Home Commerce, either be-

tween the settlers themselves or between them and more populous places, let it be their aim to produce a surplus, and sell it to the best possible advantage in any market they can desire, and take in return money and those *necessaries that cannot be made at home or done without.*

In regard to their wants, let the settlers rely, on no other help than God and their own independent exertions, let them not suppose that any suggestions in this Report are intended to abate their efforts, or to lull them into idleness or complaining, but designed merely to suggest what is fairly their due—to stimulate them to greater exertion, and to encourage them in those pursuits which are calculated beyond all others, to add to their wealth and to the happiness of this country.

The foregoing are the principal evils and remedies which have occurred to your Committee and which, if attended to, might give greater encouragement to settlers on new land farms, and to the occupying and clearing up of wilderness lands, and while your committee may have omitted very important topics—may be wrong in some of their positions, and do not pretend to have described the practical details for carrying the proposed changes out, they trust that some of their observations may be deserving of notice, and lead to a more full enquiry of so important a subject.

DAVID S. KERR, *Chairman.*

12 VICTORIA, CAP. IV.

AN ACT to facilitate the sale and improvement of Crown Lands in certain cases.

Passed 8th March, 1849.

"Whereas every facility and encouragement should be afforded for "the occupation and improvement of the ungranted Lands in this "Province: And whereas it is deemed advisable that the Government "should be invested with power to dispose of the Crown Lands in "certain cases by private sale, upon such terms and conditions as "may be most encouraging to the purchaser;"

1. Be it therefore enacted by the Lieutenant Governor, Legislative Council and Assembly, That notwithstanding any thing contained in the Fifth Section of an Act made and passed in the eighth year of the Reign of His late Majesty William the Fourth, intituled *An Act for the support of the Civil Government of this Province*, it shall and may be lawful for His Excellency the Lieutenant Governor or Administrator of the Government for the time being, by and with the advice and consent of the Executive Council, from time to time, and as often as occasion may require, and with a view to the early disposal of the vacant Crown Lands to persons who are able and willing to improve the same, to cause portions thereof to be surveyed and laid off in such place and in such way and manner as may be deemed most advisable.

II. And be it enacted, That it shall and may be lawful for His Excellency the Lieutenant Governor or Administrator of the Government for the time being, by and with the advice and consent aforesaid, to sell and dispose of the Lots so surveyed and laid off as aforesaid, by private sale, for such price as may be deemed advisable, and upon such terms of payment, either in Money or in opening and making the Roads through such Lots, or otherwise, as may most readily facilitate the occupation and improvement thereof by orderly and industrious Settlers; provided always, that no Lot be sold at a less rate than three shillings per acre, or shall contain a greater quantity than one hundred acres.

III. And be it enacted, That His Excellency the Lieutenant Governor or Administrator of the Government for the time being, by and with the advice and consent aforesaid, shall have full power and authority during the continuance of this Act to make, publish and

enforce such Rules and Regulations as may be required for carrying out the objects of this Act.

IV. And be it enacted, That this Act shall not come into operation or be in force until the first day of September next.

REGULATIONS.

For carrying into effect the provisions of the 12th Victoria, Cap. 4, intituled "An Act to facilitate the Sale and improvement of Crown Lands in certain cases."

1. That the Local Deputies do, as soon as practicable, report to the Surveyor General the most desirable Tracts of Land for immediate settlement in their respective Districts, and the probable number of Lots that may be required for immediate settlement, and that similar Reports be made from time to time as occasion may require.

2. That all persons desirous of selecting any particular Tract for Settlement, under the provisions of the above Act, do signify the same forthwith either to the Local Deputy of the County or to the Surveyor General, in order that such Tract, with the road to and through the same, may be laid off preparatory to Sale.

3. That the Applicants in all cases shall state in their Petition whether they wish to pay for their Land in Money or by Labour upon the Roads.

4. That no Land will be sold at less than three shillings per acre, and no person shall be allowed to purchase more than one hundred acres under the provisions of the above Act.

5. That where the purchaser shall prefer paying the whole amount in Money on the day of Sale, a discount will be made thereon of twenty per cent.

6. That where the purchaser desires to pay in Labour upon the Roads, he shall, upon making his application, pay the sum of twenty shillings towards defraying the expenses of Survey.

7. That where the purchase is made for Money under the Regulations, if the payments required are not duly made according to the terms of Sale, and any Instalment is not paid, on or before the day when it becomes due, the Land in all such cases shall immediately upon default made be open to re-sale, and upon application made shall be disposed of without reference to any improvements which may have been made by the former purchaser.

8. That all payments of Money shall be made to the Local Deputies, except in case of purchases in York or Sunbury, when they will be made to the Receiver General.

9. That the Local Deputies shall render Returns, make remittances, and be entitled to receive and retain the same Commission on

Monies received under the above Act, and by virtue of these Regulations, as they do at present under the Regulations of the 11th May, 1843.

10. That as the avowed objects of the Legislature in passing the above Act was to secure the occupation and improvement of the ungranted Lands of the Province, no neglect of occupation and improvement will be permitted for a longer period than three months, unless upon good cause shewn therefor to the satisfaction of His Excellency in Council; and in case of the non-occupation and improvement of any Lot beyond that time, and not satisfactorily accounted for, the Lot shall be open to re-sale, and upon application made will be disposed of without reference to any improvements made by the former purchaser.

11. That the occupation and improvement under the last Rule shall be by *bona fida* settlement upon the Lot, and shall be such as plainly to indicate the intention of the purchaser to do all in his power to make a permanent residence thereon.

12. That in all cases where the purchaser is to make payment by Labour on the Roads, he shall perform the labour at such times and at such places as shall be fixed upon by the Commissioners to be appointed for that purpose; and in no case shall less work be done in any one year than will be equal to one-fourth of the whole purchase money.

13. That if any purchaser shall refuse to preform labour when required as aforesaid, the Commissioners shall forthwith report the same; and unless good cause be shewn for such refusal, the purchaser so refusing shall forfeit his right under the Sale, and his allotment shall be open to new application, and will be sold without reference to any improvements he may have made thereon.

14. That no Grant of any Lot purchased under the provisions of the above Act shall issue until it be proved to the satisfaction of the Lieutenant Governor and Council that, in addition to payment for the Lot by Money or Labour, the purchaser has actually resided thereon for the space of one year, and has brought at least ten acres thereof into a state of cultivation.

15. That if any purchaser do remove or cause or permit to be removed from his Lot any Timber or Logs before he shall have received a Grant of such Lot, such Timber and Logs shall be seized and forfeited to the use of the Province; and the Lot from which such removal shall have taken place shall be open to new application, without reference to any improvements of the original purchaser.

16. That in case any purchaser shall be detected in any fraud, deception or misrepresentations in his dealings with the Government under the above Act and these Regulations, he shall thenceforth be excluded from all the benefits and advantages of the said Act.

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12 VICTORIA, CAP. XIX.

AN ACT to authorize the commutation of Debts due the Crown by Settlers in certain cases for work on the Public Roads.

Passed 27th March, 1849.

"Whereas for the better encouragement of Settlers on New Lands who have not paid the amount of their purchase money, it is deemed advisable to provide for the commutation thereof, in certain cases by work to be performed on the Public Roads;"

1. Be it therefore enacted by the Lieutenant Governor, Legislative Council and Assembly, That from and after the passing of this Act it shall and may be lawful for His Excellency the Lieutenant Governor or Administrator of the Government for the time being, by and with the advice and consent of the Executive Council, in all cases where purchasers of Crown Lands who have improved, and are actually resident upon their respective Lots, but have not yet paid the whole of the purchase money therefor, and where the principal money due in any case does not exceed the sum of twelve pounds, to order and direct that the purchasers respectively shall have permission to do and perform work and labour upon the Public Roads in the vicinity of and as near as may be to their respective Lots, in payment of the balances remaining due on the said purchases.

II. And be it enacted, That in order that the said work may be efficiently performed, it shall and may be lawful for His Excellency the Lieutenant Governor or Administrator of the Government for the time being, by and with the advice and consent of the Executive Council, forthwith to appoint in and for each County, or in and for any particular District, Parish or Settlement, one or more fit and proper person or persons as Commissioner or Commissioners to superintend and direct the performance and application of such labour.

III. And be it enacted, That each and every person who may be indebted to the Crown in a sum not exceeding as aforesaid twelve pounds, for on account of the purchase of Land, who is an actual and *bona fide* settler on the Lot for which he is so indebted, and who is desirous of availing himself of the benefits and advantages of this Act, shall signify the same on or before the fifteenth day of June next, to

such Commissioner as may be appointed for the Parish, District or Settlement where such Settler may reside, and shall at the same time deposit with such Commissioner the sum of one shilling on each and every pound of the debt due from such Settler, and for which he is desirous of performing work.

IV. And be it enacted, That each and every Commissioner shall keep a Record of the names of all persons who shall so report themselves as aforesaid, and shall in all cases satisfy himself that every such person is entitled to the privileges and advantages of this Act, before allowing him to avail himself thereof.

V. And be it enacted, That each and every Settler so recorded shall do and perform such part and portion of work according to such specifications, and at such place, and within such time as the Commissioner may direct and appoint, and as near as may be to the residence of such Settlers; provided that no part of such work be performed after the first day of October.

VI. And be it enacted, That in the cases aforesaid, no Road shall be made of less width than sixteen feet between the ditches, and that a sum not exceeding five shillings per rod, in the discretion of the Commissioner, be allowed on account of any such work; provided always, that in any case when it may be necessary to construct a Bridge, the Commissioner shall specify in what manner the same shall be built, and shall estimate as near as may be the value thereof, in reference to the rate before mentioned, and which, when done, he shall allow to the parties building the same as and so many rods of Road.

VII. And be it enacted, That as soon as may be after the first day of October, every Commissioner shall make a return of his proceedings under this Act, specifying therein the name of each Settler who may have worked, the number of he has made, and the rate allowed for the same, and the number of Bridges built; which said Return shall be certified and signed by such Commissioner, and the respective sums therein allowed shall be deemed and taken as so much paid for and on account of the said debts due by the Settlers respectively, and shall be credited as such; and in every case where the amount of such work is equal to the principal money due from the Settler, his Grant shall forthwith issue without any further charge or payment therefor.

VIII. And be it enacted, That if any Settler shall neglect or refuse to avail themselves of the privileges and advantages offered by this Act, the Commissioner for the place or District where they may re-

side, shall as soon as may be after the first day of October, make Return of the names of such persons to the Provincial Secretary.

IX. And be it enacted, That nothing in this Act contained shall extend or be construed to extend to authorize the laying off any Roads within the Province of a width not authorized by law.

X. And be it enacted, That this Act shall continue and be in force until the first day of April in the year of our Lord one thousand eight hundred and fifty one.

(This Act has been continued.)

REGULATIONS.

For carrying into effect the provisions of the Act 12 *Victoria, cap.* 19, *intituled "An Act to Authorize the commutation of Debts due the Crown by Settlers in certain cases for work on the Public Roads.*

I. That every Settler who may be entitled to avail himself of the privileges of the above Act, shall on or before the 15th day of June in each year, signify his desire so to do, to the Commissioner of the Parish or district in which his Lot may be situate, and shall at the same time deposit with the Commissioner the sum of one shilling on every pound of the debt for which he may be desirous of performing labour.

2. That when any Settler is indebted in a greater sum than £12, he may reduce the same to that amount by payment of the difference to the Receiver General or to the Local Deputy of the County where the Land lies.

3. That where the debt due does not exceed £5, the whole amount thereof shall be discharged by labour in one season; and where the debt exceeds £5, two years may be allowed, if the applicant require it, for performing the labour therefor.

4. That each Commissioner do forward to the Provincial Secretary on or before the 1st day of May in each year, a list of the Public Roads in his District which it will be most desirable to open or improve, and which will be most convenient for the Settlers.

5. That every Commissioner shall strictly adhere to the requirements of the above Act, and to these Regulations, and shall on or before the first day of November in each year transmit to the Provincial Secretary the Returns required by Sections 7 and 8 of the above Act.

By His Excellency's Command.

Secretary's Office, 29th October, 1849.

REPORT

To the N. B. Society for the encouragement of Agriculture, &c

The Committee appointed on the 8th of January last to Report upon the most practical and effective modes of disseminating useful information in connection with the objects of the Society, beg to present the following Report:—

1. They do not consider that a Periodical Journal can be undertaken by the Society at present.

Such a Journal must be very miscellaneous, and often desultory, and it is considered more advisable, in the mean time, to publish such Reports, Prize Essays and Tracts as may be more immediately applicable to our own particular times and circumstances.

They recommend a large edition of the forthcoming Report, and a republication in part of the former one.

2. They recommend the publication at an early period of an Elementary work on the principles of Agriculture, written in an easy and attractive manner, and suitable for reading in the Common Schools of this Province.

3. Your Committee express their strong conviction of the necessity of an Agricultural element in the Public Education of the Province, and hope that measures may soon be taken to introduce agricultural reading by degrees into our Schools, so as to elucidate and enforce the principles of that art by which the greater proportion of the inhabitants of this Province must gain their livelihood.

4. They consider the publication of a larger Manual of the principles, practice and economy of Farming as suited to this Province to be a proper object for the Society to undertake. Such a work was strongly recommended in the Report of last year, and is still to be considered desirable.

Its adaptation for Schools will be a matter for further consideration.

5. This Committee would particularly recommend that the Society should give its fullest influence towards the establishment of Farmer's Clubs and Book Societies throughout the Province.

The young men of the Country are already familiarized with the machinery of such associations, and in almost every settlement there are Societies of various kinds;—we desire that farmers should now combine for the discussion and improvement of their own art and calling: Union, Association, and discussion—these are the well un-

derstood methods of promoting great objects, and securing for them that prominence in the public eye which their friends desire.

We have no hesitation in expressing our belief that if such organized associations had been in existence among our Farmers heretofore, a far larger share of public encouragement would now be given towards Agriculture,—which is and ever must be deemed to be the most important branch of human industry.

It may be said that the County Agricultural Societies are intended to secure this object; so they do—but only in part; they operate chiefly by premiums for the best crops, stock or manufactures: they ask for results, and reward them accordingly; we desire that intelligent farmers should now give part of their time to the discussion of *methods*, and trying conclusions.

If these Societies had from the beginning required and published accounts of the means whereby the prize Crop or Stock was produced, together with a distinct statement of the profit or loss by the same, we would now be in a much more likely way to produce what is required by the Province

At present there is an annual deficiency of about £300,000 worth of Agricaltural produce, and we ought never to rest satisfied until this balance has been wiped off. Let the farmers combine to secure the Home Market to themselves at all events.

Of course it is obvious that any of the existing Agricultural Societies may incorporate the principle of Farmers Clubs into their constitutions, and we trust they will do so; but we further hope that *in every settlement*, such associations may soon be established and maintained.

In order to facilitate the proceedings of those who are inclined to move in this matter, we annex herewith a scheme of Bye-Laws, and heads of subjects for discussion, which we suggest should be extensively disseminated along with the Reports of this Society;—with these ready prepared, there need be no difficulty in organizing at once in any given locality.

It would also be desirable that the officers of this Society and the officers of County Agricultural Societies should in the course of the ensuing summer endeavour to explain and establish such Clubs in their respective localities.

It is considered desirable that there should be a regular record of the conclusions arrived at at each meeting of the Club, and that these should be published in the nearest paper or forwarded to this Society for publication when all the subjects sketched out in Our "Hints"

have been discussed and the results declared, these results must become the *Creed* of our Farmers for the future.

It is high time that answers were had on these subjects. If we are Farmers let us farm in earnest,—if the country *can* support the population, (by increased skill) without the importation of our own staples from abroad, let us know it, and let the world know it too.

The Agricultural capabilities of New England, of Canada and of Scotland have all been called in question, but when the answer was made by *competent* persons it has always been satisfactory.

It is for the Farmers of New Brunswick to show whether they, or the climate, or the soil are unfit for the practice of a remunerative Agriculture.

6. This Committee would advert to the census about to be had in the course of this year, and they trust that we may thereby get a better idea of our Agricultural statistics than we have hitherto had. It is very important that we should have this information to serve as a basis for future action and improvement.

7. A synopsis of the information contained in the Reports of the County Agricultural Societies for 1850 would also be desirable and might be made and published by this Society.

8. We recommend that 1500 Copies of the Tract on Farm Management be circulated with the Journals of the Legislature—that 1000 —or say 50 copies each be sent to the County Agricultural Societies —that 4000 or say 10 copies be sent to each of the Parish Schools. The last might be addressed to Clerks of the Peace and by them given to the School Masters who shall be desired to destribute them among the Schools—that 1000 copies of the French edition be put into the hands of the R. C. clergymen who shall be invited to recommend and disseminate the same among their parishioners.

Respectfully submitted,

N. PARKER,
J. ROBB. } *Committee.*

2nd April, 1851.

BYE LAWS

OF THE

———FARMERS' CLUB AND BOOK SOCIETY.

*Instituted———day of———*1851.

1. The Society shall consist of such members as shall have subscribed these rules and paid the sum of———per annum to the Treasurer.

II. The Society shall annually elect a Chairman who shall conduct the business of the meeting in a grave and orderly manner, and allow no vague or rambling discussion, or the introduction of Religion, or party politics: and likewise a Secretary who shall also be Librarian and Treasurer.

III. The Society shall meet at———on the—day of each month, at—o'clock P. M., for the reading or discussion of matters connected with Agriculture.

IV. At the close of each meeting, the Chairman shall sum up the results of the discussion of the evening, and the Secretary shall make a record thereof for future inspection or publication.

V. A list of subjects shall be made up at the beginning of each year, from which every member shall select one, on which, in his rotation, he shall be prepared to read a paper or open a discussion.

VI. The funds of the Society shall be applied to defray the contingent expenses and to the purchase of works on Agriculture or Horticulture.

VII. The books of the Society shall be given out and returned at the monthly meetings, and there shall be a penalty of——for neglecting so to return them at the proper time.

VIII. Visitors may be introduced by the sanction of the Chairman.

IX. There shall be an *annual meeting* and dinner.

X. The Bye-laws shall not be altered except by consent of three fourths of all the members of the Club.

☞ *For Heads of Subjects for discussion in Farmers' Clubs, see Page* 126, *&c.*

REPORT ON WOOLEN MANUFACTORIES.

To the New Brunswick Society for the encouragement of Agriculture, Home Manufactures and Commerce, throughout the Province.

