Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- ☐ Coloured covers/ Couverture de couleur
- ☐ Covers damaged/ Couverture endommagée
- ☐ Covers restored and/or laminated/ Couverture restaurée et/ou pelliculée
- ☐ Cover title missing/ Le titre de couverture manque
- ☐ Coloured maps/ Cartes géographiques en couleur
- ☐ Coloured ink (i.e. other than blue or black)/ Encre de couleur (i.e. autre que bleue ou noire)
- ☐ Coloured plates and/or illustrations/ Planches et/ou illustrations en couleur
- ☑ Bound with other material/ Relié avec d'autres documents
- ☑ Tight binding may cause shadows or distortion along interior margin/ La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- ☐ Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/ Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

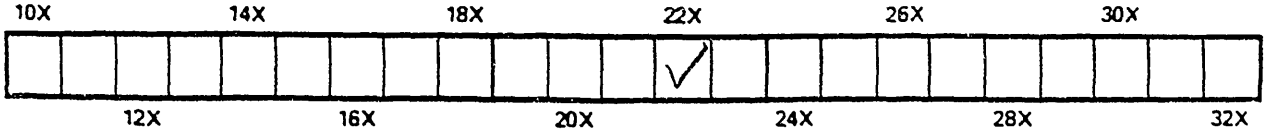
- ☐ Coloured pages/ Pages de couleur
- ☐ Pages damaged/ Pages endommagées
- ☐ Pages restored and/or laminated/ Pages restaurées et/ou pelliculées
- ☑ Pages discoloured, stained or foxed/ Pages décolorées, tachetées ou piquées
- ☐ Pages detached/ Pages détachées
- ☑ Showthrough/ Transparence
- ☑ Quality of print varies/ Qualité inégale de l'impression
- ☑ Continuous pagination/ Pagination continue
- ☐ Includes index(es)/ Comprend un (des) index

  Title on header taken from:/ Le titre de l'en-tête provient:

- ☐ Title page of issue/ Page de titre de la livraison
- ☐ Caption of issue/ Titre de départ de la livraison
- ☐ Masthead/ Générique (périodiques) de la livraison

☐ Additional comments:/ Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.



THE

CANADIAN AGRICULTURIST

AND

Transactions

OF THE

BOARD OF AGRICULTURE OF UPPER CANADA.

VOL. V. TORONTO, MAY, 1853. NO. 5.

MEETING OF THE BOARD OF AGRICULTURE.

A meeting of the Board was held in their rooms, in this City, on Wednesday April 29th. E. W. Thomson, Esq.. *President*, took the chair at 10 o'clock A.M. Members present—Hon. Adam Fergusson, Mr. Sheriff Ruttan, R. L. Denison, Esq., *Treasurer*, and Professor Buckland, *Secretary*.

The Minutes of the last meeting having been read and confirmed, the Secretary read a letter from Wm. Matthie, Esq., of Brockville, President of the U. Canada Agricultural Association, intimating his fears that in consequence of urgent and unexpected business he would be prevented attending. A letter was also read from J. B. Marks, Esq., stating his inability to attend.

After some conversation of a preliminary character, it was agreed to take up first the revision of the Premium List and regulations of the Exhibition for the present year. The Secretary read several communications containing suggestions and recommendations in reference to that subject, from the President of the Association, Messrs. John Wade of Port Hope, Daniel Tye of Wilmot, and others. A letter was also read from Mr. Sheriff Treadwell, Vice-President of the Association. The consideration of these matters occupied the principal part of this day's sittings,and a number of modifications to the rules, and additions to the Prize List were made. The particulars will appear with the revised list, in the June number of the *Agriculturist*.

A number of resolutions and regulations relating to mere details were adopted and entered on the minutes of proceedings. The following only are deemed of sufficient public importance to be published in this place:—

Resolved,—That all blood Horses and thoroughbred Cattle intended for competition at the next Annual Show be entered by the Secretary in Toronto *not later than Saturday, September 24th, and that their full pedigrees be sent in at the same time*, for the purpose of examination. No animals shall be allowed to compete *as pure bred*, unless they possess regular Stud and Herd Book pedigrees, or satisfactory evidence produced that they are directly descended from such Stock.

Resolved,—That Professor Croft, Mr. James Fleming, and the Secretary, be a Committee for revising the Prizes in the Horticultural department.

Resolved,—That the Secretary be instructed to make enquiries from England or the United States with reference to the price and economical results of the most approved Machines for making draining tiles and pipes, and to publish the information, thus acquired, in the *Agriculturist*.

Resolved,—That the thanks of the Board be communicated to His Excellency the Governor General, for his donation of £20, to the funds of the Upper Canada Agricultural Association.

Resolved,—That the said sum of £20, given by His Excellency, be awarded to any person in Upper Canada who shall be the first to introduce and put into working operation, to the satisfaction of the Board, a pipe and drain tile Machine, of the best construction; and that the Association give a Prize of £10, for a second Machine, so constructed and put in operation.

John Harland, Esq., having stated that he was entrusted with the sum of £25, being a grant from the Municipal Council of the county of Wellington to the funds of the Provincial Agricultural Association; it was

Resolved,—That the thanks of the Board be given to the County Council of Wellington for their liberal donation.

At this stage of the proceedings the Secretary read a telegraphic dispatch stating that the President of the Association, Wm. Matthie, Esq., had left Brockville to attend the Board; also a letter just received by post from that gentleman, enumerating several Prizes to the amount of £50, which he was desirous of giving at the next Exhibition, if approved of by the Board.—Whereupon it was

Resolved,—That the warmest thanks of the Board be given to Wm. Matthie, Esq., President of the Upper Canada Agricultural Association, for his munificent contribution; and that the Prizes proposed by him be adopted,and inserted in the forthcoming Premium List under a distinct heading of "THE PRESIDENT'S PRIZES."

The following are the particulars and the conditions of these prizes, which are inserted here without abridgment:—

THE PRESIDENT'S PRIZES FOR THE ENCOURAGEMENT OF THE FOLLOWING PRODUCTIONS OF CANADIAN GROWTH AND MANUFACTURE.

Best 5 bushels of Winter Wheat . . £5 0 0
Wheat and flour form two of the great staples of Canadian exportation.

Best 3 firkins of Butter, from 60 to 80 lbs. each, put up in suitable kegs for export by sea 4 0 0

Best 2 Cheeses, of not less than 30lbs. each 2 0 0
Butter and cheese are of growing importance for export to England and the United States; their quality may with a little care be greatly improved, and the quantity much increased within the circle of almost every farm, without much additional cost for labour.

Best 112 lbs. Flax 4 0 0

" 112 lbs. Hemp 2 0 0
The soil and climate of Canada are well adapted for the cultivation of these, and a ready, and it is believed, a profitable foreign market could be formed for the surplus production.

Best 29 lbs. Broom Corn Bush . . 1 0 0

" 60 lb. Red Clover Seed . . . 1 0 0
Both of these are imported, — the former largely, in a raw as well as manufactured state—the latter, east of Kingston, is not produced but to a small extent. Both might be raised sufficient for the wants of the country.

Best South-down Ram, two shears . . 4 0 0
Wool of the finer quality is now imported to some extent, its production might with great advantage be increased to supply the manufactures of the woollen goods, now so successfully made in Canada, as well as to increase the present exports.

Best Boar, one year and over, *large breed.* 3 0 0
Pork (Mess) is still imported to a limited extent for the lumber trade.—This, our country is capable of producing profitably, for home and export.

Best Plough for general purposes . . 1 10 0

" Horse-power Thrasher and Separator 2 10 0
Good Agricultural Implements are necessary for successful farming, the skill for manufacturing which, is to be found in Canada, if anywhere.

Best Essay, written by a person under 25 years of age, following agricultural pursuits in Canada, East or West, "On the "dignity of agricultural labor—and the "best means of making that labour "profitable, in view of the climate, soil, "present and prospective markets, and "the increasing transit facilities of the "country. 10 0 0
There *is mind* among the agricultural youth of Canada; its developement is most desirable—and the dignity and profitableness of their pursuit is a proper theme for its display.

To the County Agricultural Society of that County which shall carry off the greatest number of the foregoing prizes. 10 0 0
This sum to be devoted thereafter to forming special prizes, by the said County Society.

The Judges upon the foregoing prizes will be appointed by the Association, and the amount paid during the Exhibition.

George Buckland, Esq., Secretary, and such other gentlemen as he may select, will consider and determine the merits of the Essays. The Essays to be sent in, marked with a cipher, before the 1st of September to Mr. Buckland, accompanied with the name and cipher of the writer, the note only of the successful essayist will be opened. The successful essay and such others as may be considered worthy, with the consent of the writers of the latter, to be published by the Association in the *Canadian Agriculturist*

The following gentlemen were appointed a a Local Committee at Hamilton, for fencing and arranging Show Grounds, &c., with power to add to their number, in accordance with the Bye-law, which restricts the whole number to fifteen:—The Mayor of Hamilton; N. Ford, Esq., Ex-Mayor; the President of the Agricultural Society of the County of Wentworth; President of the Horticultural Society of Hamilton; and the President of the Hamilton Mechanics' Institute.

The Board adjourned at 5 o'clock to 9 next morning.

SECOND DAY'S SITTING.

Thursday, April 28th.

The Board met at 9 o'clock. In addition to the members present yesterday, was William Matthie, Esq., the President of the Provincial Association.

The revision of the Premium List made during the first sitting was reviewed, and some further additions made; among them may be mentioned here,—the sum of £5 for the best Report on the application of Bone-dust as a Manure; and the admission of Galloway cattle as a distinct class into the forthcoming List.

The Secretary having received several County Agricultural Reports, in competition for the Society's Prizes, it was,

Resolved,—That the President of the Association, with Messrs. John Harland and Hugh Thomson, be a Committee to examine the said Reports, and to adjudicate upon them.

Communications on the subject of providing tents for the Exhibition were read, and the arrangement with Mr. Williams, of Rochester, approved of; and the Treasurer was authorized to hire what additional tents might be neceesary.

The Experimental Farm, commenced last year on the University Grounds, next engaged the attention of the Board, and the necessity of

proceeding with the object with greater earnestness and dispatch, was unanimously felt and approved of. It was therefore

Resolved,—That the requisite means for putting the Experimental Farm into a more improving condition be forthwith taken; that a team and necessary implements be procured, not to exceed in the first instance, £250, which sum the Treasurer is hereby authorised to advance, if necessary; and that plans and estimates for a dwelling house, with necessary buildings and fences, be procured with as little delay as possible; and that the Chairman, Secretary and Treasurer, be a Committee to carry out the Provisions of this Resolution.

The Reports received by the Board from County and Township Agricultural Societies for 1852, in accordance with the provisions of the present Statute, may be regarded on the whole as satisfactory, and a decided improvement on previous years. Several cases of difficulty experienced by Societies, in regard to the distribution of the Government grant in one case, and the place of holding the Exhibition, and the legal recognition of two rival Societies in the same County, in others. It was

Resolved,—That the Board can only take action in disputed matters, when the law provides that it shall act, and therefore anything that has occurred in any County with respect to the division of monies by County and Township Societies for the past year, is beyond the control of the Board.

Resolved,—That in the event of two or more Societies being formed in any one County, the Board can only decide which is the legally constituted Society by reference to the date of its formation. In all cases the Society *first formed*, if it has complied fully with the conditions of the law, should be accepted as the authorized County Society.

The Secretary laid before the Board a letter from James Whitman, Esq., of New York, with several circulars relative to the forthcoming New York Exhibition; also a Resolution passed by the Toronto local committee of the Provincial Association in relation to the same subject; whereupon it was

Resolved,—That in reference to the Resolution passed by the Provincial Association in September last, the Board are not now in a position to take any action with respect to the New York Exhibition, not having received any official communication from the Provincial Government on the subject.

Resolved,—That this Board do adjourn to the second Wednesday in June, to meet in the City Hotel at Hamilton.

Signed E. W. THOMSON,
Chairman.

Mr. Card, of Guelph, offers through Mr. Harland, a quart of seed of the Gold of Pleasure for the purpose of testing on the Experimental Farm.

Just as the Board rose the Secretary received the following letter from David Christie, Esq., M. P. P.:—

Quebec, 23rd April, 1853.

My dear Sir.—It will be impossible for me to leave my Parliamentary duties so as to attend the Meeting of the Board of Agriculture. I regret this very much.

I am well pleased to learn from you that the Agricultural Reports are of so good a character. This is a point of the highest importance to Canada, and the success which has attended our efforts to elicit information, shows the propriety of the plan adopted by us. Wishing you a prosperous meeting—

I remain,
Yours very truly,
DAVID CHRISTIE.

George Buckland, Esq., Toronto.

THE ANNUAL REPORT OF THE COUNTY OF PETERBOROUGH AGRICULTURAL SOCIETY FOR 1852.

In all ages Agriculture has been regarded as the most useful and necessary of occupations. It is said, "The King himself is served by the field." Whatever improves the Agriculture of a country promotes its welfare, therefore every true patriot rejoices at any advance made in the art of husbandry. Your Board consider the present state of this colony particularly cheering in this respect.

A glance at the statistics of this Province convinces at once of the great increase in population and agricultural products, &c., and of necessity in prosperity.

The appointment of a Minister of Agriculture, together with a Bureau of Agriculture, promise much for the welfare of the farming community, as they will be valuable means for collecting and circulatingin formation, instituting experiments and various other matters which cannot be accomplished by individuals or individual Societies.

Your Board refer with pleasure to the flourishing condition of the Provincial Agricultural Association. At its last show many articles were superior and others equal in quality to those exhibited at the New York State fair. In aid of its funds your Board granted £10.

Your Board however would look at their own sphere of operation and see if there is an advance made here. It is with much pleasure they give tangible evidence of the rapid improvement of this County and great increase in wealth, as shewn by the Census taken in 1852.

Your Board regret they cannot give as detailed a statement as they could wish; however, sufficient can be given to convince every one of the prosperity of this County; it may be observed that by County is meant the United Counties of Peterborough and Victoria.

In the year 1842, the number of inhabitants in this County was 13,745; in the year 1852, 26,894, showing an increase in the population of a fraction less than 100 per cent in 10 years. An increase in a County which is seldom obtained

even in the neighboring Republic so justly famed for its rapid increase in population. To shew that this increase has not only been rapid but proportionate, it is only necessary to add that in 1848 the population was 21,271, in 1850, 22,-062, and for the sake of comparison, we give 1852, 26,894.

Again in 1847 the number of bushels of wheat raised in the County was 276,044, in 1849, the number of bushels was 294,333; in 1851, the number was 518,470, shewing an increase in 4 years of a little less than 100 per cent.

In 1847 the quantity of Oats raised was 242,-620 bushels; in 1851, 437,376, almost doubling the quantity in four years.

In 1847 the amount of Peas raised was 47,-348; in 1849, 68,234; in 1851, 109,905, shewing a gradual and steady increase in the first two years of 45 per cent, and nearly 50 per cent in the last two years.

In the year 1849, 140,483 bushels of turnips were produced. Your Board regret they cannot conveniently obtain a statement in years past, and for the year 1851, excepting for the County of Peterborough, which raised 90,781 bushels. They feel confident that the increase in this article is very great; they would almost be justified in saying that for every turnip grown 10 years ago there is now a bushel, if not more.

In 1849, the produce of hay was 10,567 tons, and in 1051. 17,538.

In 1847, the amount of wool was 67,104 lbs; in 1849, 79,687 lbs; in 1851, 90,942 lbs, an increase of upwards of 40 per cent in four years.

Your Board would particularly direct attention to the great improvement in dairy produce. Ten years ago the amount of butter packed for export, and cheese made for market, was but very small. Now the increase is as follows:

In the year 1847, 98,372 lbs butter were made for market; in 1849, 132,969, and in 1851, 527,709 being an increase of 500 per cent in four years.

In 1847, 14,384 lbs of cheese were made for market; in 1851, 43,654, being an increase of over 300 per cent. in four years.

In 1847, there were 3,028 bbls beef and pork packed for market: in 1851, there were 12,956, an increase in four years of over 400 per cent.

In the year 1842, the number of horses was 1,330, in 1852, 5,485.

In the year 1847, the number of sheep was 24,228; in 1850, 27,588, and in 1852, 33,331.

In 1847, the number of hogs was 16,471, and in in 1852, 19,324.

The aggregate amount of rateable property according to the census of 1842, amounted to £159,000. The aggregate amount of rateable property according to the census for 1852 was £775,725, exclusive of the rental of the town of Peterborough, which was £9,521.

Average value of uncultivated land in 1842 was 4s. per acre; in 1850, 15s. 11d., in 1842 the average value of cultivated lands was £1 per acre, in 1850, the average value was £1 14s. 5d.

In 1842, there were only eight pleasure waggons in the whole County, now in one township alone of 173 rate-payers, there are 13 pleasure waggons. This circumstance although trivial in itself, certainly indicates that improvement in roads and attendance to the comforts of life in some degree keep pace with the increasing wealth of the County.

In looking over the above statistics two things must strike the most casual observer.

First, the very proportionate as well as rapid increase of the individual items; take for instance that of sheep, as follows: 24,000, 27,000, 33,000.

Second, That one article of produce is not cultivated to the neglect of another. We see that the increase of grain does not decrease the amount of dairy and grazing produce. This shows clearly that farming in all its branches is rapidly on the advance, and that one department keeps pace with another.

Another interesting enquiry suggests itself.—Is there an increase in the average produce of each individual? By the subjoined statement it appears there is.

In 1847, the produce of wheat was at the rate of 13 bushels to each inhabitant; in 1851 19 bushels to each.

In 1847, the produce of oats was at the rate of 11 bushels to each, in 1851, 16 bushels.

In 1847, the produce of peas a little over 1 bushel; in 1851, a little over 1 bushels.

In 1847, the produce of cheese was about ⅔ lb. to each, in 1851, nearly 1¼ lbs.

In 1847, the produce of butter was 4½ lbs. to each.

In 1851, the produce of butter was 19½ lbs. to each.

As the population of these Counties are chiefly agriculturists, the above calculations are allowable, and just inferences may be drawn from them.

Not being in possession of all the statistics, the average produce of grain per acre throughout the Counties cannot be ascertained, with the exception of wheat, which in 1847 averaged 10 bushels per acre, and in 1851, 17 bushels per acre.

It should be observed, however, that the year 1851 was a very productive season, and therefore some allowance must be made for this. But looking at the statistics as a whole, there is just

reason for considering the Agriculture of these United Counties in a very prosperous and rapidly advancing condition, and that they will not suffer by comparison in this department with any other County of this Province under similar circumstances.

Your Board would now turn to their own immediate department, and report upon the state of your Society, and its operations during the past year.

Your Board are glad to find by comparison, that the average number of successful competitors at the shows are increasing. Thus at the fall show of 1845, the number of premiums given was 45, the number of individuals who took these, 17—being at the rate of over 2¼ prizes to each person. In the fall show of 1846 the number of premiums given was 50, number of individuals obtaining these 21—at the rate of a little over 2¼ prizes to each; at the Fall show of 1849, 49 premiums were awarded to 22 individuals, being at the rate of a little more than 2 prizes to each. At the Fall Show of 1850, 53 premiums were given to 31 individuals, being at the rate of about 1¾ prizes to each. In the fall of 1852, 59 premiums were given to 35 persons —being at the rate of a fraction less than 1¾ to each.

The more general distribution of prizes, as seen from the above, is another evidence of the improvement of these Counties, because it shews that superior stock and articles of produce are not confined to the few, but scattered over the country. Your Board feel confident that the efforts of your Society have more or less contributed to this by offering premiums, and thus stimulating to emulation and laudable competition.

Your Board are happy to find the increased cultivation of root crops and clover becoming so general throughout the County, as it is an acknowledged fact that in those countries which stand highest in their agricultural position, particular attention is paid to the growth of root crops and clover; because by this means a greater quantity of stock is kept, and in much better condition, from the same amount of land, and thus a greater quantity of manure is obtained, as well as superior in quality, by which the fertility of the soil is increased. Your Board beg attention to the marked improvement in plowing, so very evident at our last ploughing match. The workmanship was so uniformly good that the judges had great difficulty in awarding the prizes. This, together with the great interest in the competition manifested by spectators, indicate an increased and general attention to this most important department in the operation of the farmer. Your Society here claims a mede of praise, for to its exertions this improvement may be more or less attributed. Without strict attention to good plowing we cannot calculate upon productive lands.

Your Society purchased last spring 10 bushels of the Early Warwick Pea, which were given to two individuals, with the condition that the produce was to be returned to the Society, at 3s. per bushel, reserving 5 bushels for themselves. The parties report favourably of this seed. They have returned upwards of 65 bushels, which is at the disposal of your Society.

Your Board also purchased clover seed and plaster, and sold at cost. A loss has been sustained by this transaction, as seen in the Treasurer's account.

Small lots of long clover seed, carrot seed, and mangold wurtzel seed were purchased, of which there is still a considerable proportion on hand. Your Board have during the past fall purchased 384 bbls. Plaster, which is now ready for delivery at Port Hope.

Your Board, in order to disseminate useful information, have given the Canadian Agriculturist to each member of your Society.

The number of members in your Society is 153. £58 9s. 6d. have been expended in premiums.

In accordance with the Agricultural Act, the Otonabee, Emily, and Dummer Township Societies have sent in their reports for the past year. The Report of the Otonabee Society was then read by the Secretary, on which the Board made the following remarks:

From this Report it would appear that a portion of the funds of the Otonabee Society have been expended in premiums for plowing. It is to be hoped that the benefits so sure to result from this course will soon remove the opposition which has hitherto existed, and that it will meet with a cordial support. Your Board regret that the laudable attempt to introduce subsoil plowing has not been so successful as could be wished, but hope a future trial will confirm the opinion so universally entertained of this valuable implement. The Report also mentions the establishment of a Farmers' Club for the discussion of agricultural subject, &c. An example is here given worthy of being followed, where practicable, by every agricultural community. Much good has resulted from these institutions, and we wish the Otonabee Farmers' Club every success and long continued support. On the other reports, simply consisting of the names of members, the Treasurer's account, and the Office-bearers for the present year, no remarks could be made.

I hereby certify that the above is a true and correct copy of the Report of the County of Peterboro' Agricultural Society for the year 1852.

JOHN W. GILMOUR,
Secretary of C. P. Ag. Sy.

Peterboro', March 3d, 1853.

BALANCE SHEET.

DR. COUNTY OF PETERBORO' AGRICULTURAL SOCIETY IN ACCOUNT WITH TREASURER. CR

1852.		£ s. d.	£ s. d.
Jan. 10	To Cash pd. Haslehurst for Printing		1 7 6
" 16	.. Mariposa Br. deposit	21 5 0	
" "	.. do do. grant..	28 0 0	
			49 5 0
" "	.. Paper pr. J. Gilmour		0 0 6
March 22	.. 130 'Agriculturists'	16 5 0	
" "	.. Bank for Draft.....	0 1 3	
			16 9 3
" "	.. Postage for 12 mos. for Agricul. papers		3 5 0
April 2	.. E. Powell Long Clover.....		10 4 0
May 15	.. J. Stevenson, Clover Seed		105 0 0
June 10	.. Bletcher & Brothers, Plaster.....		104 10 0
" 22	.. John Wade, per acc.		9 7 6
" "	.. Draft.....		0 1 3
Sept. 25	.. Bank for transmitting Money.....		1 2 6
Oct. 5	.. Emily Bran. Deposit	25 0 0	
" "	.. Government Grant.	28 13 4	
			53 13 4
" 27	.. Mariposa Deposit..	21 10 0	
" "	.. Government Grant.	24 0 0	
			45 10 0
" 29	.. Ops Deposit.....	34 0 0	
" "	.. Government Grant.	39 0 0	
			73 0 0
Nov. 20	.. Otonabee Deposit..	29 10 0	
" "	.. Government Grant	33 5 0	
			62 15 0
" "	.. Premiums, Spring..		14 7 6
" "	.. Do. Fall....		44 2 0
" "	.. J. Hamilton, Build. and removing Pens		0 15 0
" "	.. Paper 7½d., 4 yards		
1853.	Ribbon at 3d.....		0 1 7½
Jan. 5	.. J. Bletcher, Plaster.		95 0 0
" 22	.. Do. Balance of old Plaster....		5 0 0
" 24	.. J. W. Gilmour for 6 dinners (Judges).		0 7 6
" "	.. Prov. Ag. Society..		10 0 0
" "	.. Draft for ditto		0 1 3
			704 12 8½

1852.		£ s. d.
Jan. 1	By Balance at this date	50 17 ½
April 1	.. Otonabee and Asphodel Br'ch	29 10 ½
May 1	.. Emily Branch	25 0 0
" "	.. Ops do.	34 0 0
" "	.. Mariposa do.	21 10 0
Sept. 25	.. Government Grant.....	250 0 0
" "	.. 373 Plaster.....	107 12 3
" "	.. 75½ Clover Seed	99 11 8
" "	.. 6 lbs. Turnip Seed.....	0 12 4½
" "	.. 57 10/16 Long Clover Seed.....	2 3 3
" "	.. 1 lb. Carrot Seed	0 5 0
" "	.. ¼ lb. Mangold Wurtzel....	
" "	.. Subscription for 1851	38 0 0
1853.		
Feb. 4	.. Jas. Stevenson, Balance of Clover Seed.....	4 15 3
" "	.. Balance due Treasurer.....	40 15 5
		704 12 8½

To Balance due Treasurer.... 40 15 5

JNO. W. GILMOUR, *Secretary.*

OFFICERS.

JOHN WALTON, *President.*
JOHN HARVEY, *Vice-President.*
THOS. BELL, *Vice-Vice-President.*
JODN W. GILMOUR, *Secretary.*
ROBERT NICHOLS, *Treasurer.*

Directors.

Wm. H. Moore, L. Davies,
E. Mann, John R. Milburn,
J. Milburn, Joseph Walton,
Adam Hall.

JNO. W. GILMOUR,
Sec C. P. Ag. Sy.

TOWNSHIP OR BRANCH SOCIETIES.

The Secretary of the County of Peterboro Society has transmitted Reports, with lists of members, &c., of five branch Societies, viz: the Otonabee, the Ops, the Emily, the Asphodel, and the Dummer Branch Societies.

The Asphodel Branch.

This is a new Society, organized the present year under the New Act, and numbers 86 Subscribers at 5s. each.

The following persons were appointed Officers of the said Society for the year 1853.

WM. SCOTT, Sen., *President.*
PATRICK CAMERON, ESQ., *Vice-President.*
WILLIAM BURK, *Trea. & Sec.*

Directors:

David Burgess, Alexander Nichol,
Thomas Spiers, Thomas Hanston,
Walter Scott, John Elliott,
Henry Franks, Esq., Robert Morrison,
John Robb.

The Dummer Branch.

The Agricultural Society of the Township of Dummer and Duro, held their Annual Meeting at Warsaw on the 11th January, 1853, at which meeting the following Officers and Directors were appointed.

JOHN FERRIER, Sen., *President.*
ALEX. ESPLINE, *Vice-President.*
JOHN ROSE, *Secretary.*
THOMAS CHOAT, *Treasurer.*

Directors:

John Sullivan, William Wigmore,
Lazarus Pryne, Watts Teigh,
Charles Peters, John Ferrier, jr.,
John Wason, Sampson Lukey,
Joseph Grant.

Number of Subscribers in list transmitted—48, at 5s. each. No report of previous transactions transmitted.

Emily Branch.

At the Annual Meeting of the Emily Branch Agricultural Society held at Edward Blackwell's Hotel, on Monday the 19th day of January, 1852, the following persons were appointed Officers for the ensuing year.