The Committee appointed at the last Annual Meeting of your Society, to enquire and report relative to the establishment of a Woolen Factory, in any suitable place in this Province—the amount of capital required for such erection—the expence of carrying on the establishment in an efficient manner, &c., &c., beg respectfully to Report, that they have given attention to the subject, and submit the following suggestions for the consideration of the Society :—

Your Committee have found the investigation of the matters submitted to them a difficult task, compared with what it would have been, could they have procured such statistical Reports as are constantly published in the United States of the Manufacturing establishments, and operations of that Country. Were our public Libraries, at least supplied with these publications, it would probably tend to attract attention toward the establishment of similar operations in this Country, and afford a vast amount of useful information to persons disposed to engage in such undertakings.

In the absence of these sources of information your Committee have availed themselves of such other means, as were within their reach, especially the opportunity afforded to one of the Committee, (Mr. McAdam) during a recent tour in the United States, of visiting a number of Woolen Factories, in the State of Maine, and of conversing with practical men connected with those Factories.

Your Committee have carefully compared the various items of information received and give the result as follows.

In the State of Maine the Woolen Factories are usually wooden Buildings about 30x40 feet, 2½ stories high with three flats; the first and second, ten feet in the clear, and the third eight feet in the clear. The Machinery driven by water power.

Experience has shown the Manufacturers in the State of Maine that they could not compete with British Manufacturers in the finer articles of woolen cloths, but that they could do so with profit in all descriptions worth from three to five shillings per yard, of the single width, that their own Manufacture of articles at these prices, was vastly superior to the British articles, at the same price, and found a ready market, from the fact that in England the best of material is

used for the finer cloths and the refuse only for lower priced. Your Committee would remark that the priced cloths referred to, (from *three* to *five* shillings per yard,) constitutes a very great proportion of the clothing required in this Province, immense quantities of it being imported both from England and the United States.

Cost of Building for Machinery,		£200
Driving Machinery and Belting,		200
Two condensed Carding Machines,		400
Spinning and Weaving Apparatus,		450
Dye House and out Buildings,		100
Total cost of Buildings and Machinery,		£1350
Workmen's wages for six months,	£624	
Cost of Wool at 1s. 6d. per pound,	1170	
Cost of Oil,	65	
Cost of Dyeing,	390	
Total cost of Material and Labour,	£2249	
Sufficient to produce 100 yards per day for six months, say, 15,600 yards worth at 4s.	£3120	
Leaving a net profit of	£871	

There is a quantity of waste material, usually manufactured into a coarse description of sattinet, which is found sufficient to meet the cost of out door attendance, and some other incidental expenses not here enumerated. In the foregoing estimates, no allowance is made for repairs of Buildings and Machinery, Insurances &c., which would form a charge on the net profits.

Your Committee have taken their estimates from erections, cost of Materials, Labour &c., in the State of Maine, as not being likely to differ materially, with similar expenses and articles in this Province.

With regard to the demand, or market for the Manufactured article, your Committee suggest, that our home consumption must furnish the market for the present, indeed until that demand be, to a considerable extent at least, supplied by our own productions, instead of from abroad as heretofore, no necessity exists for looking elsewhere for a market.

As respects sites for establishing factories, the only remark that seems necessary is, that the most suitable places will be wherever the greatest advantages of sufficient water power can be found, seeing that the transmission of the manufactured article to any part of the Province will be attended with but a trifling expence.

Respectfully submitted,

JAMES McADAM.
JOHN T. SMITH.

Fredericton, April 2nd, 1851.

REPORT OF COMMITTEE ON DRAINING.

According to Professor Johnston's *data* the average duration of summer in New Brunswick is 6 months and 22 days, and the average period of the growth of Crops is 3 months and 3 days.

Nevertheless we often hear it alleged that there is rather too little time in which to do the Spring and Fall work efficiently: and that a few days in the Spring and a few days more in the Fall would put all to rights.

Now there is a method by which the Farmer may to a certain degree extend the period which he has to work his land, whereby, in short, a week or two may be added to each end of the Summer—and that is *by the judicious drainage of his cultivated fields.*

There can be no doubt but that if the Farmer can afford it, the soils of this country generally would be ameliorated by a more early and complete removal of the water in the Spring and Autumn. In this way it might easily be shown that the labour required on the land would be less, while the product of the land would be greater.

But it may be said that the Farmer has no time for such works as drainage: to this we reply that it is much better economy to take time for this operation at the beginning than to risk the certain deterioration or even the entire loss of his Crops for the want of it.—There are always spare days, such as a damp day in harvest or an odd day in the Summer, or when the frost stops the ploughing in the Fall, when draining may be done to a considerable extent.

In England and in all Countries where Agriculture is in an advanced state the voice of experience is loudly in favour of complete drainage; in fact it is considered to be the foundation of all other improvements in Husbandry, and we cannot overlook the necessity of introducing it here to a much greater extent than heretofore. True it is that the soils of England are on the whole, heavier than ours, the climate more moist and the Summers more cool, but in all cases of land springs or deep springs, or even in clay soils devoid of subterranean springs, or of a light shallow soil resting upon a pan, or hard sub-soil, a good system of drainage will add vastly to the security and the profits of agriculture. If our seasons be short there is so much the more reason for our taking advantage of all the aids which art can give. We cannot affect the climate of the whole region in which we live, but, practically, we can

improve the climate at the roots of our growing crops by the removal of superfluous water, and this serves our purpose sufficiently. *A day in Summer saved is a day in Summer gained.*

In order to appreciate the importance of drainage we shall consider first, the influence of water on the plant, and then its influence upon the soil.

All plants require water: They inhale a certain quantity of watery vapor from the atmosphere by the pores of their leaves, but the greater part of that which they require enters in a liquid form by the spongy extremities of their Roots: the spongy rootlets of our usual Crops will, if allowed, go down from two to four feet in search of water.

This water contains their food. It flows continually upwards through the plant; the watery particles pass off by the leaves, and the nourishing matters which had been dissolved in the water are built up and formed into the various parts and products of the plant.

Now as plants cannot move about like animals to seek "for fresh fields and pastures new," but must take what they find in the field or pasture where they were born, and where they must remain permanently at anchor for life, it is obvious that this water ought to flow slowly through an open soil towards their roots, and be at the same time moderately charged with such materials as are capable of nourishing the plant.

These materials are partly derived from the air, partly from the earthy elements of the soil itself, and partly from the animal and vegetable substances decaying in the soil—that is—from what the farmer calls *manure.*

If the water runs off too rapidly, an insufficient supply of food will enter the plant, and if there should be too much water, not only will the plant be forced to operate upon more water to get the same amount of food from it, but the soil available for food will be diminished in extent, and the very food itself will be deteriorated in quality.

Before manure can become wholesome food for plants, it must decay to a certain extent and become soluble in water; but decay or fermentation cannot go on effectually unless air be present as well as water: if the soil should be full of water, of course, the air cannot penetrate to the decaying materials, and they become sour or acid substances which are not the natural or proper food of growing crops. These will therefore languish and give place to sorrel and moss and other weeds, which are intended by Providence to consume and flourish upon such crude materials. The vigor of these latter overcomes the cultivated species which gradually disappear. Hence wet lands are appropriately termed *Sour Lands.*

In a naturally open and well drained soil the rain water passes freely downwards, bringing air with it and continully offering supplies of fresh food for the plants from the soil and the atmosphere.

But, besides air and moisture, growing plants require a certain degree of heat to start them and give them their most favourable developement. We can force any plant, as is well known, by artificial heat, and although it would be impossible to force a whole field by artificial heat, we may do so effectually by allowing the natural heat of the sun to produce its fullest effect.

Stones and earth heat more readily than water, and, growing plants, whose roots are in a well drained soil will grow more rapidly and work more efficiently. A temperature of 80° or 90° F. suits our grain Crops best, but in wet lands their roots must remain in a temperature of 50° or 60° only: and spring water is never so warm as the rain water of summer.

But besides, great portion of the suns rays go, not towards heating either the water or the soil, but rather towards the formation of vapor from the stagnant water, which rises upwards into the atmosphere. Evaporation, therefore, positively causes cold, and if any one doubts it, let him wet his own face with cold water and look out of the window for proof—or let him go out and observe where the frost first strikes his Crops, or where the mist lingers longest in the Fall.

Wet lands are therefore very appropriately termed *cold lands.*

Again—when water freezes, it enlarges about one ninth in bulk, and a soil full of frozen water will heave and swell and rise upwards, because there is least resistance to its upward movement than to its expansion in any other direction: but repeated heavings and crumblings will also bring up and expose the roots of young plants to the suns rays, which soon destroys—or as it is called, *winter kills* them.

As to the soil, it is obvious from what has been already said, that dry or porous soils, must be warm and early soils, and that soils through which summer rain water and air are gradually filtering will be better than those where stagnant water prevents the proper decomposition of the manure, and by continuous evaporation chills both the surface and the sub-soil.

Wet soils are not elastic: the air condensed on pressure does not cause them to spring up again after the foot of an animal has trod upon them, their track remains indented in the soil, and soon a poachy hollow appears.

Clay lands become sticky and hold the plough and the cattle as they pass over it—and wet lands are very appropriately termed *heavy lands.* Such lands, whether moist, or dry and baked must keep the water a[t]

the surface and the air too,—conditions which are unfavorable for vegetation—they never can become *mellow*: but if they are properly drained, they crack and crumble up, yet still retain the food of plants, that is, the manure—much better than the hungry soils of sand or gravel.

In well drained lands the plough passes more easily, and raises a deeper furrow slice, the harrows move more smoothly and all the operations on the soil are executed with less labour and less strain of the cattle and implements.

On the whole then, it is sufficiently obvious that the Farmer can get sooner on to well-drained lands to plough and sow them in the spring—that all the operations of tillage can be performed more smoothly and thoroughly—that the crops can seek their food over a greater extent of available soil—that they will grow more healthily and more rapidly during the summer—and that there will be a better chance for ploughing and other field-work in the autumn; in short—that time for preparing the land for the crops, and time for the growth of the crops themselves, may be gained by a well-considered system of drainage.

We shall now inquire into the sources of the water which is found in the soil, and which it is the object of the farmer to get rid of by draining.

All the water of rivers, lakes, springs and subterranean channels comes from the sky, into which it had passed by evaporation from the surface of the sea or land sometime before.

The quantity of water which falls upon any given surface depends chiefly upon the latitude of the place or its distance from the equator. Within the tropics the greatest quantity is evaporated, and within the tropics the largest quantity is condensed.

It is estimated that the annual fall of water over the surface of this province amounts to about 40 inches:—that is—if all the water which falls in the course of a year upon any single square foot of our land was to be allowed to accumulate, at the end of a year it would form a column more than three feet high. In England, where the ground is but little frozen during the winter, most of the water which falls from the heavens sinks directly downwards, but in this country it accumulates during winter as snow, and in spring, great part of the winter's accumulation flows down over the frozen surface towards the brooks and lower levels, without soaking so much through the soil. This different state of matters must be borne in mind in trying to estimate the amount of water to be got rid of by artificial drainage.

But what comes of all the summer water?

Some of it rises upwards at once into the sky again as vapor, and another portion of it runs *over* the surface towards lower levels, the rest sinks *under* the surface, and of course, tends towards lower levels also—that is, chiefly towards the rivers which are the great *natural* drains of the country.

Of that which passes below the surface, one part is soaked up and retained in the soil, or between the arable soil and the sub-soil, where, in a very great many cases it remains in a more or less stagnant condition; another part of it sinks through the sand and gravel till it comes to a deeper bed of clay, or other impervious material, on which it rests as in a *pan*, or over which it flows as far as the slope will permit.

If the clay bed ends or *crops out* on a side hill, the water either appears as a living spring, or diffuses itself far and wide through a leachy or boggy soil.

If again the clay bed should form a sort of hollow, or bowl-shaped cavity, the water will give rise to a marsh which will overflow at certain seasons and become wholly dry at others.

If the downward flow of the water over clay or concrete gravel is interrupted by a boulder or rock, the water will come to its upper surface and give rise to a spring there.

Again—the bed of clay may end abruptly, and the water falling on sand will sink down a stage lower, till it meets another layer of clay, or a surface of rock, over which it will flow and give rise to the same effects—only at lower levels: or it may get between the edges of inclined layers of rocks—or it may enter some of their many cracks or joints, within which it will move, ever tending downwards, until these impervious beds end on a side hill, or the channel is obstructed by some obstacle—in either of which cases the water will be forced upwards by the pressure from behind, and form a permanent swamp, or spring, or pond, or lake according to the quantity of water which is thus collected. If there be no sufficient outlet in this way, the water between the rocky strata, (which are seldom or never perfectly level,) will sink to the lowest points, perhaps a thousand feet below the surface, and there form vast subterranean reservoirs —which may be tapped, if necessary, and supply what are called Artesian Wells.

Water which has passed for considerable distances over sand or clay or rock leaves behind it most of the surface impurities, while at the same time, it is kept cool by the mass of overlying materials and thus afford. at all times a grateful and refreshing supply for the uses of man and animals.

Attention to the foregoing remarks and a little judicious exploring by a spade or crowbar, together with some observations on the nature of the plants growing at the surface will enable any intelligent farmer to discriminate as to the particular sources of the water which he purposes to get rid of, and to the line or lines which he ought to select for his proposed drains.

Before proceeding to drain any particular field it is always proper to examine the soil for water plants, (moss, *negro-hair* &c.,) and to sink little pits from 3 to 5 feet deep, so as to become sure of the nature of the sub-soil: if the sub-soil is open and porous, so that water freely passes down, that is a natural drain, and there is no occasion for any artificial excavation—but very generally this is not the case, and springs not only show themselves at the surface, but the sub-soil is permanently charged with concealed and stagnant water also.

Deep ploughing in some cases will serve to break up the *pan* or retentive layer of the sub-soil, and allow rain water to sink until it reaches a porous substratum which will carry off the water; but this is a point which can only be determined by some experimental cuttings or pits in the fields themselves.

If the disadvantages of wet land have been sufficiently appreciated by the farmer, he will immediately proceed to seek for a remedy. This is to be secured by catching the water as near its source or head as possible, and then confining it in narrow channels, by which it will flow downwards out of the field, instead of spreading on the surface, or being diffused through the soil, or forming a subterranean reservoir of water in which the soil of the field rests like a sponge in a bason full of water. Such artificial channels or conduits are called drains or ditches.

Surface drains are required for the removal of such water as flows over the surface merely. *Deep* or *under drains* are for collecting such large bodies of water as are found in isolated places in connection with springs properly so called. *Sub-soil* or *Thorough draining* is had recourse to for the purpose of getting rid of such water as remains in a concealed and stagnant condition, (generally in heavy soils, or in level places), within the sub-soil, or between the mould stirred by the plough and the sub-soil.

Surface draining has been practised from the earliest times: under draining or the cutting off of springs at their sources is a more modern improvement, proposed by Mr. Elkington in the year 1764, but Mr. Smith of Deanston in the year 1831, first demonstrated the great evil of stagnant rain water in the soil unconnected with springs, and the return of water upwards from the sub-soil to the soil—and proposed

a system of drainage by means of covered drains in each furrow, which should immediately and effectually carry off that portion of the rain water which sinks through the soil. Rain water, it was shown, should always be encouraged to sink down and flow *through* but not *over* the surface of arable land. This constant movement of rain water through the soil, as he observed, is most effectually secured by deep tillage and his system of thorough draining.

The use of Elkington's system of underdraining then is to get rid of spring water principally and mainly, though, of course every drain will remove some of the surface water, and there are many soils which when underdrained become dry enough without thorough draining. The object should always be to do as much as possible by a single drain, or system of drains, as one good one properly laid down may dry a whole field.

When the wetness is connected both with spring water and stagnant rain water, especially in close soils, both kinds of drains may be required to produce the desired result. It is essential then that every farmer should come to clear conclusions as to whether the wetness of his field proceeds from one or other or from both together, and as to whether the profit on the proposed improvements will cover the necessary expenditure.

There is a great deal of vague information abroad in regard to "thorough draining" (so called) and it has been perhaps too indiscriminately recommended in this country. By attention to the foregoing remarks it will be seen whether the latter more expensive process is required or not.

The absolute necessity of the two first mentioned kinds of draining is readily admitted, but the adoption of thorough draining must be an affair of time and means. It has hardly been introduced as yet among us, and we want information as to its profit and loss derived from the experience of our own country. For the purpose of inducing farmers to test the utility of thorough draining the Directors of the St. John Agricultural Society have offered premiums to such as would undertake the experiment and report upon the results, and a drain-tile machine has been imported and set up with a view to supply the necessary material. It must be remembered, that in England tile draining is done at less than half the cost of stone draining, even when stone is on the land, and is more effective. The former costs, in England, from £3 to £6 per acre with drains 3 to 5 feet deep, and 20 to 40 feet apart: the latter from £10 to £30.

It is also well to know that the highest authorities in Great Britian in the opinion that the growth of Crops in that country is more re-

tarded by the pestilential influences of rain water and melted snow remaining within a retentive sub-soil, then from surface water or even spring water itsself. There is at present no room for argument as to the value and utility of thorough draining in the abstract, but there may and will exist differences of opinion as to its being applicable in an economical point of view, to this or the other farm, or this or the other district. The fundamental difference—and it is a most important one—between England and New Brunswick is, that in the former Land is dear, and Labour cheap, while with us Land is cheap and Labour high. The indiscriminate adoption of many English practices in Agriculture here may prove both ruinous and absurd; and we are not necessarily fools because we cannot always see at once how thorough draining and high farming *will pay.*

It might be well however to consider whether we ought not to have a *Drainage Act* as well as in England and other countries. We have tried Bounties on growing wheat on New Land with but little good effect; a *Drainage Act* would operate as a bounty on the renovation of Old Land, and the adoption of an improved system of Husbandry.

We shall now suppose that the farmer has decided to drain certain fields as well as he can, and that he has determined upon the material which is to form the conduit, supposing that he is to adopt the approved system of covered drains.

In a general way, the field which is lowest should be first selected, the autumn is the best season for commencing operations, and grass land about to be broken up for Oats is the best for working upon.

Having determined before hand, whether it is the surface water or that of the sub-soil, or that of springs in the field or any two or more of these which he is to attack, he will now mark out or set off the line or lines along which the drains shall run, and perhaps make sure of the sub-soil thorough which they are to pass: the drain must then be dug and formed and levelled: and lastly the channel thus made must be properly filled up again.

Surface draining:—This phrase has been applied by some writers to Smith's system of *Thorough draining* under the supposition that the latter process served mainly to remove the rain water which falls over the surface to be drained, which, no doubt, is often the case, but at present, we merely refer to open channels made so as to favor the flow of water along the surface of the field.

Arrangements calculated to facilitate this object are in general use: the ridging or drilling of land by the plough, when the ridges or drills are made down the slope—as they ought to be—serves this end: by *gathering* again with the plough, and by deepening and rounding the

water furrows, and making side cuts towards low or wet spots by means of the plough and spade, this is still more effectually done. These water furrows, of course, all end in a ditch. The breadth of the ridges should vary with the nature of the soil, so as to have more frequent water furrows in clay soils than in light soils. Fifteen or eighteen feet is a medium breadth: in some districts however they are made of the breadth of five or six feet only, while in others they extend to a width of 24 or even 36 feet.