WM. LAIDLY, *President.*
THOMAS CRAWFORD, *Vice-President.*
WILLIAM COTTINGHAM, *Secretary.*
ARTHUR MCQUADE, *Treasurer.*

Committee of Management:

C. Knowlson, Wm. Cottingham,
William Best, James Laidly,
Thomas Fee, Daniel Scully,
A. Thornton, William Lang,
Henry Moore, Matthew Willson,
John Irons, J. W. Blaylock,
William Davidson, Thomas Mitchell, jr.

The Society numbers 65 members, subscribing among them £25, in sums varying from 5s. to 20s. each. Their funds for the year 1852 consisted of—

Members subscription as above . .	£25	0	0
Portion of Government grant received from County Society.	28	3	4
	£53	3	4

Expenditure in Premiums, &c., during the year 1852, £16 1 7½
Leaving a balance in the Treasurer's hands, proposed to be expended in the purchase of Clover Seed of . £27 1 8½

Ops Branch.

The following is an abstract of the report transmitted by the Secretary of this Society to the Secretary of the County Society.

The Committee of the Ops Branch, Agricultural Society, have great satisfaction in reporting the success that has attended their exertions during the past year, their subscription list having swelled from eighty members the previous year, to one hundred and twenty-nine members the past year. Strict attention has been principally directed to improving the seeds, as hitherto, considering this to be the only way to cause the Farmers to take an interest in Agricultural Associations. During the past year, they have purchased twenty-two bushels of clover seed, three hundred and ninety-six papers of garden seed, thirty-four pounds of Swedish turnip seed, and sixty-five bushels of a new kind of Fall Wheat, and distributed them among the members free of charge. Their attention has been also directed to the improvement of stock, for which purpose they purchased, for the use of the Society, a valuable Boar, at the Provincial Exhibition; they have also distributed the sum of ten pounds in premiums at their Annual Show, all of which is respectfully submitted.

Their Annual Meeting was held on 22nd of January, and the Officers elected were Thomas Ray, President; John Gill, Vice President; and G. M. Roche, Secretary and Treasurer. Andrew Hull, Thomas Kinnon, D. McDonald, Thomas R. Adams, James Blackwell, John Mitchell, Thomas Birr, Cornelius Hogan, J. O. Leary, Directors for the current year.

The Treasurer's balance thus condensed, exhibits the receipts and expenditure of the Society for the past year as follows:—

1852.				
Jan. 24.	Amount of Cash on hand, .	£25	19	3
April 39.	" Received from 129 paid up members, . .	34	10	0
July 29.	" Received from President.	29	10	8
Oct. 29.	Government Grant and deposit, ...	73	0	0
		£162	19	11
1852	CONTRA.			
Feb. 17.	Paid for Clover seed, . .	£15	0	0
" "	Deposited with Treasurer	34	0	0
" "	Appropriated to purchase of Seed Wheat.	23	4	7
Sept. 20.	Retiring President's note, .	30	0	0
1853.				
Jan. 20.	Paid in Premiums, ...	10	0	0
" "	Other expenditure for seeds, expenses, &c., during the year, ...	25	14	11½
		£137	19	6½
Jan. 22.	Balance on hand, ...	25	0	4½
		£161	19	11

Otonabee Branch.

This Branch Society held its annual meeting on the 20th January 1853, when the following Report was submitted and adopted:—

"This society has been established nine years, and had a respectable list of subscribers during that time; and has been the means of introducing into the townships many improved varieties of grain, which have materially bettered our sample. Also, of importing superior Bulls, Sheep, Berkshire and other pigs, and have purchased several

varieties of plows, but found none better adapted to general use than those made in the vicinity.

A subsoil plow was also purchased for the use of members, which was used by several farmers without any good result.

The society has endeavoured to advance the march of intellect by disseminating agricultural publications at a low price to those who choose to take them. It has not hitherto thought it advisable to give premiums for the best breeds of stock; as only a few members possessed superior animals, and it would be putting money into the pockets of those few, to the exclusion of the poorer members; hence the Directors deemed it more equitable to offer rewards only for such articles as all could compete for; such as butter, cheese, fulled cloth, flannel, &c.: Yet even this arrangement did not give general satisfaction, and the funds of the society have been in a great measure applied to the purchase of plaster, and clover, turnip, carrot, mangle wurtzel and other seeds.

The purchase of clover seed by the society has been the means of placing it within the reach of all, and thereby causing a much greater quantity to be sown, and consequently the condition of the land much improved and the farmers benefited in proportion.

During the past year the Directors have succeeded (after much opposition) in getting up a Plowing Match, which was well contested and attended, and from the interest it excited is likely to be continued. In Otonabee there is no part of practical farming that requires reformation more than this, for owing to too much of the land being new, few young men have had a fair field in which they could become proficients.

The Directors have also imported from the Messrs. Wade and other noted breeders, a number of improved Leicester Rams, to supplant the Merinos, which the Society introduced some years ago, and which are not now generally approved of. These with some swine, were sold by auction to members, as the Treasurer's report will show, at a loss to the Society.

The Directors seeing the disadvantages arising from the want of social intercourse amongst farmers in this township, owing to the few opportunities they had of associating with each other, resolved to form a Farmers' Club, and invited their brother farmers to assemble monthly during winter to discuss agricultural subjects, and the call has been cordially responded to and promises to become popular and interesting.

On the whole farming here is performed on more scientific principles than it was formerly; a good deal of draining has been done, and more root crops grown, and there is a growing disposition to raise improved stock, and grain of all kinds; but the high price paid for labor and scarcity of laborors, is a great disadvantage to farmers; and hinders many improvements which would otherwise be effected.

The following gentlemen were then appointed Officers of the Society for the present year.

Roger Bates, Esq.,	*President.*
Peter McNeil, Esq.,	*Vice-President.*
Henry Bawbell, Esq.,	*Secretary.*
Thomas Short, Esq.,	*Treasurer.*

And Nine Directors

The Society according to the statement submitted by the Secretary and Treasurer numbers 125 members subscribing 5 shilling each.

Amount of Receipts for the year 1852—			
125 subscribers at 5s. each, ...	£31	5	0
Received from County Treasurer, deposit and Government Grant, ...	62	15	0
Sundries, ...	4	14	4½
	£98	14	4½

EXPENDITURE.

Remitted to Co'y Treas'r,	£29	10	0
Appropriated to purchase of Stock, ...	52	15	0
Sundry expenses, &c. . .	15	5	7
	£97	10	7

1853.				
Jan. 20.	Balance on hand in Cash,	£ 1	3	9
" "	" in notes of hard for Stock imported by the Society and sold to members, ...	25	18	9½
		£27	2	6½

The Agriculturist.

TORONTO MAY, 1853.

AGRICULTURAL EDUCATION.

We think it our duty to invite the special attention of our readers to the report of the Hamilton Farmers' Club, contained in the present number. It is truly a hopeful sign of the times when the question of Agricultural Education is taken up and discussed in a comprehensive and earnest spirit by the farmers themselves. The members of the Hamilton Farmers' Club have done themselves both credit and honor for the intelligence, sound judgment, and correct feeling which they manifested in the discussion of a question in which their dearest interests and those of their children are alike deeply involved. Without professing to subscribe to every opinion espoused, or statement made, in the course of the debate—if that can be correctly termed a debate in which all the speakers, so far as great principles are concerned, were perfectly agreed—we think that Mr. Wade and his coadjutors have done a good service to the cause of a sound, natural progression among their brother cultivators of the soil. Mr. Wade is a man of intelligence, and one of our best and most enterprising farmers, who, while he can properly estimate the indispensable importance of practical knowledge to the agriculturist, does not overlook or depreciate the value of that collateral aid which science and general mental culture impart to those that are engaged in the cultivation of the soil. It makes us feel proud of our adopted country when we find several speakers expressing their deep regret that it was their hard lot

in early life to have had only very scanty means of education, but professing the most ardent and praiseworthy desire to give their children, and the rising generation at large, the fullest practicable draughts at the refreshing fountain of knowledge. Such facts and sentiments speak loudly in favour of Canada. They show that men with scanty means and information by coming to this country can, by persevering industry, obtain honorably a sufficient worldly competence and a higher social status in the advancing scale of civilization. Whenever a man avows an earnest desire to afford his children more ample means of mental and moral culture than he enjoyed himself, it is a demonstrative proof that he is conscientiously alive to one of the greatest and most responsible obligations involved in the parental relation. Farmers of Canada, we tell you plainly, that neither yourselves nor children will ever attain that position in society to which your numbers, industry, and wealth entitle you, *till your class enjoys equal means of education with all other classes of the community*. That those who raise from the soil the daily bread of the people, whose industry supplies the greatest portion of the materials of national wealth, and whose sinewy arms, prompted by loyal and patriotic hearts, have in all ages of the world's history proved the best safeguard of a country's safety and independence, —that this large and important class of men should be doomed, generation after generation, to have doled out to them the merest modicum of education, is a perfect social anomaly, and what an advancing civilization will but little longer endure. The present age is distinguished, among other things, for a liberal and scientific culture of the soil: Can it therefore be tolerated, in any country professing itself Christian and civilized, that the *immortal minds* of a large proportion of the tillers of the earth, as is unhappily the case at present in all countries, should receive comparatively no culture, and be allowed to remain almost a total blank? Christianity, humanity, aye, and *true policy*, one and all, return to the question an imperious and indignant negative.

But it is asked, how is a suitable education, general and special, to be given to the rising generation of farmers? The answer is by no means a difficult one; that is to say, there are no *peculiar* difficulties, either theoretically or practically attendant on educating farmers, any more than on the other classes of which modern society consists.

The children of farmers require, in the first place, a similar mental training, and the same subjects taught them, as the children of other classes. We are not among those who entertain any fears that young people intended for agricultural pursuits can be taught too much. Polite literature, or some acquaintance with modern languages, or even a dead one, would certainly not necessarily make them in after life worse cultivators of the soil; while a means would be afforded them of pure rational enjoyment. However, be this as it may, it is evident that the children of farmers must be educated in the same way, and by the same means, and in the same places, as the children of other classes, viz., in the ordinary schools, colleges, and universities of the country. The mere mention of the last two places in connection with the education of farmers will cause, we are aware, distrust or astonishment among some of the antiquated school; but what subjects are there, we would humbly ask, taught even in our highest seats of learning, which would be unbecoming or injurious for a farmer to learn, provided he had time and inclination (natural ability, we presume, he will be allowed to possess, in common with others) to pursue them? A knowledge of the exact and and experimental sciences—such as mathematics, natural philosophy, chemistry, animal and vegetable physiology, &c.—must certainly tend, in connection, with his daily experience, to make him a more *intelligent*, at least, if not a more successful cultivator of the soil.

For the purposes of a *general* education, our existing schools and colleges are as well suited to those intended for agriculture as any other of the pursuits of life. And we go further—and herein we differ from some of the speakers of the Hamilton Club—and maintain that these institutions, with some slight modifications, or rather additions, not over difficult, we think, to be made, might, to a very great extent at least, be rendered subservient to the *specific* education of our agricultural youth.

In Grammar Schools and Colleges it would be comparatively easy to make an application to the principles and practice of agriculture of the facts and doctrines of experimental science; and a few acres of land, or even a large garden, would be sufficient, under a competent instructor, to afford an intelligent youth a pretty clear and comprehensive idea of the connection between science and agriculture, and of the light which the former often imparts to the latter. We would advance a step further, and apply the same remarks to our common schools, where in fact, Agricultural Education ought to begin. It will be in vain to look for crowded halls in the higher seats of learning, if the Common Schools of the country are neglected or unappreciated. From the very nature of circumstances, such schools must educate the masses, if they are educated at all; and therefore it is that Common School education, in a country like this, especially demands a primary consideration.

And here we may observe that our progress and position are, in no inferior degree, encouraging and satisfactory. The claims of agriculture are already recognized by the present system of Common School Education. The study of chemistry, mechanics, animal and vegetable physiology, has, for several years past, formed a part of the training of teachers in the Provincial Normal School, in this city; and our excellent Governor General, the warm and steady patron of learning, has, from the commencement, we believe, of the institution, given half-yearly prizes for the two students who undergo the best examination in those subjects. The leaven has, therefore, commenced working in the right place, and it has already reached the Provincial University, and it will go on spreading, we trust, until the whole mass of the agricultural community is penetrated by its salutary influence.

As to separate schools for educating those who are destined for Agriculture, in connection with extensive model and experimental farms, the scheme, we think, is quite impracticable in this country. Indeed, such establishments in Europe have met with but very limited success, and have seldom been self-supporting. In Canada we require the principles of Agriculture to be taught in the existing educational institutions from the lowest to the highest, and a comparatively small quantity of ground will be in most cases found sufficient for illustrative and experimental purposes. The labor and expense of engrafting Agricultural Institutions on our present systems of schools and colleges, would not be attended by any serious or impracticable difficulties; and it is much to be desired that such an addition would be speedily made.

We had no other intention when we commenced than simply to recommend the reader's attention to the subject, as treated by the Hamilton Farmers' Club. Our sympathies, however, became elicited in its enforcement and elucidation, and we now leave our hastily written, and perhaps desultory remarks, to the candid consideration of such as feel interested in the intellectual and social improvement of the rural population.

BOARD OF AGRICULTURE OF LOWER CANADA.

We learn from the April number of the "Lower Canada Agricultural Journal," that this Board was regularly organized on the 28th of March. The Hon. Malcolm Cameron, Minister of Agriculture, went from Quebec to Montreal to assist in the arrangements. During six sittings, most important business appears to have been done. Besides the consideration of Certificates from a number of Agricultural Societies, with a view to organization, most of which were approved, we observe several matters which possess a general interest. It was resolved:

"That an Exhibition be held in or near the City of Montreal, on the 27th, 28th, 29th, and 30th of September next."

This Exhibition will be to the Lower Province what the Provincial Show is to the Upper. The new Agricultural Statute throws open *both* Exhibitions to competitors residing in any part of United Canada. This new feature our readers will do well to notice, as a friendly and beneficial competition, to a limited extent, will no doubt result from such a condition.

It was further resolved:

"That two premiums be offered, fifty pounds currency for the best, and thirty pounds currency for the second best, reaping and mowing machines, from any country, to be proved near Montreal, on the second Wednesday of August, 1854; and that the Secretary be required to use his best exertions to have notices of this Resolution published as widely as possible, by requesting the different papers of the United States, Canada, and Great Britain to notice it every three months. Parties desirous of competing for these Premiums must notify their intention to the Secretary of the Board of Agriculture for Lower Canada, not later than the 1st of May, 1854. This Board reserves to itself the right of cancelling these premiums by sending notice to the parties intending to compete, should not a sufficient number of competitors declare themselves."

Major Campell was unanimously elected President of the Board; Alfred Pisoncault, Esq., Vice-President; and William Evans, Esq., Secretary and Treasurer.

RETIREMENT OF MR. EVANS

AS EDITOR OF THE LOWER CANADA AGRICULTURAL JOURNAL.

From the last number of our valuable cotemporary we learn that the gentleman who has conducted it from its commencement is about retiring from his editorial duties. Mr. Evans has been known for many years in Canada as a useful practical writer on agricultural subjects, and his extensive observation and experience in Canadian farming, give to his writings an authoritative value, particularly in the Lower Province. We never was disappointed in looking into the Journal for sound, common sense, advice and opinions on the various practical subjects of agriculture, and we hope that under the new arrangements its character will not suffer in this respect. We are glad to see that Mr. Evans has been appointed to the Secretaryship of the newly organized Board of Agriculture. His long previous experience acquired in a very similar situation, will no doubt enable him to perform the duties of the new office with credit

to himself and much satisfaction and benefit to to the country.

At a meeting for organizing the Board of Agriculture for Lower Canada, it is stated, that Mr. EVANS having respectfully declined taking the publication of the Journal upon the terms proposed, it was unanimously resolved,

"That the Members of the Board regretting that Mr. Evans has not been able to accept the conditions under which the publication of the Agricultural Journal was to be continued, are anxious to express their sense of the enthusiasm and diligence, the zeal and fidility which Mr. Evans has evinced in his endeavour to sustain the Journal and make it efficient, and they therefore tender him their sincere thanks, and the gratitude of those they represent. Nevertheless, they feel that in order to encourage the progress of the Country, and the improvements in Agriculture, it is necessary that a publication should be established worthy of our present agricultural prospects, it is therefore recommended that the Vice-President and Messrs. Dods and Thompson be a Committee to make any arrangement that may be nessary to ensure such a publication."

This subjoined valedictory address, taken from the April number of the Journal, will be read with interest by many of our readers :—

It would be ungrateful to retire from the management of the Agricultural Journal without offering our most sincere thanks for the kind indulgence that has been extended to us, notwithstanding the many errors and mistakes we must have committed, during a period of nearly six years that we have acted, unaided, as editor of that periodical. Not only in regard to the Agricultural Journal have we to return thanks, but for the kindness and forbearance we experienced for a period of nearly twenty years, previous to the publication of this Journal, that we have been writing and publishing on the subject of Agriculture. We have always been conscious of our numerous deficiencies, but we endeavoured to make amends for them by the most zealous and unremitting devotion to the important interests we presumed to advocate. We suppose it was because we had the courage to come forward alone to advocate interests that were of so much importance to the Canadian people generally, that our errors and other deficiencies were allowed to pass without censure. Not only without censure, but we have been so fortunate as to obtain on numerous occasions, unqualified approbation for our humble efforts; both from the press; and from private individuals of all classes, from whom we have received some hundreds of letters of approval and encouragement, in the most flattering terms. It was a constant source of regret to us, that we were not possessed of higher qualifications, in order that we might be better able to do justice to the cause we endeavoured to advocate.

We never attempted any high flights, or pretended to any endowments, more than plain common sense, and a thorough knowledge of the theory and practice of Agriculture, so essential, above all other qualifications, to conduct usefully an agricultural publication.

This knowlege we were fortunate enough to have acquired in the Old Country, where we were extensively engaged in agriculture from an early age; and in Canada, though not so extensively, for a period of 35 years. We can with the greatest truth declare that we have constantly endeavoured to make all that we know on agriculture, or could learn from any source, useful to agriculturists, by submitting it for their consideration, in the plainest terms; and we have also most carefully excluded all exaggerated statements that could have any tendency to lead them into error. Our practical knowledge of agriculture gave us a great advantage in making selections for the Journal, and prevented us from recommending any defective system of husbandry. If we had only desired to fill up the columns of the Journal, we had abundance of matter to copy from other periodicals; but in numerous instances even from periodicals of high character we could not find a line suitable to the circumstances of Canada, to copy in the Journal, and had to substitute our own ideas, as we had few correspondents. We allude to these circumstances in order to show that editors have some difficulties to contend with in their endeavors to be useful, and please their readers.

We can assure our friends that the very best services we were capable of rendering were sincerely devoted to them, and we hope they will pardon any offence we may have unintentionally given at any time.

However anxious we have been to see necessary improvements introduced in the system of Agriculture in Canada, we never attempted to recommend a change, by unqualified condemnation of the system of husbandry, live stock, and implements that were already established in the country. We endeavoured rather to demonstrate where the system was defective, and how it might be improved. With the greatest satisfaction we admitted the suitableness of many of the implements in use, the excellent qualities of the Canadian horse, the many good qualities of the Canadian cow, and the perfect practibility of improving the breed, and also of improving the breed of sheep, by crossing with the Leicester English breed, and this cross we have seen produce an excellent description of sheep.

We had come to the conclusion long ago, that in visiting any strange country, inhabited by a civilised population, their habits, customs &c., however, different from those we were accustomed to previously, and thought superior to any in the world, must in many instances be the best adapted, and most suitable for their state and circumstances, and that we should not attempt to abrogate them without great caution, and the most careful investigation, into both their merits, and defects. We have often seen innovations proposed that appeared very plausible, but subsequently proved complete failures, and was very injurious to the progress of real improvements. We intended our mission more to the French Canadian Farmers; than to any other class, and they have our most grateful thanks for the confidence they always manifested towards us.

With the feelings of attachment to agriculture which has ever actuated us, and "have grown

with our growth, and strengthened with our strength," had we been possessed of the highest order of talent that ever man was endowed with and improved by the best education that could be acquired, we should have devoted our whole energies to the cause of Agriculture, as sincerely as we have done, with our humble acquirements. Had we higher endowments, we presume we should have been able to effect much more good with less labour to ourselves.

Our sincerity may, perhaps, be questioned, when we say, that whatever might have been our acquirements, we should have adopted the most plain and simple language on agricultural subjects. It is a subject of too much importance to the human race to require any high flights of eloquence, to advocate its improvements and interests. There is not much occasion for display of eloquence in describing the quality of the soil, the manure-heap, the operation of ploughing and harrowing, planting and digging potatoes, sowing and harvesting grain, &c. Eloquent terms would be mis-applied in describing the perfection of a pig, a sheep, or a cow, though not perhaps in describing a war-horse. There does not exist a more ardent admirer of agriculture and a country life than we are, but it was not any eloquent terms we have seen employed in reference to them that attached us to it, but from early habits, being engaged in the business from our youth, and necessarily a residence in the country constantly—surrounded by the works of the Creator in every variety, and in their most surprising, and pleasing forms. We have ever looked upon the Bible description of the Creation as simplicity itself, and an example of simple eloquence, and any party who has attempted what they conceived to be more eloquent terms of description of this event, have miserably failed, and so they ought. It is the greatest presumption for man to attempt to make the works of the Creator appear in a more glorious light, by describing them in terms chosen by themselves, rather than in the language of the Bible. Who could see the rising and the setting sun, and be persuaded, that any written description of it, could equal the reality of its glorious beauty. We may be considered an enthusiast, but it is our pride and delight to be so on this subject, though on no other.

In retiring from our post as editor to the Agricultural Journal, we regret that improved husbandry is not more advanced. There is one consolation, however, that agriculture is now in an infinitely more favourable position in Canada than it ever was before, and that improvement has commenced, and is making very satisfactory progress. The prospects for agriculturists are much better now, than for many years past. There is now a Minister of Agriculture, disposed to do every thing to promote the prosperity of that interest. There is a Bureau of Agriculture—and a Board of Agriculture—all concessions made to Agriculturists, that are of the greatest importance and cannot fail to have a most beneficial influence upon the Agriculture of Canada, no matter who may think to the contrary, and we rejoice that we have been the humble advocate of these measures. We retire from the conduct of the Agricultural Journal, with the same good wishes for the prosperity of Canadian Agriculture that we have constantly entertained. The Journal in a new form, under a new title, and management and at a reduction of price from five shillings to two, cannot fail to have a greatly increased circulation. We wish it all possible prosperity, and that it may be the means of greatly promoting the improvement of Agriculture in a country that is dear to us, and whose prosperity we hope to see increasing every day we exist. We would not inflict such a long address upon the subscribers, but we conceive it is proper at finally parting, to give a full explanation of our motives and conduct in the management of the Journal, as well as all our other publications. And now we bid our friends farewell, assuring them, that if in our new capacity of Secretary and Treasurer of the Board of Agriculture, we can be of the slightest use to them, they may always command our humble services.

TORONTO HORTICULTURAL SOCIETY.

We have much pleasure in learning that this society has been re-organized, and that its prospects of permanent prosperity are quite encouraging. Toronto has now a number of professional gardeners and zealous amateurs; and as the society is now restricted to a narrow section, tho' its prizes may be competed for by persons residing in any portion of the Province, an extensive support may be reasonably anticipated. Gardening in all its departments is a delightful and healthful pursuit, and is eminently calculated to form correct habits of observation; to elevate the taste and moral feelings and to prepare the mind for the appreciation of the lovely and beautiful in nature among its earnest cultivators. It is a pursuit peculiarly adapted to the ladies, who would be sure to find their health and sentiments improved by the cultivation, study and arrangement of flowers. We trust all our fair readers will take this seasonable hint. The Toronto Society intend holding three exhibitions during the season; the first will take place on Thursday, June 2nd, and we trust that this renewed attempt to promote the love and interests of gardening, in all its branches will meet with a prompt and generous support.

LECTURES ON AGRICULTURE IN THE UNIVERSITY OF TORONTO.

A number of Students belonging to Knox's College and the Congregational Theological Institute, who attended Professor Buckland's lectures during the past winter, presented the Professor, at the last meeting before they separated, with a copy of Dr. Mantell's beautifully illustrated work on Geology, entitled "The Medals of Crea-

TION," in 2 vols. Incidents of this nature are worth recording, if it were only to show that sincere and judiciously directed attempts to diffuse agricultural knowledge and improvement, even among such as are not likely to engage in agriculture, as a business pursuit, do not fail to be appreciated. A more practical course has been given to a class consisting of individuals actually engaged in farming, and the experience acquired by these experimental trials, is such as to stimulate the Professor to increased and more systematic efforts next winter. During the summer it is proposed to give field instruction on the Experimental Farm attached to the University grounds, and by visiting farms in the neighborhood.

The following is the inscription written on the fly leaf:—

PRESENTED TO
PROFESSOR BUCKLAND,
AS A MARK OF THEIR HIGH APPRECIATION OF HIS PRELECTIONS ON AGRICULTURAL CHEMISTRY,
BY THOSE STUDENTS OF KNOX'S COLLEGE,
AND THOSE OF THE CONGREGATIONAL
SEMINARY, WHO ATTENDED HIS
COURSE OF LECTURES DURING THE SESSION OF
1852 AND 1853.
Toronto, April 1853.

NORMAL AND MODEL SCHOOLS.

The public examination of the Provincial Normal School was held on the 14th of April. The pupils were examined in geometry, algebra, English grammar, agricultural chemistry, natural philosophy, arithmetic, geography and history, by Messrs. Robertson, McCallum, Sangster, Fripp, and Robins, assisted by Professors Croft and Buckland. The Governor General's prizes for Agricultural Chemistry were given to the successful candidates, Mr. Benjamin Charlton, of Brant County, and Samuel Rathwell, of Carlton County, by Chief Justice Robinson, accompained with a few appropriate remarks. The examination of the Model Schools, conducted by their respective teachers, took place on the 15th and 16th, but want of space prevents us from giving a detailed account of the different classes, the state of this noble institution and its system of teaching—the good effects of which are already felt throughout the country.

CANADIAN INSTITUTE.

On Saturday, 2nd April, the members of the Canadian Institute held their Annual Conversazione in the hall of the Legislative Assembly in this city. The President, Capt. Lefroy, R.A., in the chair. The meeting was large, most of the literary and scientific gentlemen of the city being present. Refreshments of a very substantial nature were served in the lobby of the House. An interesting paper was read by Mr. Justice Draper on the Progress of Canada, another by Prof. Hodder, on the poisonous plants found in the vicinity of Toronto, another by the Rev. Mr. Scadding on the accidental discoveries in Science and Art; Rev. Prof. Irving gave an explanatory lecture on the Stereoscope. In the course of the evening, Prof. Cherriman, in the name of the members, presented Captain Lefroy, who was about to leave for England, with a beautiful piece of silver plate, as a token of respect for the benefits science has derived from his unwearied services during his stay amongst them, also expressing their deep regret at the decision of the British Government in removing him.—The meeting was afterwards briefly addressed by Dr. McCaul, Principal of Toronto University, and T. Henning, Esq.; but owing to the lateness of the evening, the meeting was soon afterwards brought to a close.

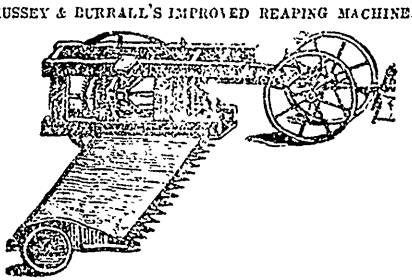
REAPING MACHINES.

As farms improve under the cultivating process, and as labor grows dearer through the competition of railroads, canals, and manufactures—the construction and working of which will necessarily absorb a large portion of the manual labor of the country,—it is very evident that Farmers will be obliged to avail themselves of labor-saving machines to a much larger extent than heretofore.