Sheep Pastures are sometimes drained by furrows made with the plough along the most favorable slopes, and directed towards a common drain or open ditch, by means of which the water is conveyed out of the field.

Open ditches may vary from two to six feet in deep, and three to four feet in width; and their sides should slope at an angle of 45 degrees. These ditches both large and small ought to be very frequently looked over and scoured so as to secure their efficiency.

Deep or *Under Draining:* In looking at the sloping surface of any tract of ground in which there is an oozing or bursting out of water, we may generally distinguish the line where the springs burst by the pressure of the water itself, or by the plants which naturally occur over it: and we ought to fix the line for our head-drain at or above the line which connects the greatest number of wet places: it may also be necessary in some cases to draw the water from each side towards the centre, from which point again it is to proceed straight down toward the outlet. The object should always be to cut off the water by as few channels as possible, and this can only be done effectually by digging the ditch deep enough to reach the impervious floor on which the water naturally rests: from this level it is then to be taken downwards as rapidly as possible. It is always well to remember that "*one drain well laid to suit the circumstances will often save a dozen by rule.*"

Peaty or boggy lands are generally dried by a drain which surrounds their margin and cuts off all the springs as they enter the hollow, or by a large main drain and branches aided by deep furrows and high ridges: in such cases however some extra labor may be required so as to secure a proper outfall.

In under draining for springs it is always well to know the nature of the sub-soil by one or two experimental cuttings or pits, or borings in the line of the proposed drain. It is likewise advisable that the drain should if possible always *head* the spring, and that its floor should be impervious to water: in fact, the depth of the impervious stratum will in general determine the depth of the drain itself.

The question of using a plough or a spade in ditching or trenching is in general determined by the state of the ground itself: if the sub-soil be full of roots and stones, it is better to use the spade, but if it be free from these obstructions a plough will do the work quickest. Trenching with the spade may go on at any time during the open season, or at any leisure moment when no other work is going on out of doors. Clay land will cut best when it is a little wet, and so in fact will most soils. When a deep drain is filled with stones and covered in, it will be less liable to injury from frost than open drains, whose sides are very apt to crumble and choke up the water course. They may also be made much narrower than open drains, and it is better to make the open area of such drains narrow and deep, as smaller bottoms and covers will suit, and the current of water being more confined, mud and sand will be less apt to settle on the bottom.

The implements required in addition to the plough are a common spade and shovel, a long or very long and narrow spade, a pickaxe or a footpick, a crowbar, a garden line, a level and a gauge, or measuring rod with one or two cross arms.

The general course may be set off by a furrow, or by pins set into the ground, or by raising a bit of turf here and there with the spade, and its width, say 30 inches, set off by a rule and garden line.

The simple and more usual practice is to sink the drain about 3 or 4 feet; the most perfect method is to cut down 5 or 6 feet, or until the natural floor is reached.

The value of the land, and the means of the farmer will however, generally determine the question.

In a medium soil a furrow of, say, 30 inches wide, and, say, 12 inches deep may be made between the ridges and the ground then trenched with the spade. This trench should be as narrow as the men can conveniently work in. Even if the flow of water is to be considerable it need not exceed 18 inches in width at the bottom and that when the excavation is 6 feet deep. In the case of drains of considerable depth, a pipe or conduit of about 6 inches wide is made with dry flat stones for the bottom, top and sides; on these ordinary stones are to be put, keeping the larger ones underneath and the smaller ones above to a depth of about eighteen inches from the surface: the inverted sod is laid over the levelled surface of the stones, and the earth filled in as quickly as possible, leaving it slightly elevated at the surface to allow for settling.

When the attempt is not made to reach the deep seated water as above, but rather to catch the water near the surface as it stagnates or slowly filters through a close sub-soil, a furrow may be formed

with the plough as above, and then a trench cut with a narrow spade, which shall be 20 to 30 inches deep, 8 inches wide at the top and 6 inches wide at the bottom. Next, lay two large flag-stones in the bottom of the trench so that their sides shall be supported by the soil and their edges meet along the bottom: then introduce a large stone which shall wedge them steadily against the land and leave a conduit underneath; the rest of the trench may be filled up again with small stones or gravel and covered over with the inverted sod and soil.

The general rule in all cases is to dig from the lower end of the field upwards—to prove the levels—and to fill in from the upper end.

When flat stones cannot be had in quantity for the purpose, two round stones may be laid in the bottom and a flat one or another round one laid on top of them.

The above system of cutting off water along the side of the declivity just where the springs burst out, is a most important one, and in very many cases prevents the necessity of any other kind of drain.

Sub-soil or *Thorough Draining*:—We shall now make some observations upon sub-soil draining, or the removal of stagnant and concealed rain water from the soil and sub-soil by numerous and narrow parallel covered drains in each furrow or in each second furrow communicating with a lower drain which discharges the waters of the field.

The first thing is to determine the line of the main drain into which the branch drains are to enter; the course of that drain is always along the lowest side of the field wherever that may be: If there should be two or three different slopes in the field there will be required a corresponding number of main drains communicating finally with the grand outlet. If the field is very flat this main drain must be dug a few inches lower than the branch drains. Wherever the course of the main drain will allow of it, these branch drains should follow the inclination of the ground up and down and not obliquely across its surface. If the main drain runs up and down a hollow field the branch drain must then run obliquely and join the former at an acute angle; but as a general rule drains are most efficient when they run directly down the fall of the field and not across.

The depth of the branch drains depends upon the nature of the soil, and the quantity of water which lodges. In a medium or loamy soil a depth of about four feet, and intervals of about thirty-six feet are recommended; the regular distances secure uniformity of dryness. It is almost as bad to have one part of a field wet as the whole. When this kind of draining is undertaken at all, it ought to be done effectually, and it is considered to be better economy in England to

drain one half of a farm thoroughly, than to have the whole of it half drained only. Deep drains will always draw most water, and they are the best secured from injnry by frost; they are the most effectual and most durable.

In large undertakings, says Thaer, it is customary to make use of a plough for the purpose of commencing the opening of a drain. Two furrow slices are thrown off by this implement, the one to the right and the other to the left, while a strip of earth about fifteen inches wide is left between the furrows.

This strip is subsequently divided with a strong plough having a double mould board. The first time the instrument passes through the soil, it is made to penetrate to the depth of about a foot, and the second time it is arranged so as to turn up the soil to at least six or eight inches lower down: the earth is immediately removed from the sides, lest it should fall back again into the ditch during the operation: the excavation is then continued with manual implements, and it is almost always better to work up hill,than in a contrary directton. A common spade is first made use of which is a little narrower at the bottom than it is at the top, and subsequently another is had recourse to, the upper part of which is scarcely so wide as the lower part of the former, and its extremity not more than three inches wide. By digging successively with these two implements, and exercising a little care and skill, the drain will speedily become properly shaped: the walls must then be united, and all the loose earth which has fallen to the bottom removed thence with a enrved shovel.

Such narrow openings are intended for tile or tube drains, but when stones are to be used for filling, Stephens recommends that the bottom of the main drain should be twenty-four inches wide at the top, and 9 inches or the width of a spade. The places where the side drains are to enter should be marked off, and their outlets cut to the proper depth.

The main drain is then to be filled and covered, and the side drains cut from below upwards: a small drain should likewise connect the tops of the others at the upper side of the field.

Each of the drains should be cut throughout and gauged and levelled before filling in. If stones are to be used the bottom of the branch drains should be seven inches in width: the main drains ought to be made with a pipe, and the side drains with stones alone. Mr. Smith says that a drain ten inches wide and eighteen inches deep will void the rain water from 100 acres.

The best form of a stone pipe is that of a triangle; if its base be downwards, the water will be less likely to run through, and if the

apex of the triangle be turned downwards, the drain will clear itself better, though the water may escape downwards to a certain extent.

The fall required is not very great; 1 in 300 or less will suffice.

The sides of the pipe are to be made with flat stones, and then supported with roundish pieces about the size of an egg, or not larger than three inches in any one direction: these stones are to be filled in evenly to a depth of—say eighteen inches from the bottom of the drain. The upper layer may be of clean gravel from a brook or sea beach. The stones ought to be beaten or rammed down hard and their surface levelled, after which nothing more is required than to fill in the earth and finish off as usual.

In all kinds of covered drains it is of the utmost consequence that the ends should be looked over from time to time, and accumulations of mud and sludge removed. *This ought never to be forgotten.*

We may here introduce the directions for thorough draining given by the St. John County Agricultural Society, and printed in the Appendix of their Report for 1850.—

"Directions.—The drains may be opened to the depth of twelve to eighteen inches with the plough, then sloped down to six inches wide at the bottom. As there are no draining tools here, a shovel should be ground to a point of five inches for the last shovelling. After the drain is thoroughly level and clean, in the absence of tiles, broken stones should be laid carefully in by hand, to the depth of fourteen inches, and inverted sod laid on the top, and the clay or soil closely packed down. The filling in and levelling should be done with the plough. The main drain should be twelve inches wide at the bottom, and have a pipe formed, with eighteen inches of broken stones on top. Cedar or fir branches may be laid on top of the stones in the main drain.—The cost of opening and closing drains in Britain is about 7d per rod; in this County, drains have been opened at 6d. per rod.—The first ploughing may be done with a common and subsoil plough, with two common ploughs following one another, or the ground may be trenched."

Drain Tiles in many places are cheaper and more convenient than stones for the filling of drains: *Well made* stone drains are as good as tile drains, but the latter allow of a narrower trench. They consist of pipes of burnt clay of one to two inches diameter, and twelve to fifteen inches in length. They are simply laid down end for end with collars to connect them, and when the trench is filled afterwards, the water passes off by the joints or by the porous sides of the tube as steadily and effectually as it does through the loose stone drains:

It looks rather mysterious that such should be the case, but still *such is the fact*, and it can no longer be gainsayed. Their adoption with us, as already said, will be determined by their price delivered in the field, the value of the field itself, the anticipated increase of produce —the length of the Farmers purse—the price of labour, and the facilities for getting the right sort of stones instead of tiles. Each piece should be carefully joined to its neighbour and supported in its place by properly packing the soil around it again.

The subjoined table will assist in determining the cost of drain tiles in any particular locality.

	12 in.	13 in.	14 in.	15 in.	
Drains at 15 feet apart require	2904	2681	2489	2323	per acre.
" 18 "	2420	2234	2074	1936	"
" 24 "	1815	1675	1556	1452	"
" 30 "	1452	1340	1245	1162	"
" 36 "	1210	1117	1037	968	"

We also give, for the sake of comparison, a few figures of the sums paid recently in England for drainage at different depths and intervals upon strong clay land.

Depth in feet	Labor per pole	Interval in yards	Workmanship per acre.	Pipes per acre.	Cost per acre.
5	4½d.	11⅔	£1 8 4	£0 17 3	£2 5 7
4	4	11⅔	1 5 0	0 17 3	2 2 3
3½	3½	11⅔	1 2 0	0 17 3	1 19 3
3½	3½	15	0 17 0	0 15 0	1 12 0

Something however must be added to each sum for the main drain, for collars and apparently also for the carriage of the materials to the ground.*

Wooden Drains.—When pipe tiles can be laid upon the ground at a cheap rate they are the best for sub-soil draining purposes. When stones *of the right size* abound in or near the fields which it is desired to drain, they ought to be used for the purpose, but there are circumstances perhaps where the price of the tiles, or the trouble or breaking and hauling a sufficient quantity of small sized stones may be so great that wood in some form may be considered more available. If wood was more durable, it undoubtedly would be the best material for drains in this country.

Hacmatac, Hemlock, Cedar, Pine, or even Spruce wood possesses durability sufficient to entitle them to be tried as a material for drains. The decay of wood goes on fastest at the surface of the ground where any moisture act upon it, and cause it soon to moulder and decay. The decay which is always going on among the vegetable matters

* Ph. Pusey, M. P., in Journ. of R. Ag. Society of England No. XXVI. p. 403.

of the soil communicates itself to the wood, and causes its more rapid decomposition likewise, but in the sub-soil where there is hardly any organic matter and little or no air, wood will last a very long item.

The best form in which wood can be applied is undoubtedly that of tube or pipe made with inch boards, and perforated with one-half or three-quarter inch auger holes to admit the water more freely.

For under-draining, the water way would require to be of considerable size, but for sub-soil draining a water way of two inches would be quite sufficient—that of the main drain being four inches.

It would also be well that the pieces of the pipe or conduit should be nailed or pinned together, though they might do without it where economy was the chief consideration; notching or sawing the upper edge of the side pieces would be done quicker than boring holes with an auger, and would probably serve the same purpose.

In the fourteenth volume of the Prize Essays of the Highland and Agricultural Society of Scotland it is stated that Larch tube drains presenting a square of four inches outside, and a clear waterway of two inches have been found to be a good material for thorough draining especially in mossy soils, but tiles in most places can now be had cheaper than wood: in fact, tiles of one inch bore and a foot in length are to be had for ten or fifteen shillings a thousand.

A well made tube of Hacmatac or Hemlock would cost but little here, and if the stuff was sawed out of the required dimensions at a mill, any farmer could put them together and lay them down. Inch or inch and a quarter board three or four inches wide, like fencing stuff, would do very well.

A complete tube nailed together is the *best*, no doubt—but the cheapest form of it is where—there is no bottom—the sides being nearly supported by pegs driven into the clay and the top laid on without being nailed down. If thorough draining is to be undertaken it is however better economy to use the complete tube.

In the Albany Cultivator for May 1850, there is an account of draining done with wooden pipes. In that case Hemlock scantling two inches by four, and set on its narrowest edge was used for the sides, and boards for the top and bottom taking care to break joints with the boards and scantling so as to give greater stiffness and security. The scantling for the widest drains was placed six to eight inches apart, and for narrower three or four.

To thorough drain an acre of land with Spruce tubes at—say—forty feet apart would require fully one thousand feet of tube. This might be worth about—say—20s. or 30s. at the mill, exclusive of the

nails and labour—we will suppose that no great outlay of money is required for these.

A cheaper but less efficient kind of wooden tube for underdraining springy land may be made with cedar rails, or poles of Hemlock, Hacmatac, Pine or Fir. There should be twelve or eighteen feet long, and six to ten inches in thickness. These are to be laid one on each side of the drain, and another as a cover-packing in all around with small stones, bog stuff or brushwood to within sixteen or eighteen inches of the surface, then laying the inverted sod over this, treading firmly down and filling up with soil as usual. Brushwood or straw drains are not to be recommended.

By way of encouragement to farmers who are thinking of adopting some of the foregoing methods of improving their land, we shall recapitulate the results of drainage on the crops.

"On drained land," says Mr. Stephens, "the straw of wheat crops shoots up steadily from a vigorous braird, strong, long, and at the same time so stiff as not to be easily lodged with wind or rain. The grain is plump, large, bright coloured and thin skinned. The crop ripens uniformly, is bulky and prolific, more quickly won for harvest, more easily threshed, winnowed and cleaned, and produces fewer small and light grains. The straw also make better fodder for live stock. Clover grows rank, long, and juicy, and the flowers large and of a bright colour. The Hay wans easily and is heavy for its bulk. Pasture grass stools out in every direction, covering the ground with a thick sward, and produces fat and milk of the finest quality. Turnips become large, plump as if fully grown, juicy, and with a smooth and oily skin. Potatoes push out long and strong stems, with enlarged tubers, having skins easily peeled off, and their substance mealy when boiled. Live stock of every description thrive, show good temper, are easily fattened and of fine quality. Land is less occupied with weeds, the increased luxuriance of all the crops checking their growth. Summer fallow is more easily cleaned, and much less work is required to put the land in proper order for the manure and seed; and all sorts of manures incorporate more quickly and thoroughly with the soil."

Respectfully submitted by

J. ROBB, M. D.,
R. JARDINE.

Fredericton, April 12th, 1851.

REPORT ON BARNS.

When your committee take into account the multifarious purposes to which the Barns of this country are applied—that they are the Barn proper, the stable, the Cow-house, the Sheep-shed, the poultry house, and not unfrequently the Pig-stye, they scarcely think it possible to construct a single building so as to answer all these purposes in a satisfactory manner, and they think a division of these might be introduced with considerable benefit.

The Barns we have seen in the country are constructed pretty much alike—a wooden framework covered over with single boards, put on closely at first perhaps, but from exposure to the weather shrinking so as to leave large crevices at every joint—open to every blast, and rendering the inside of the house rather the coldest side of the two.

Hence, we presume, arises the practice (in other respects so objectionable) of keeping the cattle out of doors for the whole length of the day in winter, as, by moving about they can keep themselves more comfortable than when tied up in a cold barn. Exercise in the open air is necessary to the health of animals, especially young ones, and a run of an hour or so each day in the yard or fields when the weather is moderate would be beneficial, but we most decidedly object to the common practice of keeping cattle standing out in the snow for the whole length of the day and in all sorts of weather.

As hay and straw are rather benefited by a free circulation of air around them, this in their case is no objection, but it is very different with the cattle and horses; they require warmth, their bodies must be kept at a temperature much above that of the atmosphere in winter, and if this is not done by comfortable housing, it must be done by an extra supply of food. Prof. Johnston in his report on the Agricultural capabilities of the Province, speaking on this subject says:—"It is acknowledged at present by chemical physiologists that warmth is equivalent to a certain portion of food—that an animal which is exposed to more cold will eat more—and that one that is better housed and warmer kept will eat less; to keep an animal comfortable therefore is to save food, and this alone ought to be a sufficient inducement when a scarcity of winter food is complained of."

Your committee do not approve of the usnal way of keeping cattle &c., in one end of the Barn and under the hay mow, the breath of

the animals together with the ammonia and other noxious gases exhaled from the dung and urine rising up among the hay cannot fail to have an injurious effect, and though hunger may compel the cattle to eat it they do not do it with the same relish, nor does it give the same benefit as clean sweet hay.

Connected with Barn economy is the proper management of manures,—and here your committee think the practice of the New-Brunswick farmers particularly objectionable. The dung is thrown from some convenient hole cut in the boarding of the Barn, that from the cattle in one place and that from the horses in another, it is thus frozen in detail, and about as intimately mixed with snow as barrelled herrings are mixed with salt; of course fermentation is out of the question, and when the rain of spring washes out the snow, it carries along with it every particle of soluble matter, leaving a mass of woody fibre as little suited to the food or growth of plants as a corresponding quantity of saw-dust; fermentation and decomposition must take place before it can be available as a manure, and by the time this is effected it is too late in the season to apply it to a crop, and by another season perhaps one half of its virtues are dissipated.