In many parts of Canada the "Reaper" can even now be used to great advantage. It has been introduced, and, we believe, has been found to work satisfactorily in this and the neighboring Counties. We would advise those farmers whose land is tolerably smooth, and who raise large crops of grain, to make inquiries in regard to these machines before the ensuing harvest.—They should be careful to select the best; and no test is so reliable as *actual experiment*. We will not attempt to decide as to the respective merits of the two principal Reapers now before the public, viz.—Hussey's, and McCormick's. They are probably both good machines, but adapted to somewhat different circumstances.—We believe in the State of New York the preference is given to Hussey's. In the West, it appears, McCormick's is most popular. At the Great Exhibition in England, these two Reapers

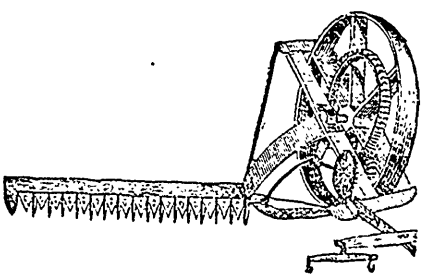
tracted considerable attention and were subjected to several trials. It was there decided that McCormick's Reaper performed its work best. The grain was heavy, and on one occasion wet; the surface of the field was also uneven, and under these adverse conditions, it is possible that McCormick's Reaper is superior to the other. It was alleged, however, that Hussey's was not properly managed. We are not inclined to place much dependence on these trials as a guide to the Canadian purchaser. We have seen one of Hussey's machines work well, and one of McCormick's very ill. The surest plan is for each purchaser to satisfy himself by personal inquiry. We should think the Board of Agriculture might with great propriety—indeed this is one of the duties the Legislature has prescribed for them—import a sample of the various Reapers in use among our neighbors, and subject them to a fair trial on Canadian ground. The result of such a trial might prevent much loss and vexation to the farmers of the country.

HUSSEY & BURRALL'S IMPROVED REAPING MACHINE.



The above is a cut of Hussey's Reaper, for which orders may be left at McIntosh & Walton's in this city.

KETCHUM'S MOWING MACHINE.



A good Mowing machine is nearly as great a desideratum as a Grain Reaper. The above has now been some time in use by the farmers of New York State, but as it is only adapted to a very smooth surface, it has not fully met public expectation. Perhaps no machine can be better adapted to a rough surface than the "Crooked Scythe." The following is the manufacturer's recommendation of this machine:—

"This machine has been recently very much improved, and its simplicity and efficiency seem to mark it as peculiarly fitted for a farmer's implement.

"It is not well suited for a rough surface; but it will work well on rolling land, or even side hills, if smooth. It will cut an acre and a half of grass an hour, smoothly and evenly; that is an acre in forty minutes.

"The whole Machine weighs less than 500 pounds and is easily drawn by two horses.

"Two sets of knives are usually sold with a Machine, so that when the farmer is grinding one set when dull, the Machine can be at work, not losing any valuable time while he is in the greatest hurry.

"A large number have been sold the past year, and give universal satisfaction.

BRANTFORD AGRICULTURAL SOCIETY.

A taste for horticultural pursuits is steadily progressing in most of the old settled portions of the Province. It would be strange, were it not so, since Agriculture is making rapid strides, and its natural ally—horticulture, cannot lag long behind. The county of Brant, can claim many enterprising and successful farmers. A County Agricultural Society, has been recently organized there, and the town of Brantford is now among the foremost in the rate of advancement. We take the following from the *Courier*, and heartily wish the new Society every success.—

HORTICULTURE.

The formation of a Horticultural Society in this Town, and the approach of the period for the Annual Exhibition, naturally leads us to make a few remarks upon this interesting, innocent, and at the same time ennobling and refining science. We congratulate the town and this vicinity, upon the ready mind exhibited, and the views entertained, which led at once, upon the arrival of a fit time, to promptness of action, and to the establishment of the Society in question. This step was not taken at the instance of excitement, or through the promptings of vain emulation in reference to the existence of the Society itself; but was the result of a refined taste and the desire to encourage and cultivate extensively this branch of science so admirably calculated to raise the mind of man "from nature up to nature's God." In no part of the physical world are the evidences of the handiwork of the Parent of all good more strikingly pourtrayed than in the hues and tints, and delicious odors, as well as in the organic structure of the beautiful inhabitants of the gay parterre. Depraved, indeed, must be that mind and insensible that heart which cannot be delighted and interested in the productions of the cultivated garden. An extract from a late number of Blackwood, places this subject in a just light. "Perfect wisdom," it remarks, "placed the perfect man in a garden, to dress and keep it. The place and the duty must have been divinely congenial with the exercises of an unclouded reason an undepraved heart. The love of man's primeval calling seems yet to linger fondly in the bosom of the exiled race. The first pleasure of children is to gather fresh flowers from the daisied mead, or to ply their little hands in the allotted patch of garden ground. "Heaven lies about us in our infancy"—some faint visionary gleam from Eden seems yet to rest on the infant soul, and with the

dawn of reason, the first voice of childhood seems to say, that Paradise should have been its home, and Horticulture its proper vocation." With the success of Horticulture in its ornamental branches, advances true refinement and correct taste; fully do we agree with the inimitable Cowper:

> "But elegance, chief grace the garden shows,
> And most attractive, is the fair result
> Of thought, the creature of a polished mind."

Horticulture, however, does not confine itself to the ornamental, it includes the useful and substantial; wholesome vegetables and delicious fruits are also the objects of its solicitude and care. Hence, the science is valuable, as being closely allied to Agriculture. Indeed, it is difficult to determine where the line exactly should be laid between Horticulture, and Agriculture, the garden and farm. Both require an intimate acquaintance with the vegetable kingdom in reference to the wants, habits and capabilities of various plants. Therefore the soil—the common parent of the productions of both the field and garden—should be chemically considered and understood. The cultivation of the soil, the adaptation of manures, stimulants, and composts to different lands, for the introduction of different plants, is a subject of immense moment, and if properly attended to, is of untold benefit to the community at large. A mere *hortus siccus* is not what Horticulture purposes; but a well arranged, verdant, and fertile spot, yielding abundantly the wished-for crop, the successful operations of Horticulture can be conveyed to, and carried on in—in a modified manner—the furrowed field. Horticulture gives us in their perfection, a large and well arranged variety of useful vegetables, and uses the pruning hook, the scion and the bud, to impart luscious and delicate flavors to ordinary and natural fruits. It is pleasing to know that there is a deep interest taken in this community, in respect to the Society now in existence, and now as the period of the first exhibition of the season, which will take place on the 29th of June next, we trust that the lovers of this science will come nobly forward, and append their names as members, and pay their subscriptions (which is only five shillings Cy.) By so doing, the Society will be enabled to award suitable prizes, which will have the effect of greatly increasing competition, and giving due encouragement to the enterprising and successful.

ON THE CULTIVATION OF THE CABBAGE.

To the Editor of the Canadian Agriculturist.

Sir,—Amongst the various vegetables raised for food for cattle, there are few that can be more easily raised, or that will produce a larger amount of food to the acre, than the cabbage; and it is really surprising that so little attention has been paid to this vegetable as an article of field culture, as it comes in for use so conveniently in the fall, when grass has become scarce, and before turnips, carrots, or mangold wortzel have attained their full growth, or are ready for use. I believe one reason why the cabbage has not been more generally cultivated is, that almost all who have grown any, have transplanted them,—first raising the plants in a bed in the garden, and then transplanting them into the field. Now though this method may answer very well for small patches, and with careful management, it is neither the easiest, nor in my opinion the best way of growing them. The way I have grown them for several years past is the following:—As I always sow the cabbage in the same field in which I sow my turnips, and plant potatoes, the land receives the same previous treatment for all; ploughed once in the fall, and once (or twice if necessary) in the spring, with sufficient harrowings to reduce the land to a proper tilth. The land is then drilled up, and well dunged in the drill, as few crops bear heavier manuring than the cabbage; then, after covering in the dung in the drills, I sow the seed on the top of the drill in spaces as far apart as the plants are intended to stand, and after sowing roll the drills well down.

I prefer sowing them *in hills* on the top of the drill rather than to sow them all along the drill, as it is well known that when plants come up thick at first, they grow much faster than when they come up thin, and thus get sooner out of danger from the fly; it would be a great waste of seed to sow the whole drill as thick as as would be necessary to give the young plants a fair start. A slight dressing of plaster just after the plants come up, is of great benefit to the young plants.

There will always be a few hills that will not grow, but there is always sufficient plants for all deficiencies and to spare at the time they want hoeing.

In their after cultivation I pursue the same method as I do with potatoes and other root crops,—that is, horse hoe them well between the drills, and hand hoe between the young plants on the drill, then when the plants get to be pretty large set them upon the drills with the plough.

Although the cabbage thrives best on clays, or moist clog loams, yet with proper manuring they will thrive on almost any soil, and as they are both fast growing, and broad leaved, they soon cover the whole ground, thus effectually smothering any weeds that may come up often they are hoed.

As I generally grow the large drum-head variety of the cabbage, I make the drills about three feet apart, and allow the plants to stand from two to three feet apart in the drills, but with the smaller varieties of course the drills would not require to be so wide, nor the plants so far apart, and then there would be a greater number of plants on the acre. There is some danger of sowing them too early, as when sown very early, if they get a good start, they are

apt to crack and burst open the heads in the fall, and then they soon rot. About the middle of May I consider the best time, though I have sown as late as the beginning of June, and had a fair crop. As cabbages are bulky and would be troublesome to keep in large quantities through winter, I would not recommend any more to be grown than is required for feed before the middle of December, and some for family use through winter. They will be found excellent feed for milk cows in the fall, when the pastures are becoming bare, as all cows eat them with avidity and they impart no bad taste to either butter or milk; and I know of scarcely any kind of food that cows will give larger quantities of milk with than they do with cabbage. When grown on the above method there is less trouble attending them, and they are a larger and surer crop than when they have been transplanted. The weather, too, is often so dry that one cannot get them planted out in proper season; and even under the most favorable circumstances, it keeps the young plant a week or ten days back to transplant them.

I have often heard it asserted, that cabbages would not head well unless transplanted, but I think they actually head better when they are not transplanted; for among an equal number of transplanted and untransplanted plants I have always found the largest number of good sound heads, among the untransplanted ones.

It is likewise asserted, that cabbages are a very severe crop on land. For my part I have never observed the following crops any worse after them, than on the rest of the field, so that this objection need not hinder their more general cultivation.

Such of our farmers as live near to the towns and villages might grow them profitably for sale, but I speak of them here only as feed for cattle, in the ordinary course of farming.

A TENANT FARMER.

April 9th, 1853.

We append to our correspondent's article the following remarks on the Cabbage, from a recent number of that excellent periodical, *The North British Agriculturist*. The subject is one of no mean practical importance to Canadian Farmers:—

"The value of cabbage as a forage plant has never been fully appreciated by agriculturists. It is known to contain a large per centage of muscle-producing elements, and is therefore well adapted for young and growing stock. As an article of food for ewes, lambing in February and March, there are few plants better adapted. One of the chief difficulties in raising a large crop is the obtaining of proper seed. This difficulty, we believe, meets every extensive cultivator of the cabbage. The weight per acre which can be grown with some varieties, such as the Drumhead, or the Cow Cabbage, is very large; certainly double that of an ordinary crop of turnips. Last season, we saw at Cunning Park, near Ayr, and at Myremill, very large cabbages cultivated in the field. They would in all probability reach, by the end of the season, a weight something like 50 tons the imp. acre. The land, however, requires to be made rich; the plants placed wide apart, and the land frequently stirred during the summer. To those wishing to try the cultivation of this plant, for the first time for feeding stock, we request their attention to a paper read before the Royal Agricultural society of England, with the discussion which followed. The importance of saving seed from selected plants appears to have been universally admitted, and is the practice of all those who cultivate Cabbage upon an extensive scale.

"At the same meeting, a dicussion followed on the cultivation of rape. We are more doubtful of the value of this plant for ordinary cultivation. Fields which we have seen growing did not impress us favorably with its adaptation for our agriculture. The suggestion made at the English Society was, however, rather to cultivate it for its oil, for which purpose it is extensively raised in some places on the Continent."

MR. RUTTAN'S SYSTEM OF VENTILATING.

DENISON TERRACE, April 26, 1852.

To the Editor of the Agriculturist:

DEAR SIR,—It is with pleasure I accede to your request by giving an account, such as I have at this hurried time been able to write, of the successful working of Mr. Ruttan's system of heating and ventilating my new house, which has now been in operation for the last three months under my own eye.

Before I go further, it is well to say, in these uncharitable times, that I am not writing a puff for Mr. Ruttan's benefit thoughtlessly at the expense of the public, on the contrary, I am writing at your request, and desiring to benefit the out-siders, for I am quite sure, the saving of wood alone, to say nothing of the pleasure and benefit of ventilation, would soon pay all the extra expense. So little is thought of ventilation by many, that they may say, Why not use any of the many kinds of furnaces already in use throughout the country, and save just as much in the way of wood?

I will endeavor to prove the necessity of ventilation to life by giving you the words of the Rev. John L. Blake, D.D., who says:

"It is to be observed, therefore, that the atmospheric air consists principally of two invisible fluids or gases, called oxygen and nitrogen. With them is combined a very small portion of hydrogen and carbon. Every animal has lungs or air vessels. These vessels in brutes are called lights, and in slaughtered animals are familiarly known to all. They resemble in structure a common sponge; the interstices of the former are design l to receive the air we breathe.—They are locate l in contiguity with the heart on as to bring the air received by them in contact with the blood as it passes through the heart. As we open the mouth the air rushes into it, and thence into the lungs, filling all these interstices, so that they become swollen or expanded, like a bladder or an air tight bag when we force the air into it. By a mechanical muscular action of the chest upon the lungs, as soon as the air has accomplished the object of its mission there, speedily to be explained, they are compressed so as to force from them the air before received, now become foul; and as soon as it is thus ejected, before the mouth closes, another current of fresh air rushes into it as before. Thus at every opening of the mouth one current of polluted air is forced out of from the lungs, and another current of atmospheric or pure air through the same channel, rushes into them.

"The air we breathe, or which we thus receive into the lungs, is worked off by a process similar to combustion. The lungs might not hence be improperly called a furnace to decompose the air, the same as a stove is a furnace to burn up or decompose the wood or coal placed in it for combustion and the generation of heat.

"Accordingly, the oxygen of the air, being separated from the nitrogen, when in the lungs, is employed to clarify the blood of its impurities, which are constantly accumulating, not unlike the clarifying of coffee or any liquid by the application of a gelatine substance. The blood, before being thus clarified is of a dark brown or blackish colour, and thick or clotted. This dark colour and coagulated consistence is occasioned by the carbon and other impure substances with which it had become impregnated in passing through the system. But when the blood is clarified or renovated by the action upon it of the oxygen in the lungs, it is of a bright red colour, and then passes through the arteries to every part of the animal frame, yet in its passage is constantly gathering up impurities, with which it was previously loaded. On reaching the extremity of the system, it passes into another set of vessels called veins, to answer the purpose of a backward track of a railroad, and thus it returns again to the head, dark and clotted as before, thus again to be purified by its contact with the fresh oxygen of the lungs.

These processes of inhaling fresh or oxygenated air, or breathing; then of purifying the blood; and then of collecting the carbon and other poisonous substances of the animal system, are continued to the end of life; that is, if they are discontinued, the lamp of life would go out, as flame will be extinguished when the gas or oil which fed it is exhausted.

Thus to purify the blood, the oxygen is all extracted from the air conveyed to the lungs by breathing, and is literally burnt up; as much so as the fuel placed in a stove; and will no more answer for the purpose a second time, than the ashes from the fuel already consumed in combustion would answer to make a new fire: or than the skins of grapes, after the juice had been extracted, would answer to make wine; or than excrements of animals would again answer for food, after all the nutritious elements had been removed in its first use. Indeed we can no more use the air in breathing a second time, than we can use our food the second time.

"The former in use becomes as foul as the latter; not only as foul, but as inefficacious for its legitimate agency. Hence no one can fail to perceive the necessity for a constant supply of pure air in breathing and consequently in the preservation of life. To attempt living without it would be as absurd as to attempt living without food. Moreover, we could live an hundred times as long without the latter as we can without the former; and to mix arsenic with our food would be comparatively no more fatal to the vital principle, than to mix a poisonous gas with the air we breathe.

"It is a well known fact that we breathe eighteen or twenty times every minute; and at each breath we inhale or take into the lungs about one pint of air, or over two gallons each minute. Thus in an hour an adult person consumes more than one hundred and twenty gallons, so that if he were enclosed in a hogshead containing one hundred and twenty gallons, before the end of an hour the whole of the air contained in it would be exhausted, and he would die for the want of the vital principle which pure air imparts in breathing.

"It is well ascertained, that animal life depends on having a constant supply of atmospheric air, as it is that there must be a supply of food; and where this supply is deficient breathing will become difficult. It will be difficult also if the air is impure. The cases on record are numerous where persons have suddenly fainted and died from entering deep wells, caverns, and vaults filled with noxious vapors. So they are of no rare occurrence where persons have died when sleeping in close rooms containing charcoal. The vapors thus inhaled are in reality the same as those ejected from the lungs in breathing. In the one case the carbonic acid gas is generated in the little inn or pipe clay furnace; in another case, it is generated in the lung, already said to be analagous to any other furnace. This is the only difference.

"Hence if a prisoner were shut up in a cell perfectly airtight, containg the cubic measure of twelve such hogsheads, or if any one were to attempt sleeping in a room airtight of that capacity in about ten or twelve hours the air would be so foul from use in passing through the lungs, that if life did not become extinct, breathing would be barely practicable. Or if four persons were to sleep in an air tight room of the capacity of forty five or fifty such hogsheads, in about ten or twelve hours they would all become incapable of breath-

ing. Or if the cabin of a steamboat, of the capacity of a thousand or twelve hundred of these hogsheads and containing one hundred passengers were without ventillation, and were to receive no fresh air a similar effect would be produced on them all—on this account it is evident, that all rooms for sleeping and all public rooms churches, lecture rooms and halls for amusement containing a great number of persons, should be so situated and so constructed that there may be a continuous escape of foul air as of ingress of that which is pure.

I think after reading the above you will admit the necessity of pure air to sustain life, and I think Mr. Ruttan's plan is thorough and complete for procuring a sufficient supply for your house, the very life sustaining thing you many of you so carefully exclude from your dwellings.

Mr. R. has given to my house six square feet of outside air taken about 5 feet from the surface of the ground on the north side over which air duct I have full control letting in just as much as I require according to the weather warming the house in winter by passing through the furnace, and cooling it in summer.

Nearly all my friends that have seen the working of it say it is the best they have yet seen, beside it is so clean a way for warming a house, no wood to carry into nor ashes out excepting to the furnace which is in the cellar, and I have been enabled ever since it has been in operation to keep my house warmed to six or eight degrees above temperate with the one fire, although I provided the house with grates having little hopes that Mr. Ruttan could warm all my house (which is not a small one for a farm house) with the one fire.

Pray excuse haste and believe me to
remain yours truly
R. L. DENNISON.

P. S.—I should be most happy to show the working of the plan as produced in my house to any civil or respectable person. R. L. D.

THE AGRICULTURE OF ANCIENT EGYPT.

The fertility of Egypt, it is well known, mainly depended upon the annual overflowing of the Nile. Egypt consists of a narrow valley, and the waters brought down from the higher countries are impregnated with highly fertilizing substances, which are left on the surface as a thick top-dressing. The husbandry of Egypt was exceedingly simple. It is thus described by one of the most celebrated ancient writers:—

"How easy," says Pliny, "is the Husbandry of Egypt. For there the river Nile, serving the turn of a good ploughman, begins to swell and overflow at the first new moon after the summer solstice. He begins fair and gently, and so increases gradually: as long as the sun is in the sign Leo, he rises on to his full height: on entering into the sign Virgo, his fury slackens and he slowly decreases, until he resumes his wonted channel. It is always observed that if he rise not above twelve cubits high, the people are sure to have that year a scarcity; and they make their account for the same if he exceed the gauge of sixteen cubits; for the higher he rises, the longer he is before he is fallen again to his level. By which time the seed-time is past, and men cannot sow the ground in due season. It is generally understood to be their practice, that upon the subsidence of the deluge, they cast the seed upon the floated lands, and immediately after turn in their swine to trample it into the soil while moist. This, at any rate is certain, that as soon as the river is down, which mostly happens about the beginning of November, they sow their seed upon the slime and mud; which done, they go over it with the plough, turning it in with a light furrow. Some few then begin weeding the ground; but most of them, after sowing is finished, never step into the field again to see how it comes on, till they go in with the sickle at the end of March to reap it. By May-time the Harvest-home is sung, and all done for the year. In Lower Egypt the straw is never a cubit long; the reason being that the seed lies very dry, having no other nourishment or manure than the mud of the river; and there is nothing underneath but sand and gravel: but in Upper Egypt, about Thebes, they are far better farmers, and have better harvests, that part being, as indeed most of Egypt is, low and flat. * * * * The same Husbandry," he goes on to say, "is practised in Babylonia and Selucia, where the Euphrates and Tigris overflow their banks in like manner, but to better effect and greater profit, owing to the more general use of sluices and flood-gates. And in Syria they have small light ploughs, on purpose for making their shallow furrows and stitches; whereas, *with us in Italy*, in most places, eight oxen at least are required for one plough; and, indeed, to make any speed with it, they must work till they blow and pant again."

THE MOLE A SUB-CULTIVATOR.

Even your tiny mole is a ruthless beast of the field, to slugs, and snails, and caterpillars, and such land-sucking fry, a fierce sub-navigator in his way; but his track turns up some pretty cultivation; it only wants spreading, far and wide. It is not so wise to throttle him as you think. I grieve to see him hanging gibbeted, his clever paddles stopped by cruel ignorance. For he is your only granulation-master; he taught us drainage and sub-cultivation, and we shall learn of him another and a greater lesson, some day, and call him a prophet, when we've done hanging him and have got some speculation in our own eyes, whose sense is shut at present, instead of saying he can't see.—*Talpa: or the Chronicles of a Clay Farm.*

AGRICULTURAL EDUCATION.

TOWNSHIP OF HAMILTON FARMERS' CLUB.

To the Editor of the Canadian Agriculturist:

SIR,—I enclose you a report of the proceedings of the Township of Hamilton Farmers' Club (prepared for the Cobourg *Star*) on the important subject of Agricultural Education. Though I would be very glad to see a school or institution established, connected with an Experimental farm, (a *model* farm would be of very little use,) for the education of farmers, as such an institution, however, could only be available to our wealthier farmers,—and as the great body of farmers must always depend on our common schools, I think every endeavor ought to be made to engraft agriculture permanently into them, and make it part and parcel of our excellent common school system. Let the first principles of practical Agriculture and Agricultural chemistry be taught therein. The great point is to get started, to prepare competent teachers, and provide proper Books and apparatus, and to demonstrate experimentally the practicability of the thing. I hope the day will soon arrive when every school will have the necessary apparatus, and every teacher of youth will know, and be able to teach, something of the important sciences of Agriculture and chemistry.

WALTER RIDDELL,
Cobourg April 9, 1853. *Secretary.*

At a meeting of the Township of Hamilton Farmer's Club, held at McIntosh's Inn, Cold Springs, on Saturday, March 26th, 1853. In the absence of both the President and Vice President, Mr. David Sidey was called to the Chair.

PRESENT.—Messrs. A. J. Burnham, Masson, Sidey, Forsyth, Newton, Steel, Roddick, W. Eagleson, M. Eagleston, Watt, Weir, Sleep, Bourn, Ainslie, Black, Johnston, Ball, McIntosh, Richards, Campbell, Richardson, Sutherland, Griggs, Wade, and a number of others.

The minutes of last meeting were read, and Mr. J. Wade read the following Essay on Agricultural education.

At no age of the world has the subject of education engrossed the attention of the community more than the present. All classes of men from the Prince to the Peasant, are alive to the grand principle that the instruction and training of the rising generation, is the most valued legacy that the present race can confer upon the future. Still, while all agree on the necessity of education, much difference of opinion prevails in the way of its accomplishment.

I have no intention of meddling with that part of the controversy, of how the matter is to be put in practice; whether by endowments in the shape of public grants; free schools supported by taxation on property, or on the voluntary principle, that is, the Teacher depending on his qualifications to obtain the support of such Parents as choose to employ him.

My intention at present is simply to speak of the different descriptions of education, the varied classes of society require. The school education of the present day, is almost wholly mental or intellectual, and while it may be very well adapted to some classes of society, something more is required for others. For instance, while the professional man and the merchant require little more than a continuation of the intellectual training pursued at school to fit them to play their part, the farmer and mechanic must have their physical or muscular power trained in addition to the mental, and this physical education is not simply confined to the operations of manual skill, but extends to the training of the muscular powers to sustain the necessary amount af endurance required of them.

We observe in the perfect and beautiful arrangement of our great Creator, the adaption of mankind to fill the varied operations allotted to each to perform; and are often struck with wonder, when we see what an active mind can accomplish, when properly trained and directed; and also what is accomplished by the physical powers in the various mechanical and agricultural processes, and this ought most certainly to stimulate and encourage us to perform the part allotted to us, under the system a wise Providence has ordained.

A prejudice existed, and does still in a measure exist in the minds of the old school of farmers, that a high order of education was not necessary for a farmer of his class; that to be able to read, write, and keep his accounts was all that the farmer required to learn at school; and this feeling has been encouraged by the fact, that the great bulk of our successful agriculturists, so far as property making is concerned, are of that stamp, and if nothing more was required of him than to add farm to farm, and accumulate wealth in any other way this would be well enough.

But before a want is sought to be supplied, that want must be felt; and before any desire will be attained, it must have presented itself in an attitude sufficiently imperative to demand its accomplishment; and the principal cause of the desire of education amongst the farmers and mechanics has arisen from seeing themselves superceded in the race of life by the educated class, and having to submit even the representation of their own peculiar interests to men, not before themselves either in circumstances or in intellect, but simply from being possessed of that mental training imperatively necessary at this age of the world, to command even the chance of being attended to; and, although, it may be mortifying to acknowledge such a state of things to be the case; yet it is quite necessary to feel it before anything will be done to remedy the evil, and nothing but the feeling of being obliged to submit the representation of the peculiar interests of the agricultural classes, to men of other classes, will surmount the prejudices of the old school farmer against a high education, and pave the way to some system adapted to his peculiar wants.

But as the old adage says, 'while the grass is growing the horse is starving.' What are we to do in the mean time? Although the agricultural community are waking up to the necessity of some specific system of education being required for this class, it as yet has only been talked about; and many of us have sons, whom we are not only sufficiently able, but also most extremely anxious to furnish all in our power, to obtain the education required to enable them to fill their proper places in society, with credit to themselves and advantage to the interests of their class; but from the want of any proper institution for the peculiar wants of the farmer, there is great difficulty in combining such school education as can be obtained, with the habits of labor required to make a thorough practical farmer. The want of some peculiar system of education for farmers' sons is daily gaining ground from the sheer inefficiency of all our present educational institutions, to furnish that particular training which they require. Our present Colleges being imitations of the old institutions founded in England centuries ago, (and we are well aware that they have always followed rather than lead in the progress of civilization) makes them of course very unfit patterns for us;—they may do for young men intended for the learned professions; but even then, a great deal of time is taken up in learning things which can be of no practical use even to them; and to keep a boy attending to them till he is 21 years of age, most commonly unfits him for any of the practical duties of making a living for himself.—My opinion is, that a Farmers' College should unite with the useful parts of intellectual instruction, a proportion of the common physical operations of the Farm, part of the time occupied in school, the remainder in the field and garden, or workshop, and one-half of the time commonly spent in the athletic sports considered necessary for health, in our old Colleges, if spent in learning the manual operations of the farmer or mechanic, would be sufficient to make a practical workman; besides, boys would even from choice try their powers against each other at work as at play, if it was properly ordered, as it is simply the competition or rivalry which gives zest to the game: a game of hoeing, ploughing, mowing, or cradling, would be equally gratifying as cricket bowls, or marbles, if it was not extended to be wearisome enough to consider it work. But this is not what I want to come at. As all men must either work or starve, unless some one has done is for them already, or can be persuaded to do it now; habits and labor must be acquired; the mind and body must both be disciplined to it; and, although it may not be very palatable, it must nevertheless be submitted to; and it is an established principle in my mind, that unless habits of labor are acquired in youth, they never will be formed at all; and labor is labor, whether exerted in the mental or physical train.