We do not know that we have exhausted all the objections that might be made to the present system of Barn management, but we have noticed what we consider the most prominent ones. It is easier however to point out an evil than to suggest a remedy, and if your committee fail in this respect it is only a common case and they will have the consolation of having done the best they could.

They consider the barns of the country well enough adapted for holding hay or grain on the straw, (although they think the latter would be better kept in stacks) but they would confine their uses to those purposes. They think the houses for the live stock should be distinct, though for the convenience of feeding they should be as near the Barn as possible. A shed raised against the end or side of the Barn with a door of communication between them makes a very good Cow-house or stable; it should have a head or feeding passage in front, and a groove in the rear of the animals for the dung and urine, the floor should be laid quite close so as to prevent the escape of the urine and the access of cold air, and the walls should be shingled or double-boarded, ventilators for the escape of the heated air will be necessary, one for every ten feet or so of the length of the building; they should open directly over the heads of the cattle and run out where the roof of the shed joins the end of the barn.

Where the situation is favourable, a vault or cellar under the stable or Cow-house is perhaps the most convenient place for keeping the

manure; it should be provided with an opening to allow the gases evolved by the fermenting mass to escape into the open air, or what is still better, a little gypsum or dry bog-earth thrown on the heap from time to time will fix and retain the ammonia; without some such precaution as this, the gases would find their way through the floor of the stable and injure the eyes and lungs of the cattle.

On level ground where a cellar would be inconvenient, any kind of shed that will keep out the rain and snow will answer well enough; with a little painstaking however, manure can be kept very fairly in the open air—at least during winter. If it is put up in a compact form kept smooth on the surface and the snow carefully shovelled off before a new layer is added it will undergo all the fermentation that is necessary to prepare it for the land, and it will settle down to a solid mass almost impervious to rain, and consequently lose little from washing or leaching in the spring.

Whether manure is kept in sheds, in cellars, or out of doors, it is of great importance that the different kinds should be thoroughly mixed; horse manure kept by itself will ferment so strongly as to render it comparatively useless in a short time, while that of cattle will scarcely ferment at all at the temperature of our winters; by mixing them together as they are made, the proper degree of fermentation will be excited.

In England and Scotland where the cattle get a large allowance of succulent food, a liquid manure tank is an indispensable adjunct of a farm steading—here where the cattle are fed for the most part or wholly on hay, the urine will seldom be in excess—that is, it will be readily absorbed by the solid portion of the manure; where the cellar or dungstead has a porous or gravelly bottom, however it will be proper to lay it with clay, so as to rectain any liquid matter that may escape from the heap.

Respectfully submitted,

ROBERT GRAY.
WM. DAYTON.

April 2, 1851.

REPORT OF COMMITTEE ON THE CULTURE AND MANAGEMENT OF FLAX.

Many years ago the culture and weaving of flax for family use was general among farmers in New Brunswick: of late, however, the introduction of cheap cottons, and the want of economical habits among the Agricultural portion of the community have caused that culture, in great part, to disappear. It still prevails, notwithstanding, in some districts to a small extent, and more particularly among the French in Westmoreland County: French linen is almost always to be had for sale there, and forty or fifty barrels of seed are annually collected by the country dealers and exported to Boston, where it brings a fair return.

There are many situations in this country where perhaps it is hardly worth while to grow flax, but in the settlements remote from towns, we consider it desirable that flax should be grown on almost every farm. Summer clothing, shirting, bed and table linen, towelling, ticking and bagging may all be made from it: and such articles of home manufacture are almost invariably far better in quality than those for which cash is paid in shops: besides, no substance that can be used is better for the fattening of Stock than the seed of flax, and the very best effects attend the use of a small proportion of it made into meal or jelly, and given with their daily food.

We are aware that a good deal of care and trouble are required for the management of a crop of flax: but carefulness and industry ought to be the characteristics of farmers above all men: it is chiefly the want of these very qualities which hinders the prosperity of this fine country, and renders it dependant upon others for food and clothing.

It will probably be of little avail to urge the farmer *at present* to give greater attention to his farm: the *log-crop* is his favourite one for the moment, although it is easy to foresee that this same crop will, as heretofore, prove the ruin of many.

The seed which we are now sowing will fall on soil of different qualities: in some cases it will perish at once, and in some it will soon be choked by weeds—but in others again, it will produce an abundant return: we must bide our time: no temporary rise of price or excitement in the lumber market will allow us ever again to overlook the fact that *the permanent health and prosperity of this country must be based upon its Agriculture and Home Manufactures.*

The want of Flax Mills in this Province, it may be said, tends to retard the more general culture of the flax crop, but mills cannot be profitably undertaken unless the supply for them be in sufficient quantity and of proper quality. There ought to be at least one Flax Mill in every County to which the farmer should bring the flax straw as soon as it is dried, and where the retting, breaking, scutching and heckling might be done on the most approved principles—but alas! we fear there is not one in the country: true, a *bonus* was granted last Session of Assembly in one case, but we understand that it has not since been applied for: the farmers should agree among themselves each to raise so much, or else the mill will prove a bad investment for the proprietor: mean while, hand labour, the spinning wheel and the loom may suffice, as they do in many parts of New England where they contribute, not a little, to that feeling of independence of which the New England Farmers boast so freely. If flax were more generally cultivated, we would not hear of our girls—"the fair daughters of New Brunswick"—being exported or transported to other countries in order that their labour may be employed to enrich strangers. Flax is precisely that crop which all ought to cultivate, seeing that it of all others, affords the material for a Home Manufacture, in which every member of the family may be engaged—and encourages the most laudable virtues of domestic industry and economy.

Impressed with these views, we have prepared an account of the details of the flax culture and management, with a view to their being generally disseminated throughout the country. There are many, of course, who are already well acquainted with the subject, but we write not for them;—we write for those who are honestly desirous of living on the produce of their farms, and yet have not access to all the information which they consider necessary; we believe that there are many such in the Province, and that by them the subjoined hints on the subject of flax culture will be thankfully received.

Soil.—Flax may be grown on a great variety of soils: any soil that is fit for the cultivation of wheat, or turnips, or other green crops will do for it: light loams, or, in fact, medium land that is *tolerably deep and dry* will answer perfectly well: on very rich or wet intervale land it is apt to lodge or become mildewed; on too light or rocky soils it is injured by drought: and very stiff soils are unsuitable altogether. The soil shonld be clean, mellow and in good heart.

Flax comes in best as a first crop after breaking up old grass or clover lea instead of oats, or if the land be poor, it may be manured on the sward so as to give a crop of oats, barley, or rye, and then a

crop of flax in the following year; It is also well introduced after a hoed crop, which has left the land both rich and clean: common manure should not be applied immediately preceding the crop. It is to be considered as a corn crop, and not a green crop in the rotation.

The preparation of land for flax is fully more important than the quality of the land itself: it should in every case be well ploughed and thoroughly harrowed so as to extirpate all weeds and couch grass: the field should be made up into narrow (say—6 feet) ridges and deeply water-furrowed after sowing.

Plaster, or lime, salt, wood or peat ashes, bone or rape dust, singly or in combination, are the best dressing for flax land at the time of sowing.

Guano or liquid manue of any kind, if it can be had, may be advantageously applied as a top dressing to the young plants.

Flax has been called an exhaustive crop, but it need not be so, and in fact is not more so than any grain crop: it leaves the land in good enough order either for grain or potatoes.

It is cultivated for its seed and for its fibre: now its seed may and ought to be returned under the form of manure from the animals fed upon it, and its fibre can be shown to be derived from materials absorbed from the atmosphere and not from the soil, so that the abstraction of the fibre is after all no loss *to the land*: in the stem it is true there were, besides the fibre, about two per cent of mineral matters derived from the soil; these are often regarded as so much lost, but they will be found in the water in which the plant has been rotted, and, if the steep water and the powdery refuse of the brakes and scutchers be added to the farmer's compost heap, almost every particle taken from the soil by the growing crop will be returned again: and thus by good management, the flax crop may be made less exhaustive to the land than almost any other crop whatever—more particularly if pulled before the seeds are formed. These remarks will be rendered more evident by referring to the following *data*:—A crop of fine flax, consisting of 40 cwt. of stalks, 20 bushels of seed, and 9 cwt of the seed-cases and leaves contains about 244 lbs. of mineral matters: of these there is found

In the seed,			33 lbs.
"	bolls or seed-capsules,		64
"	Straw 147 lbs., of which in the	Steepwater,	117
		Wood,	21
		Fibre and Tow,	9—244

Of this quantity 118 lbs. is actually returned to the soil in the seed, the husks and the wood: another quantity of 117 lbs. *may be* res-

tored in the steep water, and only 9 lbs. is necessarily lost to the farm (per acre) in the fibre.

Sir R. O'Donnell who is one of the largest cultivators of flax in Ireland states as the result of many years experience that when grown in its regular rotation, flax is so far from being exhaustive, that it tends greatly to improve the soil and the character of the other crops in the rotation. It is above all most valuable for laying down land after wheat or oats, as the process of pulling the flax by loosening the earth around the roots improves greatly the quality of the grass crop. In some parts of England also it has become a proverb, that good wheat crops always follow flax.

Seed :—Owing to the great destruction of the seed of this plant in the process of water rotting in Ireland, a fresh supply of it has to be annually imported : very often too the plant is pulled before the seed is quite ripe, so that the expense of growing flax is thus rendered greater than necessary : Every farmer in this community however, might save seed enough for his own uses, all that it necessay being to let the plant ripen and dry properly, after which the seed can easily be separated by a flail or by a rippling-comp : in Ireland the prejudices of the farmers have hitherto prevented them from saving their flax seed in quantity at all commensurate with the demand, but in Russia and Belgium the seed is always saved and produces a very considerable annual revenue to the country.

When the principal object is the saving of the seed the plant can be sown in drills with advantage at the rate of 1½ to 2½ bushels per acre : When it is sown for the fibre 3 bushels are recommended : when both are desired 2 bushels are the right proportion : It is generally sown broadcast.

When the plant is sown thick a finer and longer fibre is produced, when it is sown thin, again, it gives off many suckers, each bearing a boll well loaded with seed.

The seed should be of a bright brownish cast, oily to the touch and should sink readily in water : the heaviest is the best : it is of importance that flax seed should be as clean as possible.

As the seeds are small, they should be covered with a very little mould (½ inch) using a rake or very light harrow, or a brush harrow and roller. The sooner the seed can be got in so as to save the young plant from frost the better it will be. It is not particularly tender.

Weeding :—This should be done when the young plants are three or four inches high. It is generally performed by women and children, but as they have to kneel or sit on the plant, the operation should be performed with the face towards the wind, so that it may help to

raise the plant afterwards. It is of great importance that the operation of weeding flax grounds should be faithfully performed; it only requires to be done once. During the subsequent growth of the plant it may be necessary to sustain the plant by small ropes or light poles supported at proper intervals.

Pulling:—The proper time for pulling flax *for the white*, that is, when it is not intended for seed is when about two thirds of the stalk is observed to turn yellow—the seed bolls to be fully formed—*the seed itself of a dark green colour and firm* and the leaves beginning to fall. It ought never to be pulled except when perfectly dry.

It should be caught close below the bolls, and pulled up by the roots by small handfuls at a time—the longer stalks being kept apart from the short ones: they may afterwards be tied up in small sheaves, say about eight inches in diameter, rather loosely bound at the seed end and stooked, placing the top of the stalk upon the ground and the root upwards.

If required for seed, it should be allowed to stand until the bolls have acquired a brown colour and become firm, by which time most of the leaves will have fallen.

Flax which is pulled too early never acquires its proper strength while that which has become over ripe has always much more of the coarser fibre (tow) than is desirable

In Belgium it is usual to thrash out the seed before stacking the flax and to steep the stalks in spring. In this country the practice would seem to be to dew rot the flax at once in the field, then to remove it to the barn, and reserve the dressing and spinning till the March following.

Rippling.—The bundles are taken to a shed where the seeds and leaves are removed by drawing the stalks through an iron comb or rake with from 6 to 10 long triangular teeth fixed in a plank so that their bases nearly touch each other, and having a cloth spread underneath to catch the bolls or seed vessels as they fall. A flail or beetle may serve the same purpose for common qualities, while, with flax for fine cambrics, the bolls must either be beaten off with a mallet or cut off with a knife. In beating it is necessary to untie the sheaves. The seed pods, each of which contains 10 seeds, are next put away to dry and winnowed at leisure. In rippling, and in all the processes of flax management, care must be taken not to bruise or injure the dry stalks.

Flax may be rippled in the field immediately after pulling and steeped or rotted at once: after the rippling process the sheaves are therefore to be again made up in assorted lengths. The Irish pea-

santry imagined that the removal of the seed before steeping injured the quality of the lint, but this is absurd, and it ought never to be neglected.

The seeds which come out most readily from the bolls are the best for sowing again: that which is less ripe is pressed for the oil, and the worst is fed off ot once at the cattle. The refuse of the crushed seeds (*oil cake*) is also admirably suited for fattening stock of all kinds, and helps greatly to *eke* out the stock of hay.

Retting:—Up to this point all agree in the treatment of the flax crop, but after this there are various ways of managing so as to get the fibre ready for market.

Lint is the pure woody fibre of the inner bark of the Flax plant, and our object now is to separate it from the *boon* or woody heart of the stem, and to cleanse it from the vegetable glue which binds all the parts of the plant together. This is rather a complex process, and upon its perfection does the value of the product chiefly depend.

It involves, first, a fermentation or *retting* of the stalks so as to decompose and dissolve out the gluey portion, and, second, a mechanical separation of the fibre from the woody pith. The old way was to spread out the flax stems evenly and thinly upon clean sward immediately after pulling and to leave them them for some weeks exposed to the influence of rain, dew and air; this was called *Dew retting* or rotting. The process was stopt when the stems on being rubbed showed that the *boon* and the bark or *harl* could be readily pulled part. By this method the stems are often discoloured by the weeds underneath and it is not so much practised as formerly. One advantage attending it is, that it acts as a top dressing for the grass. *Pit-retting*, or rotting in pits is similar to the process used in the preparation of hemp: it consists in building up the sheaves in a somewhat sloping fashion, evenly but loosely, in pits or pools sunk in the ground,—about 8 feet wide by 3 feet deep—covering them with clean boards or straw or rushes, and keeping them under water by means of stones or weights laid over all. The steep water should be used as top dressing or added to the compost heaps. This process has its disadvantages also: the nature of the soil and of the water more or less discolours the fibre so that a subsequent bleaching becomes necessary: clean and clear soft water is essentially necessary and it should be introduced a few days previously and added to from time to time so as to be kept full. The greatest care is necessary to determine the exact degree of the fermentation, as the time for this is greatly determined by the season of the year and the

state of the weather. Frequent examination of the stalks is necessary towards the end, for a day or two too many will affect the fibre of the harl itself, and too short a time of steeping or watering renders the separation of the wood extremely difficult and produces a large proportion of *tow* or refuse.

When fermentation has proceeded to a certain extent the surface of the water becomes covered with bubbles of gas; when these have disappeared, and the flax seems to have settled on the bottom, it may then be concluded that the operation of watering is nearly finished: the average period may be from a week to ten days. When some of the stems are broken and the *boon* readily slips from the *harl* it is time to remove the flax from the pond. This trial should be made every day after fermentation subsides.

As soon as the sheaves are lifted out they must be carefully laid on their edge to drip or drain, and then *grassed* or spread out in thin layers as before, to get washed and bleached: after ten or twelve days, and when they are quite dry and brittle they are again tied up in sheaves and stacked or put under cover. In some places they are not spread out, but merely loosened so as to admit the air thoroughly on all sides; after which they are stowed away for subsequent operations.

Stream retting:—In order to avoid the impurities incidental to ponds, the practice of steeping in gentle streams has been advantageously substituted for pit rotting: in this case the process is slower, but the flax is less discoloured: the difficulty is to get a proper current, neither, too strong nor too slight, and, of course, it is impossible by this method to save the steep water for top dressing or for the compost heap.

Probably *Mixed retting* is after all the best for us: in this case the plant is first steeped in water the same day or the day after it is pulled, and the retting is finished by exposure for two or three days on the grass: it should be as carefully lifted as it was laid down.

Schenck system:—The Irish Flax Society have lately reported very highly in favour of a system of steeping proposed by a M. Schenck, and against a method of preparing flax without steeping, which had been proposed by a Mr. Donlan. By Schenck's plan the steeping is effected by placing the sheaves in wooden boxes filled with water of the temperature of 70° or 80° F. So that the process is completed in eighty or ninety hours, and yields a finer quality and greater quantity of lint. The fixtures required for this process are somewhat expensive, and it would seem to require separate works for the purpose, to which the farmers in a certain district should bring their crop for

manufacture. It remains to be seen how far the process is applicable here, and whether it is advisable to connect a steeping apparatus with the Flax Mill.

Claussen process:—Another plan which has recently attracted considerable attention is that of a M. Claussen. This gentleman proposes to take the straw after rippling—to boil it first in a very weak lye of soda, and then in an equally weak acid water, by which means gases would be formed within the stalk of the plant at once, and thus in a few seconds, destroy the cohesion of the wood and the bark: another process of chemical cleansing and bleaching performed in an equally short space of time leaves the flax fibre ready for scutching, and furthermore fits it for spinning up with cotton, wool or silk into fabrics of great beauty and utility.

This is certainly a very desirable result as far as the inferior qualities of flax are concerned, but the value of the fine fibre by the old operation would always be greater than that of M. Claussen's *Flax-cotton*: while the new plan therefore does not effect the manufacture of fine linens or cambrics it would seem to open up a prospect of an enlarged demand for flax-fibre to replace a part of the cotton—enough of which can hardly now be had to supply the enormous demand for it—a demand reaching to about 1000 tons per day in England alone.

At present we are only disposed to recommend the growth of Flax for the sake of its use in the family and for the sake of its seeds for feeding stock: when the deficiency of bread stuffs is made up, it may be time enough to grow it on a larger scale for the use of the manufacturers—and when we have a market for this crop elsewhere than at home, there need be no doubt of our soil and climate being well adapted for its growth,—provided the farmer does his part in the matter.

Societies might very well offer prizes for the revival of the Flax culture in New Brunswick and for Reports on the actual management of the crop. In Holland, Belgium and in the North of Ireland the comfortable circumstances of the small farmer is said to be mainly, attributable to the culture of this invaluable clothing plant.

Breaking:—When flax is grown on a large scale the subsequent treatment of the fibre is effected by machinery, but under other circumstances it may proceed on the farmer's premises.

The first step is to break or bruise the stems by an instrument called a *break* or *brake*. It consists of four thin boards about 15 inches long and 3 inches broad, fixed horizontally on a frame at about 3 inches distance from each other, and three similar boards of the same dimensions are fixed in a frame with a handle which can

play in the interstices of the lower one by means of a joint at the end, like the blades of a pocket-knife in their handle.