But, as it is merely speculative to deal in principles and generalities, I must come to the point of submitting my own practical opinion of what an Agricultural College ought to be; and I would say this, that many of the theories submitted to the public on this subject, have fallen through from the cumbrous machinery required to make them work; too much attention has been paid to wild speculations of what chemistry and other abstruse studies were going to perform, to the neglect of observing the more practical every day operations, and reasoning from the results of induction obtained in this way, and which in my opinion is not only the safest but the only way in which true knowledge is to be obtained. My idea of an Agriculteral College would be something in this way, a farm of, say 200 acres, or land sufficient to carry out, on a respectable scale, something like the most approved system of farming extant; in connection with the necessary routine duty of useful mental instruction, the due training of the mental and physical or muscular powers being proportioned, and I am satisfied that if properly carried out, it would not only be much more complete, but also much more pleasing to the youthful mind, from the endless variety it would produce, the mind exercised part of the day, the body the remainder either in work or play, and when the intentions of our Creator are understood and properly carried out, education in all its parts, will be the most pleasing part of the duty both to the parent and child, which we are called to perform.

Mr. Sutherland said, from the lucid and pertinent manner in which Mr. Wade has brought the subject of an Agricultural education for the rising generation before our notice in his able essay, with the sentiments of which I cordially concur, I have but little to add in the matter except it may be in the way of illustration.

We are often astonished at the successful results of experiments made by individuals in the various branches of husbandry, and which the many excellent agricultural periodicals of this and the mother country give us an opportunity of noticing. In reflecting on those experiments we are very apt to overlook their origin and attribute them to the deep read agricultural knowledge, whereas in most cases they are merely the solving of a theoretical problem, of which the experimenter knew nothing but what emanated from his own fertile brain, previous to its successful result. It is therefore of paramount importance that for the rising generation these experiments should be more concentrated in the hands of some corporate body. In the shape of agricultural seminaries combined with model or experimental farms, an unsuccessful experiment in this case would not be attended with the same individual loss. The physical and mental faculties of each would have an opportunity of being developed and both made more vigorous by judicious variation, and the youth thus taught to labor and study would be equally industrious, and as a matter of course more enterprising in his calling, than his less fortunate predecessor. In an inland country like this we have not the same access to guano and other manures not the immediate produce of the farm; but, I am satisfied that an agricultural education based on sound principles, will enable us to make what is within the reach of every farmer, viz., our stable and barn-yard manure much more productive than at present, for want of tanks and from various causes you are all well aware that our liquid manure, which every enlightened farmer knows is the most valuable

fertiliser is now in a manner lost. I am glad that the subject of an agricultural education has been brought up as I have a young family of boys who I hope will be able through force of education to extract th se riches out of the soil, for want of which, and no doubt a lack of proper enterprise along with it, I never expect to reap that benefit from this noble occupation, which a judicious training would have produced. I would now beg leave to apologize for taking up so much time to the detriment of better speakers, but as Mr. Wade requests me to state my views in regard to the general schoolastic education for a young farmer, apart from the professionsl part, I would merely state that I think he ought to have a good knowledge of figures so as to be able to calculate on any emergency how the transaction of a bargain and sale stands, and not to fancy he has received 4s 6d for his wheat, when he has only received 4s 3d—in fact he ought to be a competent book keeper—he ought to have read enough to have imbibed a love for literature; as for the classics, I would leave them to the professional scholar, as I think we have quite enough translations in our mother tongue of the most useful and amusing of ancient and modern authors.

Mr. Wm. Eagleson said, that as he had got but very little Education himself, he had very little to say on the subject, only that as we farmers for want of education had to borrow our Legislators, and even our Township Councillors, from other classes of society, we feel the want of edu cation every day.

Mr. Wm. Ball said, all he would say was that he wished to see a more enterprissing spirit among farmers, our meetings better attended and our crops grown more by chemical aid.

Mr. G. Black said, that he thought a good education was highly useful for farmers, both for the purpose of keeping accounts and for making experiments on the farm. He thought a model farm would be highly useful.

Mr. A. MacIntosh said, I am rather out of my turn in speaking, and really could say but little on the subject. As you are all aware I was not bred to farming, in the early part of my life it was my business to clothe the naked, and latterly it has been my principal employment to feed the hungry and give drink to the thirsty. I coincide with Mr. Wade in the views he has taken on the subject, it is one of vast importance, as the young farmer is the bone and sinew of this country, and I think a model farm would be highly useful. I do not wonder at Mr. Wade saying that he was always willing to learn even from men that used the pick or the shovel, as Sir W. Scott once gave half-a-crown to a workman to learn the word *whaumel*.

Mr. Samuel Campbell said, if my friend Mr. MacIntosh's business is to clothe the naked, mine is to build houses for them, as I was bred a mason and not a farmer.

Education is a subject I have much at heart, seeing I got so little of it myself: without a man can read and write he is very little above the oxen we drive; no doubt there are some bright men without education, but what would they have been with it? I would almost lay down my life to have my family well educated, and go great lengths to have every one educated whether he be rich or poor.

When I went to school I got as lazy as be hanged, and I believe it was the same with other boys as it was with me. I think if we had a model farm and school combined, where the boys could both get physical and mental education at the same time, it would be much better for boys than sending them to school one season and take them to the farm the next. It is true they might learn farming with their fathers, but then when they moved off and got farms of their own, the soil might be so different that they might have to serve as it were another apprenticeship.

A model form at Toronto would be very little use to us. There ought to be one in every county. Besides we should have some better mode of educating our daughters. My friend on the left calls me to order for wandering from the subject. But, sir, our daughters should be educated in their business as well as our sons. A good wife is as profitable for a young farmer as a farm, I think it was Allan Ramsay that said:

I heard my Grand-father say, and that I'll not forget,
A man could not get a snug ingle-house unless his wife wad let.

Mr. J. Roddick said, we hear a great deal about model schools for farmers, and possibly they might be beneficial for the rising generation, but for ourselves, he thought that if our farmers met oftener together as they do to-day, and learn each other's practice and experiments, it would be as useful to us as a model farm.

Mr. Griggs said, as he was a very poor scholar, and had been brought up in very poor circumstances, he could say but little on the subject in hand; he had always tried all he could to learn farming, as it was a business he always delighted in. When he first came to this country he had seen some farmers throwing their dung into the river to get rid of it; he thought to himself, surely this must be a rich country where the land has no need for manure; but he believed they had all learned the value of manure now. He had laboured under great disadvantages for want of education, and he was trying to give his children as good an education as he possibly could.

Mr. Wm. Richardson said, he was sure they were all delighted with Mr. Wade's remarks, and he was happy to hear the subject so well brought out, yet he hardly agreed with some of the remarks he had heard. No doubt that if a man was always using one set or class of tools he would become more expert at their use than if he had to use a number of different kinds; he thought it was otherwise with the mind, and that it might profitably be employed on a number of different studies at the same time. We felt all a want of education; our common schools do very well for children till they are ten or twelve years old, and then we hardly know what to do with them. At home they had their military and naval schools and academies; now he thought we ought to have something of the kind among farmers, so that our children could both be taught the various branches of a liberal education, and learn farming at the same time. He thought that the farmers of this Township might try something of the kind; if they could find some one properly

qualified it might induce them to try it; he thought our farmers would encourage it by sending their sons to it. An excellent way to acquire knowledge was, never to be ashamed of our ignorance.

Mr. Forsyth said he approved generally of Mr. Wade's Essay. He wished to see all children educated—education was as beneficial to farmers as any other class of the community.

Mr. Masson said he had enjoyed the pleasure of farming for a good many years, and his greatest want had been the want of education. His father gave him a good education in farming, that is, he had learned him to work well—made him a good workman. The way he had brought up his sons was this, his eldest boy he had sent a part of the the time to school, and part of the time he had kept him at home at work on the farm, where he taught him the lessons he had learned from his father, and the lessons he had learned of his own experience; now he found that his son was both a competent scholar, so far as reading, writing, and arithmetic went, and likewise a good workman—could handle the plough, flail, or any other implement on the farm. His other son he had sent constantly to school till he was fifteen years old, and now he thought he might make a pedlar or anything else of him, for he believed he never would make a farmer. He thought the best way was to send them early to school and early to work, and not to keep them constantly at one thing.

Mr. A. J. Burnham said, he approved of giving children a good education. He thought it would be better to bring them up both to work and to school, and always to one.

Mr. J. Ball said he took a deep interest in the subject, as it was education that formed the common mind, for without education a man was worth very little. He thought we ought to have some institution expressly for educating farmers' sons.

It was moved by Mr. Macintosh, seconded by Mr. Black, and carried unanimously,—That the thanks of this meeting be given to Mr. Wade for his excellent Essay.

The next meetng of the Farmers' Club will be held at Ball's (late Macintosh's) Inn, Cold Springs, on Thursday the 5th May, 1853, at one o'clock, when Mr. Richardson will read another Essay on Agricultural Education.

COUNTY OF WELLINGTON FARMERS' CLUB.

The second meeting of the Farmers' Club was held on Friday, March 16th, in the Town of Guelph—the President, Col. Saunders, in the chair. The Secretary presented the Report of the Committee appointed to draft a Constitution for the Association. The *ordinary* meetings will be held on the second Friday of each month, excepting May, July, August and September; and the President is authorized to call *special* meetings. While the meetings will be open to the public generally, only members of the County or Township Societies who shall have entered their names with the Secretary, and paid a York shilling per annum for defraying incidental expenses, shall be considered members of the Association, or entitled to take part in the proceedings. The question for discussion was, "Under what circumstances and to what extent is it profitable for the Farmers in this County to raise Fall Wheat?"

Mr. Henry Tolton, in opening the question, said:—The subject for the evening is certainly a very important one, and I should have been exceedingly happy if it had fallen into other hands; for it is well known to most of you that I have neither knowledge nor experience of the subject; and with the nature of the soil in the County of Wellington, at least in a great proportion of it, I am wholly unacquainted.

On the subject before us, then a very importan question is presented at the outset: Have we a soil adapted to the raising of Fall Wheat? If we have not, it must be obvious to every intelligent practical agriculturist, that, under no circumstances, would it be profitable for the farmer to raise Fall Wheat. But I have no desire, Mr. President, to present a darker view of the subject than is actually necessary; for I believe we are no less favoured in this county for a fall wheat soil than they are in many other counties of Canada West, for it is well known that a great portion of the land in the south-western parts of this county is admirably adapted to the raising of that particular crop, and in those townships where the soil is more varied, the intelligent, observing farmer, will find out those portions of it that are adapted to the cultivation of fall wheat. In our present circumstances, a naked fallow seems almost unavoidable; for the farmer must use some means to clean his land, and labor in this country being so very high—to say nothing of the limited supply and the difficulty of obtaining it—he is prevented from cleaning and preparing his land for green crops on a very large scale. On those naked fallows that have a warm porous subsoil, with good natural or artificial drainage that will allow the water to escape from the root of the wheat plant as soon as the frost is out of the ground in the spring, the plant will present a healthy appearance, commence an early growth, and have time to come to an early maturity, instead of being cut short in the midst of its career by rust or mildew, which the late wheat is so subject to. On our soils, then, Fall Wheat may be cultivated to a considerable extent with advantage, provided the farmer can obtain a remunerating price for it when ready for the market; and those warm lands that are in a good state of cultivation and well prepared for the pea crop in the spring, may, after the peas are harvested, be profitably sown with Fall Wheat; although the crop will not be so heavy as on the fallow lands, yet the wheat will generally be of a good quality; but whether fallow or pea ground, the land should be in such a state of cultivation as to ensure a good crop, unless under circumstances over which the farmer can exercise no control. If the farmers generally were to cultivate their land with more skill, and exercise more judgment in sowing Fall Wheat only on those lands that are adapted to raising that description of crop, they would seldom have to lament the loss of the produce.

But on those cold, springy lands with an impervious subsoil, and which have neither natural

nor artificial drainage, the advantages of raising Fall Wheat to any extent will be inconsiderable, and will very likely, from our generally unfavourable springs, result in disappointment. The late spring frosts to which we are subject in this latitude, cause the wheat plant to lay in a dormant state for a length of time when it should be progressing, or, as we have too frequently seen, to go backwards. Indeed, on a rich soil that has been worked fine for seed in the Fall, I have seen it under these circumstances, run together in the following spring. Then the few wheat plants that are able to survive the spring frost must lose many days of warm spring weather, for the heat of the sun must evaporate the superfluous water that is lodged in the soil before the wheat plant can thrive. The plant is then occupied gathering and spreading until the season is far advanced, and then the rich, luxuriant straw that this rich, moist land throws up, is almost sure to rust, when the result, on these moist soils, will be a crop of from ten to fifteen bushels of inferior wheat per acre. On such soils, then, the advantages to be derived from growing Fall Wheat are anything but great, while, on the other hand, such lands are well adapted to the raising of Spring crops; and when we compare the present and the few past years' prices of Fall Wheat with the prices of the coarser grains, and the great difference in the product on such soils, (for where ten and fifteen bushels of inferior wheat per acre are grown, thirty bushels of peas, and to speak within bounds, sixty bushels of oats of of good quality, per acre, may be grown at less expense;) when we compare the value of fifteen bushels of wheat at 3s. 9d. per bushel, which is rather a high average, with the value of thirty bushels of peaes at 2s. 6d. per bushel, the result will be in favor of the peas. It is true that the peas are an expensive crop to harvest, but the advantages of green crop, and the value of the fodder, if well secured, will compensate for the extra labor.—Then if we compare the sixty bushels of oats, at 1s. per bushel, with the fifteen bushels of wheat, the result will be in favor of the oats, to say nothing of the difference in cultivation, the value of fodder, and the expense of harvesting.