The dried flax is taken in the left hand and laid across the lower blades, while the upper ones are forcibly pressed down upon it.—This breaks the stalks in four places, and by a repetition of the process the whole handful is soon sufficiently bruised.

Another way is to beat the flax for some time on a smooth stone by means of a *beetle* or hand-mallet, but in the large way the whole process is done better and more rapidly by the pressure of revolving rollers.

Scutching or Swingling:—By the last process the wood or boon is rendered so brittle as to be readily separated from the fibre by the process now to be described.

Scutching by hand is effected by taking a portion of the flax in the left hand and laying it into a notch cut horizontally into an upright board solidly fixed on a block or stand: the ends which hang down are then repeatedly struck obliquely by a very thin board, somewhat like a broad-axe in form, and furnished with a short handle: the handful is then turned end for end and the process repeated until the woody fibre or *boon* is scutched or separated from the *hark*. The short, coarse and torn fibres which separate with the boon are called *tow*, and is largely used in the manufacture of sacking, &c.

This is a simple but tedious operation and mills are to be considered desirable substitutes for the hand labour; they likewise produce a finer article.

Scutching is good winter work for the farmer here, and it is precisely because flax is capable of affording so much winter work for the farmer's family, that we consider it advisable to grow it much more than has hitherto been the case with us.

Heckling:—After the lint has been wholly freed from the boon it must next be sorted into lengths for spinning and conversion into *yarn*. This is effected in the process of *heckling*. In the great Mills of England the stalk is first cut or divided into three lengths of about 10 or 12 inches each: The root end is used for the coarser threads—the middle for fine—and the top length is used only for the finest qualities of thread.

The *heckle* is a square of metal pierced with a very great number of holes in which are inserted steel teeth extremely sharp, and placed so that the one behind stands in the space between the two in front of it. The *heckler* draws the flax repeatedly across the teeth first of a coarse heckle and then of a fine one until the filaments are finally cleaned, split, separated into their finest fibrils and

arranged in parallel order: and the short fibres which are unfit for spinning, together with any dust or dirt, are at the same time completely removed.

Formerly the operation of spinning of flax into yarn and the weaving of the yarn into cloth was the occupation of all thrifty housewives not only here but in the Mother Country: these operations however as well as the one last mentioned are now almost wholly effected by Machinery: This no doubt is best for England, but it would be well for us nevertheless, in this Province, that more attention than of late should be given by the husbandmen to the culture—and by their wise-hearted wives and daughters to the spinning and weaving of flax on their own farms—for their own use and wearing.

We shall conclude what we have to say on this subject by quoting some remarks of the late lamented Mr. Colman in his Report upon the Agriculture of Berkshire, Mass.—

"In looking over my returns "says he" I was struck with the remark of a man of much practical wisdom, and one of the best farmers in the Commonwealth: he says *that a farmer should produce upon his farm all those supplies which the farm can be made to yield.* In his case this done within doors and without: for there the spinning wheel has not forgotten to turn round, nor the shuttle to speed its flight. In this cottage whose neat and beautiful arrangements cannot be surpassed, the clothing, the bedding, and the carpeting were all the product of their own fields and flocks. I shall not soon forget the hearty and unpretending hospitality of these admirable dwellings? I have slept many a time under a silken canopy, and trodden many a carpet as soft as the pride of Eastern luxury could make it; but never with any thing like the sentiment of honest pride and independence with which I saw here, the floors spread with carpets made from their own flocks, which for fineness and beauty the foot of a princess need not disdain, and on a cold night slept on woolen sheets from their own looms as soft as the Shawls of Cashmere, and wiped my face with towels spun with their own hands from their own flax, of a whiteness as transparent and delicate as the driven snow. In such beautiful examples of domestic management, it is delightful to see with how limited means the best comforts and luxuries of life may be purchased. Nor were these instances few: the County of Berkshire abounds with examples of this domestic comfort and independence. Much to be regretted will be the change, which has already invaded many parts of the State, when under the pretence of superior cheapness these household fabrics shall give place to the more showy but flimsy products of foreign industry:

and the healthy exercise of domestic labor and household cares shall be deemed degrading in our wives and daughters: and exchanged for the idleness and frivolities of pride and luxury.

I agree entirely in the sentiment above expressed, that every farmer should as far as possible, supply the wants of his family from his own farm. He should supply himself with bread, meat, vegetables, milk, butter, cheese and clothing as far as his farm can be made to do it. He can always do it at a less expense than he can purchase these supplies. The labor requisite for this purpose may often be given at times when it would not be otherwise occupied: and by hands for which otherwise, there would be no employment. The sentiment of self respect and self dependence, inspired by such a course, is a great gain. The satisfaction of eating bread raised by one's own labor is not small; and various and important moral influences, which I shall not discuss, render it altogether desirable; though in some cases the same amount of labor consumed in their production, if applied in other ways, would purchase a larger amount of the same supplies. Though the supply of our great wants from our own farms might seem, however, in some cases to be a *pecuniary loss*, it is always in the end a *moral gain*, with which the pecuniary loss is not to be put in competition."

All which is respectfully submitted by

J. ROBB,
R. JARDINE.

Fredericton, April 2, 1851.

INTERIM REPORT ON A PROVINCIAL SHOW AND FAIR FOR 1852.

SAINT JOHN, April 4th, 1851.

To the Secretary of the Provincial Society.

DEAR SIR—As one of the Committee appointed to report on a plan for a Provincial Fair and Exhibition, I beg to submit for the consideration of the Committee the result of my cogitations on the subject.

I think that the Fair should be held annually,—but to commence in 1852,—or that at least one year's notice would require to be given.

The time should be Tuesday, Wednesday and Thursday of the third week in October.

The places should be—first year at Fredericton, for the River and western Counties—second year at Miramichi, for the northern Counties,—and third year at Dorchester for the eastern Counties, and so to continue, with such alteration of localities as experience might shew to be advantageous.

The amount expended in Premiums should be at least £250 for each Fair The towns or Societies of the District where the Fair is held should be called on and required to provide the necessary show-grounds and erections, with the exception of a large tent to be permanently provided for by the Society. The admission fee to the Show grounds, (1s. 3d.,) and the entrance fee paid by competitors, (5s.,) should go to the funds of the Society.

While the exhibitors might be expected to be chiefly from the district where the Fair was held, it would be open to competitors from the whole Province.

Competition should be invited in the following Departments, viz:

Agriculture, Manufactures, and products of Domestic industry.

AGRICULTURE—Horses for Agricultural purposes and for "all work."

Premiums to be offered for Stallions, for Mares foaled or in foal, and for two and three year old colts and fillies.

CATTLE.

Premiums to be offered for Bulls of any age, for Bulls calved after the 1st of January 1850, for cows of any age, and for heifers calved after 1st January 1850, to be pure bred of the following breeds—Durham, Hereford, Devon and Ayrshire. Premiums also

for native or cross-bred Cows of any age—but not for Bulls in this class, and premiums for working and fat oxen and cows—the breed or cross to be specified by the exhibitors and the mode of feeding described.

Premiums for Swine and for Sheep—exhibitors to specify the breed.

Premiums for grain and vegetables.

Premiums for cheese and butter.

Premiums for beef and pork in barrels, to have been raised by the Exhibitor if a farmer, or produced in the Province if exhibited by a packer or Merchant.

In Horticulture—Premiums for vegetables, flowers and seeds—fruits and also honey.

MANUFACTURES.

All articles to be exhibited by the Manufacturers,—and prices at which they are for sale to be affixed.

Premiums for the largest and best assortment of agricultural implements in wood, and the same in iron.

And separate premiums for Horse-powers, Fanners, Threshing-Mills, Cheese-Presses, Churns, Ploughs, Harrows, Cultivators, Dung-forks, Hay-forks, Hay-rakes, Scythe-sneaths.

Premiums for the best assortment of Pottery,—the best assortment of bricks.

Premiums for the best assortment of stoves,—the best assortment of edge tools.

Premiums for Soap and Candles, Hats and Caps, Woolen Cloth, Rope and Twines, Brooms and Pails, Matches, Harness, Carts, Waggons, Carriages and Sleighs, Cut Nails, Lasts, &c., &c., Cabinet Work.

DOMESTIC MANUFACTURES.

Premiums for Lace, for Rug Work, for Caps, Quilts, Blankets, Sheets, Linen, Woolen Yarn, woolen and mixed Cloth, Socks and and Mitts, for the neatest shirt, do. Trowsers.

FISHERIES.

Best Pickled Shad, Herring, Codfish, Pollock, Hake, Haddock, Salmon &c.,

Best Smoked Fish of any kind,

Best preserved Fish or Shell Fish of any kind.

As I have but little acquaintance with the latter branch, I leave the details to be filled up.

The above is an outline of what I conceive should be the leading features of a Provincial Fair.

I may here remark, in regard to the classifications of the premiums for cattle, that the above is now the plan adopted, not only in England and Scotland, but in the U. States and Canada. I have before me the transactions of the N. Y. State Agricultural Society for nine years. At first they allowed mixed and native breeds to compete, but finding that premiums given in this direction did no good and effected no permanent improvement, premiums as above specified have been given for the last seven years.

As the Premium List for the above Fair should be issued this present Summer, it will be necessary to apply to the Government or the Legislature, for a Grant or promise of a Grant for the purpose of defraying premiums and expenses. Unless the premiums are liberal, so as to stimulate and reward the industrious, the Fair will do little good, and would probably be a failure.

If otherwise, it might be the means of exciting such a spirit and effecting such an improvement as would repay the cost to the country ten times over.

I shall be ready to go into the details on my first visit to Fredericton.

I am, Your's truly

R. JARDINE.

Dr. Robb.

NOTE :—*A Bill was introduced in accordance with the above suggestion, and after having been read a second time was left over, in consequence of the hurry attending the close of the Session, until the next sitting of the Legislature.*

J. R.

CONTRIBUTIONS FOR 1850.

FREDERICTON.

	£	s	d
Allen, J. C.	0	5	0
Anderson, George		5	0
Babbitt, Sam.		5	0
Baillie, Hon. Thos.		5	0
Barberie, A. *M. P. P.*		5	0
Barker, Spafford		5	0
Beckwith, F. W.		5	0
Beek, Henry S.		5	0
Beek, J. S.		5	0
Black, Hon. W.		5	0
Bliss, T. Wetmore		5	0
Botsford, Hon. A. E.		10	0
Botsford, George		10	0
Botsford, W. H.		5	0
Brannen, Geo. F.		7	6
Brown, James *M. P. P.*		5	0
Carter, Hon. Judge		5	0
Chandler, Hon. E. B.		5	0
Chandler, E. B. Jr.		5	0
Chestnut, Robt.		5	0
Chipman, Chief Justice	2	0	0
Coburn, A. T.		5	0
Davidson, Jas.		5	0
Drury, C.		5	0
Earle, John *M. P. P.*		5	0
Earle, S. Z. *M. P. P.*		5	0
Fisher, H. Jr.		5	0
Foshay, W.		5	0
Fredericton, Lord Bishop of	1	0	0
Friend, A		5	0
Fulton, R.		5	0
Gaynor, Jos.		5	0
Gilbert, Thos. *M. P. P.*		5	0
Gregor, W.		5	0
Gregory, J.		5	0
Hansard, H. J.	1	0	0
Harding, J. G.		5	0
Harrison, Hon. C.	1	0	0
Hatheway, C. L.		5	0
Hatheway, G. L.		10	0
Hayne, R.		5	0
Hazen, Hon. R.	1	0	0
Head, His Excellency Sir E. W., Bart.	5	0	0
Hill, Hon. G. S.		5	0
Hill, Thomas		5	0
Hogg, James	£0	10	0
Jardine, R.	1	0	0
Johnson, J. J.		5	0
Johnston, Hugh		5	0
Kerr, D. S.	1	0	0
Ketchum, George		5	0
Ketchum, Rev. W. Q.		5	0
Kirlin, Patrick		5	0
Maclaggan, Alex.		5	0
MacCausland, A.		5	0
Macdonald, G.		5	0
Macpherson, C.		5	0
Morgan, W.		5	0
Odell, George *M. D.*		5	0
Odell, James		5	0
Odell, W. H.		10	0
Parker, hon. N. donation	2	10	0
subscription		10	0
Partelow, Hon. J. R.	1	0	0
Payne, William		5	0
Phair, A. S.		5	0
Phair, B. Jr.		5	0
Phillips, J. R.		10	0
Rankin, hon. A. *M.P.P.*	1	0	0
Richards, D.		5	0
Robb, J. *M. D.*	1	0	0
Roberts, George		5	0
Robinson, H. B.		5	0
Scovil, Samuel		5	0
Shore, Hon. George		5	0
Simmons, T. L.		5	0
Simpson, J.	1	0	0
Smith, J. W.		5	0
Smith, J. T.		5	0
Stewart & Neill		5	0
Street, Hon. Judge		5	0
Street, Hon. J. A. *M.P.P.*		10	0
Taylor, James *M. P. P.*		5	0
Thorn, H. J.		5	0
Tibbets, James		5	0
Troughton, George		5	0
Turner, Jos. S.		5	0
Vail, J. C.		5	0
Wark, David *M. P. P.*		5	0
Watts, William Senr.		5	0
Weldon, hon. J. W. *MPP*	1	0	0
Wilkinson, John	1	0	0
Wilmot, hon. L. A. *M.P.P.*		10	0

Wilmot, R. D. *M. P. P.*		5	0
Wolhaupter, Ben.		5	0
Woodward, I.		5	0
Total	£44	7	6

SAINT JOHN.

County Agr. Society,	£20	0	0

WESTMOREAND.

Keillor, Thomas	£0	5	0
Mills, A. T.		5	0
Palmer, Gideon		5	0
Robb, John		5	0
Sayar, M. G.		5	0
Theal, Charles		5	0
Turner, J. C.		5	0
Weldon, Andrew		5	0
Wilmot, J. M.		5	0
	£2	10	0

ALBERT.

Per Col. Clark, subscribers (*names not received*)	£3	10	0

CARLETON.

Bedell, John *J. P.*	£0	5	0
Connell, C. H.		5	0
County Agr. Society,	5	0	0
Dibblee, H. E.		5	0
Dibblee, J. D., *J. P.*		5	0
English Richard *M. P. P.*		5	0
Fisher, L. P.		5	0
Friend, A		5	0
Garden, H. M.		5	0
Jacob, E. J.		5	0
Jacob, J. R. *M. D.*		5	0
Ketchum, Ralph		5	0
Perley, Charles *J. P.*	1	0	0
Phillips, James A. *J. P.*		5	0
Robertson, James		5	0
Truesdale, E. M.		5	0
Tupper, James R.		5	0
Upton, Asa *J. P.*		5	0
Winslow, J. F. W.	1	0	0
Total	£11	0	0

KENT.

Layton, J.	£0	5	0

KINGS.

Upham Agr. Society,	£3	0	0

RESTIGOUCHE.

Stewart, Dugald	£0	5	0
Per P. Stewart, Esq., (*names not received*)	6	0	0
	£6	5	0

GLOUCESTER.

Baldwin, H. W.	£0	5	0
Bishop, S. L.		5	0
Brown, Robert		5	0
Blackhall, Jas. *S.*		5	0
Deacon, W.		5	0
Desbrisay, Theoph.		5	0
Dumaresq, P. J. R.		5	0
Ferguson, Francis *J. P.*	1	0	0
Ferguson, John		5	0
Gordon, Robt. *M. D.*		10	0
Johnstone, Wm.		5	0
Macdonell, Geo. Rev.		5	0
Miller, John *J. P.*		5	0
Mitchell, J. M.		5	0
Napier. Wm. *J. P.*		5	0
Packard, B.		5	0
Read, Joseph *M. P. P.*		5	0
Street, J. A. *M. P. P.*		5	0
Windsor, Joseph		5	0
Wolhaupter, Chas. J.		5	0
Wolhaupter, James M.		5	0
Total	£6	5	0

NORTHUMBERLAND.

Allan, J. C.		5	0
Davidson, A. A.		5	0
Henderson, Rev. W.		5	0
Marks, Hugh		5	0
Porter, John		5	0
Street, J. A. *M. P. P.*		10	0
Vanstone, Thomas		5	0
Williston, Edward M. P. P.		5	0
Per Mr. McDougall of Chatham	2	10	0
Total	£4	15	0

NOTE :—In addition to the above we have also most gratefully to acknowledge subscriptions to the amount of £10 5s. from Charlotte County; but as they arrived too late for the audit of 1850, they do not appear in the Treasurers accounts for that year, and are carried towards the subscriptions of the year 1851.

ERRATA.

Page 98—	line	17	from top for	" gant" read " grant"
99	"	25	"	" Dying" read " Dyeing"
101	"	28	"	insert " that" before " our"
103	"	9	"	dela " for"
118	"	1	" bottom for	" Johnson" read " Johnston"
123	"	9	" "	" Sooiety" read " Society"
136	"	20	" top before	" less" insert " not"
168	"	2	" bottom for	" afford" read " affords"
170	"	1	" "	before " in" insert " coincide"
184	"	17	" top for	" exported" read " exported"

N. B. It is particularly requested that those who use the Canadian Tract on Farm management will substitute "8 lbs." for "3 lbs." of butter, in the recipe for the mixture for smearing sheep.

THE GREAT EXHIBITION.

NEW BRUNSWICK SOCIETY,

For the encouragement of Agriculture, Home Manufactures and Commerce throughout the Province.

The Annual Meeting of this Society, at the County Court House, in Fredericton, was held on the evening of the 7th day of January, 1852. The President took his seat and as chairman of the Executive Committee submitted the Annual Report of the Society's doings for the information of the public, of which the following is a copy:—

GENTLEMEN.—It becomes my duty to Report the Society's doings during the past year since the last anniversary held in January, and to offer such observations as occur to me in regard to the Society's operations.

It has been a principal object with the Society, and it has been thought particularly incumbent upon it in the early stages of its proceedings, to disseminate as widely as it was able *sound information* connected with the important objects which it is its aim to advance; with this view committees were named to investigate and prepare reports to be submitted to the Society on some of the principal subdivisions of the three great interests which the Society is established to advance, and others allied therewith. These have been published under the supervision of the Society, and widely circulated. The first part of the Journal of our proceedings contains the early reports so submitted, and the course which the Society has thus taken, has I believe met with very general approbation. Since the period of the last annual meeting several other reports on very important subjects have been published. One of them is on Draining; an operation on the effectual performance of which much of the success of Agriculture depends. It is only within a very late period that the full importance of this subject has begun to be understood, even in England, whose Agriculture we have been apt to suppose must have been long since much more perfect than it is now believed to be.

The Report enters very fully into the whole subject, pointing out the various modes adopted in regard to different localities, and the rationale of the benefits thereby communicated to the soil in the nourishment of plants.

A Report has also been made on the improvement of Barns and Stables, both as regards the protection and well being of the cattle, and the preservation and management of manure, with such practical advice as seemed to be loudly called for.

The subject of another Report is the culture of Flax, which although it has not yet attracted much attention in this Province, the Society are induced to think may hereafter be profitably raised and applied. The promotion of our internal prosperity will be very sensibly advanced should these anticipations be realized, and the Society is disposed to watch with great interest any attempts which may be made in this direction. This report enters into many interesting details in regard to the management and preparation for manufacturing purposes of the article in question. A Report has been also presented on the subject of Immigration, and one on the means of encouraging new settlers. These reports set forth the difficulties which beset the emigrant on his first arrival, and those peculiar to the formation of settlements in remote

districts, with practical suggestions for their removal or mitigation, with a view to the improvement of the condition of those hardy pioneers of civilization. Another Report discusses the best mode of disseminating information in connection with the objects of the Society; and among various suggestions in regard to Agriculture, strongly recommends the establishment of Farmer's Clubs. Annexed thereto is a plan for the formation of such institutions containing the rules proper for their guidance. There is also an interim report in connection with the subject of a Provincial Show and Fair, which will be more particularly adverted to by the Corresponding Secretary hereafter.—These various reports contain much matters likely to be found valuable to the country, and have been printed in the second part of the Journal of the Society's proceedings. Of this publication four thousand copies have been printed, of which fifteen hundred have been distributed, and also seven thousand copies of the Canadian Tract for the economical improvement of worn out soils, the great value of which was generally acknowledged.

A Petition to the Legislature was also adopted in order to obtain a modification of the terms of obtaining the Provincial Grant, in aid of the funds of the Society, which object was successfully accomplished.

During the sitting of the Legislature a large and influential meeting was held, at which the object and exertions of the Society appeared to be very fully appreciated, and much valuable information afforded.

The receipts and expenditure during the past year are fully detailed in the Treasurer's account which will be submitted.

Premiums were offered by the Society for Essays on the improvement and encouragement of Orchards:—

On the improvement of the Woolen Manufactories of this Province:—

On the best ways of using Turnips and other root crops in the feeding of stock.

And a Premium also for the best managed Farm of not less than a prescribed size as indicated by answers to a series of questions; and another for the second best. A Premium was also offered for the first 10 barrels of Beef or Pork of first or second quality packed according to the directions of the Society.

The time for presenting the Essays has been enlarged until the 31st January, instant.

The encouragement thus held out will, it is hoped, prove a stimulus to exertion, and furnish valuable materials for the records of the society.

The Society have also voted a premium of £15 to Mr. John Flett for his Carding Machines, Dyeing works, and Cloth Dressing Establishments, recommended under the correspondence which I will read, (he here read the correspondence,) and, which I may add, the Society has felt great satisfaction in encouraging.

Public Meetings in aid of this Society were held during the past summer at Dalhousie, Bathurst, Northumberland, Carleton, Saint Andrews, the Cork and Harvey Settlements, the proceedings in the Northern Counties and in Carleton have appeared in detail in the public prints. At all these places except Carleton the objects of the Society were enforced by Mr. Kerr, to whose exertions the public are much indebted, and his zeal and ability every where acknowledged. In the Harvey Settlement and elsewhere measures were adopted for the formation of three Farmer's Clubs.

By all these varied means, the value to be derived from the attention of intelligent and scientific men being directed towards aiding the developement of the great sources of a nation's wealth and economic self-reliance, has been brought home to the inhabitants of the Province in all directions—the duty which the Society has taken on itself, and the efforts in which it is engaged,

have become generally known. It has everywhere met with encouragement by the expression of opinions at public meetings, and in many cases by contributions to its funds; and we trust the approbation thus manifested is but the precursor of a permanent and effective organization in the several counties, to co-operate in the common end in view, the elevation of our common country. Much encouragement has been derived from the success attending the Exhibition recently held at St. John. To this object our Society lent its ready aid by devoting a portion of its funds, the sum of thirty pounds to premiums for objects within the scope of its constitution, which were duly awarded. Its corresponding Secretary and one of its Vice Presidents attended that Exhibition as a committee of the Society, and made a very valuable and detailed report on the subject, which was published under the direction of the Mechanics Institute at St. John. To many, if not to all, this Exhibition must have conveyed new ideas, both of the agricultural resources of the Province —and the extent to which the mechanic skill of its inhabitants had attained, and led them to entertain better hopes for its future.

The subject of a Provincial Show and Fair, which had been from the first an object of great interest with the Society, at length assumed a shape, at a public meeting held in October last, a number of resolutions having been passed with the view of taking immediate steps to hold a Fair in Fredericton —the whole of this subject will be so fully explained, in published reports of the proceedings of that meeting, and the Corresponding Secretary's report, and the schedule which the Society directed to be laid before this meeting that I neednot further advert to it here—It is to be hoped that it may be the means of fostering a spirit of generous rivalry, the effects of which will be felt in the improvement of the soil and all our native productions, and that it will be only the first of a series of Exhibitions of the like kind to be held in different parts of the Province.

In conclusion I will observe that there are everywhere appearing signs of steady advance of the great interests connected with the cultivation of the soil, among which is to be noticed with much satisfaction, the attention of men of education, and trained for other pursuits, is now beginning to be directed to the tilling of land not merely as a recreation, but as a deliberately chosen profession. This is calculated to lead to improved plans of husbandry, and no less in the eyes of the farmer himself, to give dignity to the art on which he entirely relies.

I will now call upon the Treasurer to lay his account before the meeting, and subsequently on the Corresponding Secretary for his reports on the subject of the Provincial Fair.

The Resolutions of the last meeting were then adverted to, which are as follows :—

Moved by Judge Street, seconded by D. S. Kerr, Esq., and passed unanimously.

1st. *Resolved*, That this Society immediately proceed with preparatory and efficient steps for having a general Exhibition of the Industry of the whole Province, under the form of a general Show and Fair in the year 1852, agreeably to the 8th article of the Constitution of this Society, and 5, 6, and 7 sections of the Act of Incorporation, 3 vic. chap. 62, Resolution of March 1850, and Report 4th April 1851. (See Society's Journal, p. 12, 89, 194, and Prov. Law 1850, page 193.)

Moved by J. A. Beckwith, Esq., seconded by W. Carman, Esq., and passed unanimously.

2nd. *Resolved*, That such Exhibition is intended to embrace all kinds of Agricultural, Mechanical, and Domestic productions, and Works of Art and Science, and every variety of Industrial product worthy of observation, manufactured and unmanufactured, within the resources of this Province, together

with an account of the quantity available for supply, and the prices thereof, with a view to a sale or ultimate market for such articles.

Moved by Hon. Judge Parker seconded by Col. Hayne, and passed unanimously.

3d. *Resolved*, That His Excellency Sir Edmund W. Head, the distinguished Patron of this Society, be waited on with a copy of the proceedings of this meeting, and respectfully solicited to advise and co-operate with this Society in the design of having such Exhibition as complete and extensively beneficial in all parts of the Province as possible.

Moved by W. Watts, seconded by Judge Wilmot, and passed unanimously.

4th. *Resolved*, That the general Committee of this Society, by its Constitution composing the Legislative Councillors and members of the House of Assembly, in their respective Counties which they may represent, and in their private capacity, are especially requested to take a leading part and give their individual aid in promoting the object in their Counties respectively.

Moved by the Attorney General, seconded by C. Macpherson, Esq., and passed unanimously.

5th. *Resolved*, That the respective County Agricultural Societies, throughout New Brunswick, the St. John Mechanics' Institute, as also the several Mechanics' Institute in different parts of the Province, Manufacturing Companies, and others who feel an interest in the welfare and advancement of this Province, are hereby invited to join with this Society in promoting the object in view.

Moved by J. Gregory, Esq., seconded by D. S. Kerr, Esq., and passed unanimously.

6th. *Resolved*. That the Corresponding Secretary be requested to prepare a Schedule of articles suitable for Exhibition, on the plan of the Industrial Exhibition of Great Britain, and submit the same to the Annual meeting of this Society in January next.

Moved by J. C. Allen, Mayor, seconded by J. Taylor, Esq., and passed unanimously.

7th. *Resolved*, That the Corresponding Secretary, John A. Beckwith, Esq., Hon. Judge Wilmot, Hon. W. H. Odell, Colonel Maclauchlan, D. S. Kerr, Esq., James Taylor, Esq., and John Grant, Esq., be a Special Committee to select the necessary Show grounds and kind of building for the Exhibition, and report on the same, with plans and estimates of the probable expense thereof, at the Annual meeting in January next.

Moved by Dr. Robb, seconded by G. Roberts, Esq. and passed unanimously.

8th. *Resolved*, That in addition to the Office Bearers and Committees of this Society, local Committees be appointed in the different Counties of the Province to attend to the interests of the said Exhibition.

Moved by Mr. T. R. Barker, seconded by the Attorney General, and passed unanimously.

9th. *Resolved*, That the Corresponding Secretary forthwith correspond with the Vice Presidents of this Society, County Agricultural Societies, the several Mechanics' Institutes, Local Committees, Manufacturing Establishments, and individuals in different parts of the Province, to obtain their suggestions and active co-operation in respect to the said Exhibition.

Moved by D. S. Kerr, seconded by Judge Street, and passed unanimously.

10th. *Resolved*, That subscription lists be opened by the Local Committees in different parts of the Province to raise a fund for the special purpose of aiding to transmit the articles to the Exhibition where it may be required, and for the general purposes of such Exhibition.

Moved by R. Fulton, seconded by J. A. Beckwith, and passed unanimously.

11th. *Resolved*, That the respective Editors of Newspapers in different parts of the Province hereby are respectfully requested to give publicity to the foregoing Resolutions, for the information of the public at large.

R. FULTON, *Secretary.*

To which Resolutions the following was moved to be added—and unanimously adopted :—

12th. *Resolved*, That in addition to the Resolutions passed on the 15th October last, the ladies of New Brunswick are most respectfully requested to exercise their influence and lend their aid, separately and collectively, in co-operation with the Society, and with the local committees thereof—towards promoting the object of the said Exhibition.

The Corresponding Secretary from the committee, according to the 3rd resolution of 16th October last, appointed to wait on His Excellency Sir Edmund W. Head, reported that he had attended to that duty, and that His Excellency was pleased to say that he would render every assistance in his power towards forwarding the purposes of the Exhibition.

The Corresponding Secretary as a committee to prepare a Schedule, according to the 6th Resolution of October last, submitted his report, which is as follows :—

PROVINCIAL SHOW & FAIR FOR 1852.

In pursuance of a Resolution passed at a general meeting of the Society held on the 15th of October last, I beg to report herewith a Schedule or classified list of such objects as may fairly be said to be of our natural resources, or to come within the scope of our Provincial art and industry.

I have ventured to depart somewhat from the classifications hitherto adopted, but hope that the new arrangement will be considered both simple and natural: should it prove to be not quite complete, it will be easy to refer any of the omitted articles to their proper place in the list. The object of preparing and disseminating such a Schedule is to direct the attention of all those who are interested in the proposed undertaking to the specific items which are desired for the Exhibition; and, as it is only by *an united and hearty effort on the part of the whole community* that we can hope to get together a collection worthy of our Provincial resources and Products, an earnest appeal is made to all parties who may see this list, to select *at once* therefrom such articles as it is within their power to procure or prepare, or others not included in the list—notify the Secretary thereof—and proceed to get them ready as soon as possible, in a manner and style befitting the occasion.

It is hoped that the funds to be placed at the disposal of the Society will enable it to defray a portion of the charges of procuring and transmitting certain of the articles for Exhibition, and also to prepare and issue a liberal Premium list. The Exhibition at St. John last year has already given us increased confidence in the resources and industrial activity of the Province, and I venture to predict a steady and rapid improvement therein from such periodical festivals dedicated to the cause of Art, Industry and Commerce.

Respectfully submitted,

J ROBB, *Corresponding Sec'y.*

Fredericton, January 5th 1852.

OUTLINE OF CLASSIFICATION.

Class I.—Mineral Kingdom.

Raw Materials,
Manufactures, in Metal,
" Miscellaneous.

Class II.—Vegetable Kingdom.

Raw Materials, from Forest, Farm or Garden.
Manufactures, chiefly of Wood,
" " Grain, Fibre, &c.

Class III.—Animal Kingdom.

Animals,
Manufactured products.

Class IV.—Fine Arts, &c.

Objects of.

CLASS I.—MINERAL KINGDOM.

Section A.—Raw Materials.

Metallic.—Iron Magnetic Ore,
Specular,
Hæmatite,
Bog,
Pyrites, (for the manufacture of Copperas and Sulphur,)
Lead Sulphuret or Galena,
do. Argentiferous,
Copper Pyrites,
Gray Ore,
Manganese Peroxide, (for bleaching purposes)
Bog, (do.)
Mineral Paints.—Barytes, (Permanent White,)
Iron Ochre brown, do. blue, Red Marl,
Bog Manganese, Plumbago,
Combustible Materials.—Coal Common, Anthracite, Lignite,
Asphalte, Petroleum, Naptha,
Asphaltic Shale, Peat,
Grinding and Polishing Materials.—Millstones, Grindstones,
Whetstones, Hones,
Clays, Sands, &c.—Clay red or blue for bricks or tiles,
" white, for Stoneware, &c.,
" Fire, for fire bricks,
Sand white, for Glass making,
" Moulding,
Manures.—Lime and Marl,
Gypsum or Plaster,
Ornamental Stones.—Agates and Jasper,
Amethysts,
Building Stones.—Granite of different colours; 8 inches cube, and dressed,

Porphyry	do.	do.
Sandstone	do.	do.
Limestone	do.	do.
Marble	do.	do.
Alabaster	do.	do.

Roofing Slates and Flag Stones,

MANUFACTURES.

In Metal.—Stoves for parlour, hall, ship, &c.
Cooking Stoves for wood, with furniture,
" " Coal, "
Cooking range, Furnace, Fenders,
Boilers, Pots and Pans,
Ploughs and Drill Harrows, Potato Diggers,
Spades, Shovels, Hoes, Hay and Manure Forks,
Axes narrow and broad, Planes and Chisels,
Hammers, Augers, Screws, Nails Cut or Wrought,
Locks, Latches, Safes, Fire Arms, Cutlery,
Clocks, Electrical, Astronomical and Surveying Instruments,
Steam Engines, Lathes,
Machines for drilling, planing, riveting or screw cutting metals,
" for sawing, planing, morticeing or boring Lumber,
Fire and Garden Engines, Pumps,
Crabs, Cranes and Screw Jacks,
Toothed Wheels, Link work and Couplings,
Work of Silversmith and Jeweller,
" Blackmith, Coppersmith and Tinsmith.

Miscellaneous.—Salt, Potash and Pearlash,
Lime and Plaster, Cements,
Illustration of manufacture of Iron, Gas, Salt &c.
Pottery, Bricks common and faced,
Drain Tiles, Flower Pots, Crocks, Bowls, &c.

CLASS II.—VEGETABLE KINGDOM.

Section A.—Raw Materials.

From the Forest.—Butternut, Basswood, Beech, (Panel of)
Poplar, Balsam and White, do.
Ash, White and Black, do.
Elm, Red and White, do.
Oak, White and Red, do.
Maple, White, Red and Rock. do.
Birch, Canoe, White, Yellow and Black. do.
Hornbeam, small Scantling, Iron Wood, do.
Pine, White, Red and Gray, Panel of
Spruce, Black, White, Hemlock and Balsam, do.
Cedar, Larch or Hacmatac, Panel of
Cranberries, Wax Berries,

From the Farm.—Wheat, Spring or Fall, in sheaf, or grain,
Corn, Common, Broom, "
Oats, Rye, Barley, "
Peas and Beans, Buckwheat, "
Timothy Seed, Clover, do., "
Flax and Hemp in Stalk, Seed, or Fibre,
Millet, " or Seed,
Turnips, Carrots, Mangold Wurtzel, Hops.

From the Garden.—Apples and Pears, (named varieties, fresh and dried,)
Melons, Cucumbers, Squashes and Pumpkins,
Tomatoes and Peppers, Turnips, Carrots,
Beets, Parsnips, Onions, Celery, Salsify, Mushrooms,
Cabbages, Cauliflowers,
Flowers, Bouquets, and Baskets,
Garden Seeds, Green House Plants, Dried Plants,

CLASS II.—SECTION B.

Manufactures chiefly of Wood.—Ploughs, Harrows, Cultivators,
Stump and Rock Extractors,
Horse Powers, Fanning, and Threshing Mills,
Grain Drills, and Wooden Rollers,
Straw Cutters and Corn Shellers,
Horse and Hand Rakes, Snow Shovels,
Cheese Presses, Churns and Butter Workers,
Flails, Ox-Yokes, Bee Hives, Barrels, Tubs and Pail s,
Shingles, Clapboards, Laths and Veneers,
Whip, Axe, Scythe, Rake and Broom Handles,
Tables, Chairs, Sofas, and Ottomans,
Cabinets, Wardrobes, Bedsteads and Cradles,
Screens and Picture Frames,
Lasts, Shoe Pegs and Lucifer Matches,
Figure-heads, Blocks, Wheels and Capstans,
Bench-screws, Pumps, Turnery, Basket-Work,
Pianos, and Musical Instruments,
Carriages, Waggons, Carts and Wheelbarrows,
Sleighs, Sleds, Hand-sleds, and Child's Sleds.

CLASS II.—SECTION C.

Manufactured Products from Grain, Fibre, &c.—
Flour and Meal of Cereal Grains,
Malted and Hulled Barley, &c., Biscuit and Confectionary,
Straw and Grass Plait Hats and Bonnets,
Mats and Matting, Corn Brooms, Birch Brooms,
Cables, Cordage, Twine and Thread,
Linen and Cotton Sheeting, Shirting and Towelling,
Paper, Wrapping, Writing, &c., Cider and Vinegar,
Spruce Gum and Fir Balsam, Dye Stuffs and Colors,
Tanning Materials, Maple Sugar, Raw and Refined.

CLASS III.—ANIMAL KINGDOM.

SECTION A.

Cattle.—Durham Bull, Cow, Heifer, Calf, Ox or Steer,
Devon, " "
Ayrshire, " "
Hereford, " "
Alderney, " "
Angus, " "
Mixed or Native breeds, fat Cattle of any breed.

Horses.—Stallions, thoroughbred and others.
Geldings and Mares " "
Colts " "
Matched span of Horses.

Sheep.—Leicester Ram, Ewe, Lamb, Wether.
Couthdown, "
Caxon, "
Mixed or native breeds.

Pigs.—Boar of pure and mixed breeds
Sow &c. " "

Poultry.—Fowls—pure and mixed breeds,
Turkeys, "
Ducks, "
Geese, "
Pigeons, "
Others, "

CLASS III.—Section B.

Manufactured Products of Animal Kingdom.—
Barrel Beef, Butter, Cheese, Tallow,
Barrel Pork, Bacon, Hams, Lard, Bristles and Brushes,
Oil, Honey, Wax, Candles, tallow, and composition,
Soaps, brown, white and fancy,
Leather, sole, upper, and fancy, Single and Double Harness, Saddles,
Trunks, Portmanteaus, and Leather cases,
Boots, and shoes of all kinds,
Hose Pipes, Firebuckets, Bellows, Bookbinding, strong and fancy,
Wool fleeces, Worsted Manufactures, Blankets and Flannels,
Comforters, Coverlids, Rugs, Carpets,
Socks, Mittens, Fringes and Tassels, Shawls, plaids and checks,
Cloth, broad, narrow, fulled, not fulled, mixed,
Tailor's, Hatter's and Milliner's work,
Furs and Fur coats, capes and mittens,
Feathers and Down, Quill and Hair work,
Horns, and horn work, Bones ground, Snow shoes, and Moccasins,
Fish smoked, pickled, dried or preserved,
Lobsters and other shell-fish preserved &c.

CLASS IV.—FINE ARTS, &c.

Specimens of Painting, in Oil,
" Water Colours,
Drawing, in Crayons,
" Pencil,
Decorative Painting, Engraving,
Wood-cutting and Lithography,
Daguerreotypes and Electrotypes,
Sculpture and carving in Stone, Wood, &c.
Typography, Patterns for casting &c.
Fancy knitting, netting, embroidery, &c.
Models of Ships, Brig, Schooner, Boat, &c.
Public building, Farm House, Barns &c.
Harbor, Dock, Wharf, Light house,
Dams, Salmon ways, Break waters and Bridges,
Fog bell, Tide gauge, Saw mill, Wind mill, Grist mill, &c.

The Corresponding Secretary as chairman of committee to report on Show Grounds and Exhibition building, agreeably to the 6th Resolution of October last, reported as follows:—

REPORT OF PRELIMINARY COMMITTEE FOR THE EXHIBITION.

The committee appointed on 15th October last "to select the necessary show-grounds and kind of building for the Exhibition with plans and estimates of the probable expense thereof" beg to report as follows:—

1. It was considered by all, that if the beautiful piece of ground in the rear of the city of Fredericton commonly known as "The Grove" or „ Park" belonging to the family of the late Hon. W. F. Odell could be secured for the purposes of the Exhibition, no site more suitable could be had; nor one which would so combine the advantages of great natural beauty with fitness: On application to Dr. Odell and the Hon. W. H. Odell upon this subject, the above most desirable piece of ground was at once, and most generously put at the disposal of the Society, without hire or rent, for the purposes of the Exhibition, provided the same was restored to the owners in as good a state as when given up to the Society: and further provided, that the present arrange-

ment should not be allowed to interfere with the possible sale of the land in the mean time.

The committee have thankfully accepted the ground upon the above conditions.

2. The committee considered that a canvass tent was preferable in many respects to either a wooden building, or anything of the nature of India rubber fabric. Canvass tents are in general use for such purposes elsewhere, and they are better adapted for moving and carrying about to different places of the country than any other kind of erection. Before, however, finally determining upon the general character and dimensions of the building, it was considered desirable to consult the Secretary of the New York State Society in regard to some of the details. Accordingly he was addressed by the Vice President for St. John, and an extract from his answer to Mr. Jardine (herewith given) puts us at once in command of almost the whole subject.

"New York State Agricultural Rooms,
"Albany, Dec. 24, 1851.

"DEAR SIR,—I have your letter of the 12th inst., and although, I cannot answer it fully to day, I thought best to give you all the information I now have, and write again in a few days.

"The Tent which we have for our Fairs, is 140x80—35 feet to the extreme of the tent, 12 feet walls.

"A Tent of this size of the best quality of cotton Duck, flat seamed, with rigging complete to sustain a moderate breeze can be purchased here for $725,00. It would be done in the best style—if not satisfactory as to work and materials when done—no sale.

"As to the Tent with transepts, I cannot give you an answer, until the gentleman whom I have consulted, and who has made all the new Tents for our State and County Societies, has made his estimates—which he will complete, as soon as he can prepare a model, from which he will be able to give the cost.

"The Tent like ours, can be prepared and ready to be delivered in 6 weeks from the time of the order. The other probably would take two weeks longer to prepare.

"Our Tent is a very convenient one and can be arranged internally very easily and very tastefully.

"The Tents can be obtained of "E. C. Williams Rochester N. York." A letter addressed to him through me, will be forwarded at once, and I can assure you of his faithfulness in doing what he undertakes."

* * * * * * * *

The committee had contemplated a tent with transepts, and of proportions not very different from those of the Tent used by the N. Y. State Society: it will perhaps be better now to give up the idea of transepts, and leave the proportions for a future day.

A large Pavilion therefore, such as the above, with open pens or stalls for cattle, &c. in its vicinity, will constitute all the buildings required.

3. The committee consider that the charges connected with the said erection should be defrayed by means of a special appropriation from the Provincial Treasury: the Pavilion would thus become public property, and might be conveyed from time to time into such counties as were fixed upon as the seat of the periodical Exhibitions of our Art, Industry and, Resources.

4. It may also be requisite to consider the propriety of petitioning the Legislature for anappropriation of public monies for the subject of Premiums, to be bestowed on exhibitors at the proposed Provincial Show and Fair.

All which is respectfully submitted.

J. ROBB, *Chairman of Preliminary Committee.*

The following Resolutions were then moved and unanimously adopted.

1. *Resolved*, That the following be the local committees for the respective counties throughout the Province, to attend to the interests of the Exhibition generally, agreeably to the 8th and 10th of the resolutions of October last; which committee are also requested to call meetings of their members—appoint a Chairman, Secretary and Treasurer—add to their number if they see fit—correspond with and remit subscriptions to Dr. Robb, Corresponding Secretary of this Society, and attend to the transmission of articles to the Exhibition.

York.—The Executive Committee of the Society, together with the Hon. the Chief Justice, Hon. Master of Rolls, Hon. Judge Wilmot, Hon. W. Odell, Hon. T. Baillie, Lieut.-Col. F. Murray, 72nd Highlanders, Lieut.-Col. R. Hayne, A. D. C., His Worship the Mayor of Fredericton, Col. MacLauchlan, President of County Agricultural Society, J. Taylor, Esq., M. P. P., C. MacPherson, Esq., M.P.P., Messrs. G. Botsford, S. Barker, T. Barker, W. Barker, J. Myshrall, R. Gray, Thos. Murray, J. Simpson, J. Grant, J. B. Toldervy, J. M. Odell, J. Wilkinson, B. Wolhaupter, W. Watts, Jr., J. Harding, W. Morgan, A. Ritchie, A. W. Block, G. Taylor, J. Lawrence, G. Todd, T. R. Estey, D. MacPherson, P. MacFarlane.

St. John.—Hon. Judge Parker, President, Directors and Secretary of the Mechanics' Institute, Dr. Peters, Dr. Bayard, Dr. Botsford, Isaac Olive, J. M. Olive, Spiller & Broad, Jr., R. Jardine, D. B. Stevens, John Owens, Thomas Allan, William Jack Esq.,

King's.—A. C. Evanson, G. Ryan, Hon. W. McLeod, M. McLeod, M.P.P., J. Hagarty, of Upham, Rev. W. E. Scovil, LeBaron Drury, Sylvester Z. Earle,

Albert.—Col. Clark, J. Turner, J. Edgett, J. Lewis, T. B. Moore, Hon. W. H. Steves, W. Cairnes,

Westmorland.—Hon. A. E. Botsford, J. F. Allison, Esq., E. B. Chandler, Jr., C. Milner, Esq., Jo. Robb, Esq., Bliss Botsford, M. P. P., Hon. W. Crane, J. G. Layton,

Kent.—Hon. J. W. Weldon, W. Chandler, Lestock Desbrisay, Sheriff Wetmore, R. B. Cutler, M. P. P., R. Hutcheson,

Northumberland.—Hon Attorney General, W. Wright, Mr. Goodfellow, G. Kerr, Esq., P. Mitchell, D. Wetherill, Ed. Williston, James Caye, J. Porter,

Gloucester.—F. Ferguson, Jos. Read, M. P. P., J. Woolner, Dr. Bisho[illegible], R. Napier, E. Packard, T. Desbrisay,

Restigouche.—A. Barberie, M. P. P., D. Stewart, Hon. J. Montgomerie, Chipman Botsford, Rev. Mr. Steven, Mr. Bennett, Peter Stewart,

Carleton.—Sheriff Winslow, J. Dibblee, H. Dibblee. E. Jacob, J. A. Phillips, C. Perley, J. Ryder, J. Harvey, A. Upton, R. English, M. P. P., J. R. Tupper.

Victoria.—L. R. Coombes, W. Maclauchlan, Sheriff Beckwith, B. Bevridge, W. T. Wilmot, F. Rice, M. P. P., J. Emerson, G. Currie, Jo. Michaux,

Charlotte.—Hon. H. Hatch, Rev. Dr. Thompson, H. Frye, Capt. Robinson, Hon J. Brown, Col. Mowat, R. D. James, A. T. Paul, J. G. Stevens.

Queens.—Hon. T. Gilbert, Sheriff DeVeber, Peniston Coster, J. Earle, M. P. P., Col. Peters, T. R. Wetmore, James Johnston, D. Palmer, J. Currie, E. L. Burpe.

Sunbury.—Hon. R. D. Wilmot, Col. Hayward, C. L. Hatheway, Thomas Bliss, Hon. C. Harrison, Rev. J. Porter, Wm. Scoular, M. P. P., Wm. Burpe.

2. *Resolved*, That the Executive Committee do forthwith prepare and submit a petition to therespective branches of the Legislature, praying that the sum of £500, or such other sum as the Legislature may deem right, may be

placed at the disposal of His Excellency the Lieut. Governor to be available for the Society to pay for a new tent and premiums for the Exhibition, should the same be required.

3. *Resolved*, That in view of the contemplated Exhibition, the Executive Committee do without delay exert their efforts to obtain donations and subscriptions for the Society.

4. *Resolved*, That the Corresponding Secretary do without delay correspond with the Vice Presidents, County Agricultural Societies, Mechanics' Institutes, Local Committees, Manufacturing Establishments, and individuals in different parts of the Province, agreeably to 9th Resolution of October last, and forward a copy of the schedule and proceedings in connection with the Exhibition, and report his doings at the meeting of the Society to be held during the sitting of the Legislature, that such report may be acted upon.

5. *Resolved*, That the Corresponding Secretary do correspond with the office bearers of this Society in different parts of the Province, as also to the Presidents of County Agricultural Societies, and other individuals with the view to a more effective organization of the Society in their respective districts; and enquire whether there be any particular subject or subjects deserving the immediate attention of this Society, and if so, whether such person or persons will consent to be named on a special committee at any meeting of the Society, to report on such subject at a subsequent meeting; and that the Corresponding Secretary do report his doings to this Society.

6. *Resolved*, That the Executive Committee do prepare and submit a schedule of appropriations for the year 1852.

7. *Resolved*, That the thanks of the Society are due to his Honor the President and to the various officers and supporters of the Society for the past year.

8. *Resolved*, That the following gentlemen are elected as officers of the Society for the year 1852.

PRESIDENT.

Honorable Judge Street.

VICE PRESIDENTS.

York,	R. Chestnut, Esq.,
	J. Jones, Esq.,
St. John,	R. Jardine, Esq.,
Charlotte,	Hon. H. Hatch,
Kings,	A. C. Evanson, Esq.,
Queens,	Hon. T. Gilbert,
Sunbury,	C. L. Hatheway, Esq.,
Carleton,	H. E. Dibblee, Esq.,
Victoria,	L. R. Coombs, Esq.,
Restigouche,	A. Barberie, Esq.,
Gloucester,	F. Ferguson, Esq.,
Northumberland,	George Kerr, Esq.,
Kent,	Hon. J. W. Weldon,
Westmoreland,	Hon. A. E. Botsford,
Albert,	Lieut.-Col. Clarke,

CORRESPONDING SECRETARY.—Dr. J. Robb.

RECORDING SECRETARY.—R. Fulton, Esq.

TREASURER.—J. Gaynor, Esquire.

Additional members of the Executive Committee.—Mr. W. Watts, Sen., D. S. Kerr, J. A. Beckwith, J. Gregory, and W. Carman, Esquires.

9. *Resolved*, That the Editors of Newspapers throughout the Province are respectfully requested to give publicity to the proceedings of the meeting for the purposes of the Exhibition.

SPECIAL COMMITTEES.

1. *Resolved*, That Samuel W. Babbit, Esq., and Mr. Thomas Boies be a special committee to enquire and report to this Society at the quarterly meeting in April next on the most efficient means for establishing Agricultural ware houses and stores in the different counties of the Province.

2. *Resolved*, That Mr. Robert Grey be a special committee to enquire and report to this Society at the quarterly meeting in April next on the best modes of improving the breeds of stock in this Province.

3rd. *Resolved*, That John Gregory Esq., and Dr. Robb, be a special Committee to enquire and report to this Society, at the general meeting in April next, upon the Agricultural statistics of the Province.

4th. *Resolved*, That Dr. Robb, John A. Beckwith, Esq., and Mr. T. Barker, be a special Committee to enquire and report at the quarterly meeting in April next, as to the breeding and management of Pigs.

Extract from the minutes.

R. FULTON, *Recording Secretary.*

Fredericton, 8th January, 1852.

ON

THE GENERAL MANAGEMENT

OF

A FARM

IN

LOWER CANADA,

SHOWING

HOW AN EXHAUSTED SOIL MAY BE RENDERED PERFECTLY FERTILE,

WITHOUT THE AID OF CAPITAL.

BY

A FARMER IN THE DISTRICT OF MONTREAL.

TRANSLATED AND PUBLISHED WITH ADDITIONAL NOTES,

UNDER THE SUPERINTENDENCE OF

THE NEW-BRUNSWICK SOCIETY

FOR THE ENCOURAGEMENT OF

AGRICULTURE, HOME MANUFACTURES, AND COMMERCE,

AND BY THAT SOCIETY PRESENTED AND RECOMMENDED

TO THE

FARMERS OF THIS PROVINCE.

SAINT JOHN:

PRINTED BY HENRY CHUBB AND COMPANY,

PRINCE WILLIAM-STREET.

1851.

PREFACE.

THE original of this valuable Tract was written by a Scotch Farmer, in the District of Montreal, who had practised for more than twenty years the system which he recommends, and who, having begun poor, gradually attained to ease and comfort. His paper was submitted to Lord ELGIN, who was so much pleased with it, that he caused it to be translated and distributed as a New-Year's Gift to the Farmers of Lower Canada.

The French translation is now reprinted for the benefit of the French population of this Province, while it has likewise been translated back to English by the Corresponding Secretary of the Society, for the purpose of gratuitous dissemination among our own Countrymen. It is hoped that they will soon appreciate the value of the direct and practical suggestions which it contains.

FREDERICTON,
February 26th, 1851.

ON

THE GENERAL MANAGEMENT OF A FARM

IN

LOWER CANADA.

The *habitants* of Lower Canada are in general thrifty and industrious: their farms look well, although they are, for the most part, worn out. All that they want is a *good system*, and such a system, to be available, ought to possess the following qualities, viz:—

1st. It ought to be economical, and not require more capital than the actual system, or rather than the present absence of system, requires. It is undoubtedly of great advantage to apply capital to the land, but this advantage is in general beyond the reach of our farmers, as their means are not sufficient.

2d. It ought to restore fertility to the soil, and maintain it by the products of the land itself. Manures got from other quarters than the farm itself are always expensive, and, at a distance from town, are often not to be had at all.

3rd. It ought to be simple and of easy application.

4th. Finally, it ought to have experience clearly in its favor.

The author of this Essay, having for a long time made the practical application of a system which unites all these advantages in a high degree, believes that it is his duty and privilege to submit it to his fellow Colonists, and he feels certain, that if this plan is adopted, it will render the country more productive, and consequently more prosperous; it will in the space of six years, convert worn out, worthless, weedy land into smiling, rich and fertile farms, and the small miserable animals of Lower Canada into valuable stock, and all that without a greater expenditure of labor and money than is incurred by the system actually in use.

Before explaining his system, however, the author will take the liberty of relating his own experience, and for greater clearness, he will speak in the first person.

I came to the country thirty years ago, and burdened with a debt of £40; I leased a worn-out farm in Lower Canada of eighty-four acres, in the midst of a French population, and at an annual rent of £45. Well, in the space of twenty-one years, I have paid my original debt, and saved enough to enable me to purchase in the same neighborhood a much better farm than the one I rented. The owner of the farm which I bought, was going on every year from bad to worse, until he was forced to sell it, whilst I, the tenant of a less productive farm, and paying rent all the while, was enabled to buy him out, as just said. What was the reason of this anomaly? The Canadian was stronger than me, had equally good health, and had no rent to pay. The reason was, that he had no system; he let his land become exhausted, and full of weeds; he let his stock starve; he wasted his manure, the gold of the farmer, and let every thing go to ruin for want of method; but when I had got hold of this same farm, and had applied the system which I am about to describe, the whole was brought gradually, field by field, into good condition by the end of six years; since then, the condition of the land has steadily improved, and that by resources drawn wholly from within itself.

The system to which I allude, is known to all good farmers everywhere as the basis of all improvement, I mean that of

A ROTATION OF CROPS.

There are two sorts of reasons in favor of this plan of rotation of crops.

1st. Because different plants draw from the soil different sorts of food, so that one plant will grow freely in a soil which is worn out as regards another.

2d. Because the crops being various, the occasional failure of one is not so much felt, seeing that the others furnish subsistence sufficiently without it.

The cultivation of a fair proportion of all the varieties of crops which Providence permits to grow readily, ought therefore to be considered as the best means of averting a famine, and what intelligent farmer, with the case of Canada and Ireland before him, would wish to be limited to the culture of wheat and potatoes only.

I shall now explain the system of rotation, which, during thirty years experience, I have found best suited to the climate, the soil and the actual condition of Lower Canada, and which

I believe to be generally applicable to the lands held by the French Canadians, and herein I shall speak of nothing that I have not done myself and practised with success.

PLAN OF THE ROTATION.

Divide the arable portion of the farm, whatever may be its size, into six parts, as equal as possible, with a direct communication from the barn yard to each field, and from one field to the other, so that the cattle may pass from one to the other when required. This division into six fields, may require on most farms new fencing, and it will be proper, beforehand, to see how this can be done with the least possible expence. I shall now suppose the farm prepared to receive the application of this system, and that is the one which I have found the best for even the poorest settler.

1st. Root crop, such as potatoes, carrots, beets, parsnips, &c., [turnips and also flax,] and in cases where the land is not sufficiently open for a crop of this kind, the field must be left in fallow.

2d. Crop of Wheat or Barley.

3d. Crop of Hay.

4th. Pasture.

5th. Pasture.

6th. Crop of Oats or Peas.

In beginning the application of this system, that field of the series which is in best condition for a Root crop, should be called Field - - - - - - - - - A

The best for Wheat or Barley - - - - - B

That which is actually in Hay - - - - - - C

The Pasture fields - - - - - - - - D & E

That which is best for Oats or Peas - - - - F

Each field for the first year ought to be appropriated to the crops above mentioned, and after the fashion now in use among the farmers of Lower Canada, except in the case of field A. By this plan they will at all events still get as much from their five fields as they get at present.

The culture of field A and of crop No. 1 come up together for the first year, and ought to be the object of special attention, as this is, in fact, the key to the whole system; for the good

culture of this field has for object, and ought to have for its effect, not only a good crop the first year, but also to improve the land for the five other years of this Rotation of Crops.

In the following year the cultivation of the different crops will be according to the following order:

Crop	No.	2	in the field	A
Do.	"	3	"	B
Do.	"	4	"	C
Do.	"	5	"	D
Do.	"	6	"	E
Do.	"	1	"	F

and so on, changing each year until the seventh, when crop No. 1 comes back to field A, and the whole will then be in a good state of fertility, and free from weeds. The above system has been proved to be capable of restoring old land, and extirpating all weeds.*

In order to render the thing more simple and easy of comprehension, I shall suppose myself to be again obliged to take a worn out farm in the autumn of 1849. The first thing that I should do would be to divide the land into six fields, by proper fences, to prevent the cattle going from one field to the other; and I would then take for field A, that which appeared best for green crops or root crops; I would collect all the manure which I could find in or out of the barns, I would take up the flooring of the cow-house, stable and piggery, and I would take out as much of the soil underneath as I could get, for this soil is the essence of manure, one load of it being as good as four or five loads of common dung. The portion thus removed ought to be replaced by an equal quantity of ordinary soil, or, if it be possible, of bog earth, which might be removed when necessary afterwards.

The dung and other manure thus collected should be placed on the field A in September, or the beginning of October, spread with care [as far as it will go], and covered up in a shallow furrow. Manure aids the decomposition of straw and the weeds of the soil, and frees it from these plants, which thus help to keep the soluble portion of the manure until its juices become necessary for the crops of the succeeding years. The greater variety there is in the crops of this field, the better it will be, provided the soil is suitable for them. Thus, this field ought, as nearly as possible, to look like a kitchen garden.

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* Journal of New-Brunswick Society, p. p. 26, 45.

Under the actual circumstances of the country, I would particularly call the attention of farmers to the cultivation of the Carrot as being one well adapted to our soil and climate. The Carrot has fewer enemies than any other plant that I know: the best sort for field culture is the Red Altringham, and the method of cultivating it is as follows:—

CULTURE OF THE CARROT.

The land which has been manured in the fall, as above described, ought to be ploughed at least twice in the spring, the one furrow across the other, and both as deep as possible. It is then to be harrowed until it is properly mellow. You then make with the plough two furrows, distant two feet, or two feet three inches from each other, taking care to raise the soil as much as possible between each. You pass the roller over this ploughed portion, and then with the corner of a hoe, make a small furrow or drill along the top of the rows: drop the seed into this furrow, and pass the roller over it again: this last operation will cover the seed sufficiently.

If you can get a seed-sower, that will simplify matters considerably. A roller is essential in the culture of root crops which spring from small seeds, but it can be readily got by all farmers. A log of twenty inches diameter, and five feet long, with a pole fixed at each end, will do the business admirably.

Carrot seeds (and you may say the same of the other seeds) ought to be soaked in rain, or soft water, until they are about to sprout, and then rolled in quick lime until the grains are dry enough not to stick to each other. When there is no lime, wood ashes will do as well. A pound of seed, if it be good (and you ought always to try it before sowing), will be sufficient for one acre of land. By the above plan, the young plant will come up before the weeds, so that it will be easy to distinguish the rows of carrot before the weeds appear: this renders the cleaning comparatively easy, since it may be done (except the thinning) by means of a cultivator. This cultivator is an instrument which every settler ought to have, and which, like those already mentioned, is extremely simple in its construction. It is made of three bars of wood joined in front, and separated behind according to the width of the furrows which you wish to clean. This instrument, called the Horse-hoe, or Drill-harrow, or Cultivator, is drawn by one horse, and has handles to it like a plough, only lighter. A man or a boy may guide it so as not to touch the rows of Carrots or other crops, but only to raise the soil to a greater or less depth, at

pleasure. As soon as the weeds appear, you draw this harrow between the rows, so as to bring the soil as close as possible to the young carrots, but without touching or covering them. This process will keep the plants sufficiently clean until the time for thinning them and leaving them four or five inches apart from one another; soon afterwards you may plough between the rows thus harrowed and raised. These operations do good to the plant by permitting air and moisture to have access, and by facilitating evaporation. My plan for gathering the carrots in autumn is to pass the plough along the right side of the plants as close as possible, without injuring them: this frees them on one side, and the stem is strong enough to allow us to haul up the roots by it afterwards.

This method of culture requires a good deal of labour, but the return is more than enough to recompense the farmer.

When we consider the large amount of nutritive matter contained in this root, and its general application to all the living things on a farm, its culture cannot be too strongly recommended, besides it is relished by all animals, especially by working horses, to whom it may be given instead of Oats.

I have dwelt particularly upon the culture of the Carrot, because the same method applies to the culture of all the root crops, which can be advantageously grown in this climate, such as Parsnips, Beets, Mangolds and Turnips.

Parsnips will grow in a close soil, almost in clay, and do not require cellars since they will remain uninjured all winter in the ground. In this case, you will have them in the spring affording a new and succulent food, at a time when it is most necessary. Every animal will eat parsnips with relish, and cows fed upon them yield a very rich milk.

Beets and Mangolds have the same value as a crop, and as food for milk cattle; but I do not consider them to be so good for fattening cattle.

[In spring, all the manure made during the past winter should be carted to the field, placed in a heap, and twice turned. All bones should be gathered and broken up with a hammer, all coal and wood ashes, scrapings of sewers, the dung from the fowl-house, and the contents of the privy, should be collected and made into a compost, with dry loam or bog earth.

The above manure may be used for that portion of the field devoted to cabbages, potatoes, and turnips. It should be put in the bottom of the drill on which the above are to be planted or sown.

When the ground is properly ploughed and harrowed, and

a sufficient quantity of sound seed sown, say at least four pounds to the acre, the Turnip crop is as certain as any other.

The sowing of Turnip seed should be commenced early in June, and may be continued up to 20th July. If the fly takes the first sowing, a second will be likely to succeed.

The Turnips, when well up, and getting strong, should be thinned out to a foot apart, and the hoe and cultivator passed through them, at least twice before they meet in the drills.]

HORSE-BEANS AND PEAS.

If the land is too heavy for root crops, beans and green peas will suit for No. 1, taking care to sow them in drills, and to prepare the land as above described for root crops.

PLOUGHING.

If it be thought absolutely necessary to summer-fallow, that is to plough without sowing, which only happens when the soil is so hard and heavy that it cannot be pulverized in any other way, you ought not to spread the manure on the land in the preceding fall, but plough the land and ridge and furrow it with as much care as for a crop. You need not touch it again before the month of June, when you must plough it again and harrow it so as to render it even, and destroy the roots of the weeds. You may then draw the furrows in a straight line, giving them a uniform breadth, and so as to facilitate drainage. About the middle of July you must plough it again, and sow it with plenty of buckwheat. At the end of September, plough it again, having previously spread it with dung. In this case the buckwheat is ploughed under with the manure, and serves greatly to increase the latter. The land thus prepared ought to be sown with wheat in the ensuing spring, and you may add a little timothy and clover. A bushel of timothy will suffice for four or five acres, and three or four pounds of clover to each acre.

By following the method above described, you will have, in the year 1851, quadrupled, or more than quadrupled the fertility of the soil.

I have now done all that I can for field A. I have weeded and manured it as well as I can; and after having taken the crop of roots and the crop of wheat or barley next year, I leave this field to rest until the other fields have been improved in the same way, and according to the method above described. When this shall have been effected, that is to say in the space of six years, or in the year 1856, the worst will be over, and the battle may be considered as gained. The fields will then

be in a clean and fertile condition, and their value will consequently be greatly increased. The Farm of 70 or 80 acres, which in 1849 only sustained three or four miserable cows, and perhaps no more than an equal number of sickly sheep, will be capable in less than ten years of furnishing an abundant subsistence for ten or twelve cattle and other stock in the same proportion.

One of the great advantages of this system of rotation of crops is, that the pastures, which in summer furnish summer-feed for the stock, are in due proportion to the quantity of roots and hay destined to winter-feed them, and in due proportion to the straw which the grain-crops yield for their bedding. I will observe here that farmers—except those who live near towns, where they can easily procure manures—ought never to sell a single load of their hay, straw, or roots, since the whole ought to be consumed on the farm, with the view of procuring a sufficiency of manure therefrom, whereby the fertility of the soil is to be sustained. But if the farmer is not to sell hay, or straw, or roots, what is he to sell? I answer, the third of the land being under this system appropriated to grain crops, he will always be able to sell a large part of them. The half of the farm being in hay and pasture, will allow it to produce a large quantity of butter, cheese, butchers' meat and wool, and to sell a considerable part of these after having supplied the wants of the family. It may be said, that six years is a long time to wait for the renovation of the whole farm; but I will reply, that I know of no other means by which it may be done in less time, from its own resources; and it is worthy of observation that the land is improving every year. The produce is larger, even for the first year, under this system than it is under the present method of culture, and from year to year, the land is improving, field by field, and is producing more and more, so as to pay the farmer better than it does at present, and to recompense him doubly afterwards when the whole shall have been improved under a system of rotation.

It may be objected that two years of pasture is a long time of rest for the land; but you will observe that the land does not remain unproductive during this period of repose. This plan not only contributes to re-establish the almost exhausted fertility of the soil (and it will be admitted, that this is the only one now practised by the Canadian *habitant*), but it is also the best means of furnishing the farmer with the first necessaries of life, and the articles which, so to speak, will most readily find an outlet in our markets, such as beef, lard, mutton, butter, cheese, wool, and other products already named.

MANURES.

Manures are of the first importance to the farmer, and he must do everything in his power to increase their amount. The system here proposed is calculated so as to increase the quantity of manure in proportion as the soil becomes improved. As already said, the farmer ought not to sell a particle of his hay or straw, because these are the principal materials for manure, and consequently it is infinitely worse to sell the manure itself. The manure thus economized will suffice each year for the field which is to receive the root crop (No. 1).

After the crop of Oats (No. 6), the land is not yet exhausted, and might even yield another grain crop. It is better, however, to preserve this fertility than to be obliged to bring back continually this degree of fertility.

In this short treatise, it is impossible for me to mention one hundredth part of the means which we have of increasing our stock of manure. I shall content myself with alluding to the rich deposits of bog-mould which we possess, and the limestone which can be had every where. The very weeds even, which are the curse of our fields, may be converted into good manure.*

DRAINING.

Although Drainage is a profitable improvement of the land, it is so expensive that I will say nothing more about it than what the Canadian farmers know already, that is, that the land ought to be so ditched that water cannot lodge and render the soil unproductive.

[There are always spare days, however, such as a damp day in harvest, or when the frost stops the ploughing in the fall, when underdraining might be done to a considerable extent. All drains in this climate should be at least 3½ feet deep, cut as narrow as possible, and filled with eighteen inches of broken stones, or laid with draining tiles. Whenever the land is springy, or the subsoil heavy and retentive, draining will do good. The drains should be cut parallel, from 20 to 30 feet apart, and should run in the direction of the lowest level.]

STOCK.

As for the sort of Stock which ought to be kept, I would advise a regular proportion of all the animals which prosper with

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* See Society's Report on Manures.

us, because one sort may be fed on the food which another will not touch. For instance, Sheep eat greedily and get fat upon French beans, which no other creature but man can use.

HORSES.

The Canadian Horses are, everything considered, the best breed for the country, but we ought to take care to raise only the best sorts: the system of leaving entire all the small miserable stallions, is sure to deteriorate the breed: Colts ought to be fed abundantly, particularly during the first winter after weaning. Nothing can be more absurd than the idea of starving a young Colt, for the purpose of making it hardy: still the idea is rather commonly entertained. Colts, like children, require ample liberty and ample nourishment.

CATTLE.

The Canadian breed is perhaps the best for the country, and the best to yield milk, butter, &c., provided care be taken to select the best bulls and cows to breed from. Too much care cannot be given to this point, and the calves must be supplied with good and abundant food. If it be desirable to cross the breed, so as to increase the quantity and quality of the milk, this can only be done with the Ayrshire breed, seeing that the larger breeds do not do so well for the country, at least in the present condition of its pastures.

[By keeping a thorough-bred Bull, and changing every three or four years, and rearing only the best heifers, the stock would gradually be brought up nearly approaching to the breed of the sire.]

A good Canadian Cow will, in my opinion, give more milk for the same allowance of food, than any other breed which I know.

[The profits of the dairy depend almost entirely on the care taken of the cattle during winter. Cows, warmly housed and well fed through the winter, and put on good pasture in summer, will yield much more than sufficient to pay for the difference of keep. In the Province of New-Brunswick, cows are generally fed on dry hay in winter, kept in cold stables, and are pastured in the woods, or on fields which have been impoverished by excessive cropping. The consequence is, that, as

reported by the Farmers themselves to Professor Johnston, the average yield, per cow, for the season, is only 89 lbs. Butter, or 140 lbs. Cheese. In Ayrshire, as reported by Mr. Colman, Commissioner from the United States, the yield is, per cow, 300 lbs. Butter, or 500 lbs. Cheese. To ensure a similar yield, the following treatment is requisite:

Select good, well shaped, healthy cows. In winter, provide for them a warm stable on the south side of the barn. Water them in their stalls. Boil regularly for them a mixture composed of turnips, mangolds, or carrots, with chaff or cut hay, and a small allowance of barley, oats, or linseed: of this let them have two pailsful each, daily—and as much oat-straw or hay as they require. In summer, turn them into fields where they can have as much grass as they can consume. The cows should calve in April: the calves to get the milk for a month, and afterwards to be weaned off with skimmed milk and boiled linseed.]

SHEEP.

The Liecester breed is the best to give large and fat sheep, but it is not so advantageous as regards wool, which is perhaps the principal object for which sheep are kept. That breed which would possess a combination of the two qualities of fat meat and fine wool, and a vigorous constitution withal, would be the best for Lower Canada. To attain this object, you might cross the common sheep of the country, first with a Liecester Ram, so as to get a large breed, and then mix the product of the first cross with a Cheviot Ram, so as to get a finer wool, or first with a Cheviot and then with a Liecester Ram. In this way I have procured hardy sheep, any one of which will yield six or eight pounds of fine wool, and from twenty-two to twenty-five pounds of mutton per quarter. In breeding, the greatest care must be taken always to choose the finest Rams, and to preserve the finest lambs; and on no pretext ought the finer individuals to be disposed of.

ON KEEPING SHEEP.

As this is of the greatest importance, and but little known, I will add a few remarks, which will be excused, since this has been the business of almost my whole life.

Sheep ought not to be allowed to run from field to field, as this gives them wandering habits, which injures them the whole summer through. When sheep are well fed and well treated, they will follow the person who has charge of them wherever he pleases; and if they are taken and enclosed in good pasture, they will give less trouble in looking after them than any other sort of stock. It is also of the greatest importance to smear sheep about the middle of November: for which purpose I have made use of the following mixture, which succeeded wonderfully well. The quantities here indicated will suffice for twenty sheep.

Rosin, - - -	4 lbs.
Common Oil, - -	3 pints.
Butter, - - -	3 lbs.

The oil ought to be heated to the melting point of the rosin, and the butter then added after the oil has ceased to boil, which is a point requiring attention. The whole ought to be stirred until they become thoroughly mixed; and should the composition prove to be too thick to be used, buttermilk or cream may be added, taking care to mix well. This ointment is to be smeared on the skin of the sheep in parallel lines, distant one inch from each other, and for the whole length of the creature. This application destroys vermin, invigorates the growth of the wool, and protects the animal against cold. This precaution is absolutely necessary if we wish to secure a good flock of sheep.

Another thing of great importance is, never to shut up sheep in a close ill ventilated place. It would be better to pen them up in some corner of the barn rather than to treat them so. The sheep can naturally endure a considerable degree of cold, but it cannot do without fresh air; consequently the fold ought always to be well ventilated.

It is a very bad practice to let the rams walk with the sheep in autumn, because that is the reason why the ewes drop their lambs too early in the spring. The ram (and a single one will be enough for five farmers,) ought to be kept apart from the 15th of September till the 22d November, and if, at this latter period, he be allowed to go to the sheep, the lambs will appear about the 17th of April, and the ewes will not have had time to get worn out with suckling before going out again to the pasture.

PIGS.

The best breed for the country is that called the Berkshire, or Chinese, and as many as possible ought to be kept upon

every farm, (that is as many as will consume all the milk and other remains of the dairy,) and which may be fattened in the fall. That lean, hungry, long-legged, long-nosed animal, styled the Canadian Pig, ought to be for ever banished. A good breed will produce double the lard with half of the food. The Chinese or Berkshire Boar, crossed with the breed of the country, for three or four years, will effect the necessary change.

AGRICULTURAL IMPLEMENTS.

Those which are generally made use of, with the addition of the two mentioned above, viz., the Roller and Cultivator, may suffice until new improvements require the use of new implements.

DAIRY.

The Canadian women are industrious and cleanly, consequently they are well fitted to make good butter and cheese, as soon as they know how, but this does not come within the limits of the present little treatise; besides, the cattle ought to be well fed before we can hope to get milk sufficiently rich for the purposes of the dairy. I limit myself, therefore, to indicating these preliminaries.

CONCLUSION.

It may be said, that the Agricultural Societies are intended to bring about the improvements required by the country; but if these societies content themselves with offering prizes for the finest animals and the heaviest crops, without teaching the way to produce fine animals and fine crops, they will be acting like a person who shows another a fine bunch of fruit on the top of a wall, without offering him a ladder whereby he might reach it. He would be reduced to the necessity of looking at it, and wishing for it, without the hope of reaching it. The publication and circulation of practical advice like the foregoing, is that which would become to this individual the ladder of which he is in want.