Mr. WRIGHT was of opinion that to grow Fall wheat to advantage, they must necessarily have first a good subsoil, or they must improve an indifferent one by draining and manuring. But with all the care they could exercise in cleaning, manuring and sowing, good and bad soils were alike affected by the unfavorable winters to which this climate was subject. A fall of 18 inches of snow, followed by rain and a hard frost, was a sore trial for the young wheat plant, which, under such circumstances, very frequently either smothered or froze out. A soil sufficiently porous to throw off the superabundant water, while retaining the salts and juices, was necessary to protect the plant from such visissitudes of climate. Again a superincumbent weight and pressure of snow and water frequently incrusted and glazed the surface of the soil in Spring, stopping the pores and preventing the fibres of the plant from procuring nourishment at the fitting season. He had tried harrowing, under such circumstances, at the risk of destroying a considerable proportion of his crop, but without beneficial effect. Were the seed, however, planted in rows, and an efficient drilling machine used, this difficulty would be overcome. He was of opinion that the soil and climate of Western Canada were sufficiently adapted to the growth of Fall wheat under a proper system of cultivation. There was no lack of adequate material in the soil, nor any obstruction in the climate, but what might easily be overcome under proper management. He would commend sowing in rows or drills. In the system of broad cast sowing presently used, the young plant was deprived of the due action of the sun and atmosphere at the proper period to promote its growth, and a superabundant supply was imbibed at an after period, when it must prove not only less advantageous, but positively injurious. It was necessary to accommodate the feeding to the progressive strength and requirements of the plant. The dew, rain, and sunshine of July sought too rapidly to effect a process which should have been the object of an earlier and more gradual operation, causing a rupture of the vessels from under pressure and the nourishment being thus cut off, the grain became in consequence small and shrivelled. Were adequate nourishment obtained earlier, no such result would follow. He would recommend, more especially where the ground was hilly, thorough draining with small furrows, large channels being apt to carry of the seed and manure. Where the land was poor, or the superfluous water could not easily be got rid of, it were better to raise cattle than Fall wheat.

Mr. L. PARKINSON suggested the question, whether in the present state of the market, Fall wheat was the most profitable crop in this section of the country. At one period, wheat was almost the only description of produce for which cash could be procured, which was undoubtedly the cause of its being so largely cultivated. A very considerable change had taken place in this respect. Now, most agricultural products command a ready cash market. Some sections of the country were well adapted to the cultivation of grasses, and Spring grain, while others, having springy soils, were apt to be parched up in the long summer droughts, and were consequently less suited for such crops. The soil in the County of Wellington, was considerably diversified, and this was frequently the case even on the same farm. Retentive soils might in some seasons do as well as the porous land, but generally soils retaining too much moisture would bring to early maturity, would give a longer growth, a darker color, more straw, and be more liable to rust, although occasionally producing good crops. He did not agree with Mr. Wright as to the manner in which the mortar-paste and glazing on the surface of the soil acted on the crop. When the frost penetrated to a considerable depth, the water was prevented from being absorbed; then when the heat came, the gases that were engendered, in effecting their escape, swelled the soil and threw out the plants. Mr. P. described minutely this process, and appearance of the glazing. He recommended manure to prevent

crusting, and had found the decomposition of the old sward effective in preventing the soil from binding.

Mr. D. Stirton said the mode of cultivation must be accommodated to the peculiarities of the soil. In Puslinch, the Spring grain was frequently injured from the soil being to porous. He much approved of sowing in rows, or dibbling, and regretted that no suitable drilling machine had yet been constructed or imported into this section of the Province. He would recommend the selection of good seed, with frequent change, washing and picking. In Puslinch stubble or pea land was not found so suitable for Fall wheat as a naked fallow. He deprecated the plan of putting unrotted manure on ground intended for wheat, by which means a plentiful crop of noxious weeds were generally insured. The manure should be put in with the green crop taking previously to sowing the wheat. He was persuaded that with good management they might produce thirty bushels per acre, instead of as frequently at present, fifteen.

Mr. McCrea was afraid lest the tenor of the remarks made should produce the impression that the County of Wellington was not well adapted for the production of Fall wheat. He believed the risk was not greater here than in other parts of the Province, and that a failure in the crop was oftener the result of ignorance in the mode of cultivation, than from any incapacity in the soil or unsuitableness in the climate. It would be remembered that there were here fewer farmers bred to agriculture than perhaps in any other County in the Province. The majority of the original settlers had been brought up in other professions. It was his decided impression that this County was well adapted to the cultivation of Fall wheat—that indeed they could grow no crop more profitably. Different countries were suitable for the production of different articles. Rice and Tobacco were the staples of the Southern States of America, as wheat must ever be that of Canada. Morever, however fashion or fortuitous circumstances might operate on other kinds of produce, wheat, the staff of life, must ever maintain its position and command a market. He had kept a note of the average produce per acre, and the price he had received for his Fall wheat for the last eleven years, which he read as follows:—

	Bush.	*York*
1842	16	5 0
1843	20	6 6
1844	25	6 0
1845	35	7 6
1846	30	6 6
1847	30	6 0
1848	32	6 0
1849	31	6 0
1850	30	5 8
1851	30	6 8
1852	30	6 6
	11)309	11)67 2
	28 1-11 at	13-11

say 28 bushels at 6s York=£5 5s per acre.

He had found lime a very great benefit in the cultivation of wheat. During the first three years he used no lime, and in that period, although only a small portion of the land and that the choicest on the farm, had been put down in Fall wheat, the average was not as high as that of the succeeding years. Were these three years taken off, the average produce of the remaining eight would be considerably higher. He generally used about eighty bushels of lime per acre, and he found that the benefit was not exhausted with the first crop, but continued to be developed for six or seven years. He found that lime aided essentially in decomposing and converting into manure the roots and fibres of plants, frequently very abundant in the soil.

Mr. Parkinson said his brother had put somewhere about 150 bushels of lime per acre on some ground, and the result was an extremely thin crop in 1852. He believed he had outdone the thing, for small pieces of lime were still visible on the ridges of the drills.

Considerable desultory conversation in relation to the subject ensued.

On motion of Mr. Harland, seconded by Mr. McCrea, it was resolved that the following question should be discussed at the next meeting,—"What description of Neat Cattle may be most advantageously raised in this County?" and Mr. Wright was appointed to open the discussion.

Thanks having been voted to Mr. Tolton for his address, to Mr. Pirie for representing the local press, for attending and reporting the proceedings, and to the chairman, the meeting adjourned until the second Friday of April.—*The Herald.*

CULTIVATION OF THE POTATO.

Since the appearance of the potato blight, great uncertainty exists as to the profitableness of this crop. In some districts, its cultivation has almost wholly ceased, while in others it has been greatly extended. This change in the potato-producing localities has been almost entirely owing to the prevalence or non-prevalence of the blight. The unusually high prices at present obtained for this vegetable, will direct increasing attention to its cultivation. Contrasted with the price of wheat or oats, potatoes never ranged so high—the best samples selling for 22s a bell of 4 cwt.

It is impossible to draw any comparison between the profitableness of a crop of potatoes and a crop of turnips—the result being so much dependent on the extent of the taint. The proportion affected may vary from 1 up to 95 per cent. of the whole crop. Indeed, last season, in some districts, the malady was so virulent, that the potatoes were not lifted. What makes the disease the more mysterious is, that in some districts on land of nearly similar quality, one field comparatively escaped, while the adjoining ones were almost wholly destroyed. We have learned of instances where the turnip crop left a very high return, being chiefly consumed by sheep, while the potatoes were nearly a dead loss. On other farms, as many as 40 bolls of sound potatoes were obtained; this, with a price ranging from

15s to 20s, leaves a return nearly equal to that of the whole of the rest of the rotation.

Soils.—The soils most suitable for the growth of the potato are those of a dry, silicious nature, or a dry, peaty soil, both requiring a proportion of a calcareous matter. Still more important is it that the field should be open and not sheltered by trees or high fences, and the climate can scarcely be too dry, particularly during the months of July, August, and September. All wet also undrained clays should be avoided, and and those districts where the climate is subject to autumnal rains. The land cannot be rendered too clean, and friable, and should be comparatively rich. Either land which has been in old pasture, or which has been manured for the preceding crop, should be selected. Mr. Reid of Sanquhar, Ayrshire, finds growing after lea the most profitable. Mr. Hope, Fenton Barns, after turnips. As the probable returns of the potato crop are so large, no reluctance should be felt in selecting the most suitable fields by those determined to adopt an extended cultivation. To render the land friable, the grubber is perhaps the best implement. If the plough is used, no fresh soil should be turned up—that is, no soil which has not been stirred by the autumn ploughing. Drills may be formed from 28 to 30 inches, and should be formed rather flat on the top, not placing the seed too deep. The best plough for forming drills is the double moulded plough.—Potatoes may also be planted by the plough, the sets being placed in every third furrow; also in lazy beds, &c.,

Manures.—As it is essential for a large crop that the land should be rich, manure should be applied, however fertile the soil may be from previous manuring. Too much farm-yard manure, however, is understood to increase very seriously the tendency to the taint. From 12 to 16 tons of half rotted farm-yard manure may be applied either in the drills, where drilling is adopted, or spread on the surface, previous to the ploughing, if ploughing is practised. From 4 to 6 cwt. of guano should also be applied either on the surface or in the drill previous to the plants being set. Rape dust is also a very powerful manure for the potato—5 cwt. of this may be sown over the soil previous to the formation of the drills.

Varieties to Grow.—For several years the Regents and American Earlies almost wholly escaped the taint, while the red varieties, Cups, Perthshire Reds, Fortyfolds, &c., were very much diseased. Last season, however, the opposite was the most common, the Reds comparatively escaping, while the Regents were very much diseased. The Regents bring always the highest price, about one fourth or fifth more than the common red varieties; but the diminished produce, compared with some of the red varieties, more than counterbalances this. The seed should be selected which has been grown on peaty soil, or upon land which has been dressed with sea-ware, —regard being paid to the previous healthiness of the crop. To secure the best seed neither expense nor trouble should be spared. The smaller potatoes are not equal to the large—the tendency in the vegetable as well as in the animal kingdom for "like to produce like," we have observed strikingly illustrated in the potato. About 3 bolls of 4 cwt. each are required for an imperial acre, making the drills 28 inches, and placing the sets from 13 to 15 inches apart. Great attention should be bestowed in the placing of the sets with their eye up, and if they have been previously sprung, so much the better. When planted in drills, the offside horse should be made to walk on the *top* of the drills, and not on the hollow, as is most commonly done. This he soon learns to do, if a person leads him round the first turn. Otherwise, when he walks in the bottom of the drills, he deranges the placed sets. This he is not so liable to do when the sets are placed every third furrow. In a few days after the potatoes are set, the drills should be harrowed down with drill harrows. If the land is rough, a light roller or the turnip harrow may be passed over the drills previous to the harrows. If they are set by the plough every third furrow, the common harrows may be used. Since the appearance of the disease, the period of planting has been advanced from a month to six weeks, early planting being found one preventive of disease. As soon as the land is in order, therefore, planting should commence.

Cleaning of the Crop.—As soon as they appear in rows, the drill harrow should be again passed over the drills, taking out the middle tines, so as not to disturb the roots. No paring away of the drills should ever be attempted. The grubber should be the only implement, and should not be used after the shaws spread 1 foot across. If hoeing is attempted, it should only be done with grape-hoes, or the soil may be loosened with forks, and the weeds should be pulled out by the hand. We advise all growers of potatoes to examine from time to time the distance from the stalk which the young tendrils have attained. The potato, like the ash tree, early sends out its roots throughout the soil, in a way which those who have never examined must be totally ignorant of. The young potato is usually formed at the extremities of these rootlets, which run along from half-an-inch to an inch beneath the surface. All cutting implements, whether plough or hoe, thus necessarily diminish the produce to a very serious extent. We believe that pulling by hand all weeds which appear at the surface is the most profitable method of cleaning the turnip crop.

Furring Up.—If they are to be furred up, this operation should be early effected. One of the greatest enemies which the potato has to encounter next to the potato blight is crows. They dig for the sets with their long bills immediately after planting. After the shaws appear, and as soon as the young potatoes are formed, they again betake themselves to the digging process with an assiduity most exemplary. Three or four in the morning is not too early an hour for an anxious crow with his mate to be at work for the unfledged young. Up to the time of lifting, when the corn fields are not more tempting, they are diligent attenders on the potato field—looking for slugs, forsooth! Crows are truly vermin which should be sacrificed by all possible means in every potato growing district. All romantic

notions about them freeing the land of grub, wireworm, &c., should be confined to the literature of fancy—not transferred either to the practice or literature of the farm. Legendary stories and popular prejudice are in their favor, but they are undoubtedly one of the pests of the farm, and a war of extermination should be waged against them. If public opinion was sound on this point, every rookery would be indicted as a public robbery—at least a nuisance. One shrewd old Highlander (a land-steward where an extensive rookery is kept) used to remark, that "sure the farmers need na grudge the craws their meat, when we gie them lodging." A more correct estimate of the relative *duties* of the owner of a rookery and the adjacent farmers could not be given.

Top-Dressings.—What are termed chemical manures may be applied to the surface after the plants are fairly above ground. Soot, nitrate of soda, and sulphate of ammonia, and sulphate of soda, we have applied singly and mixed, with and without guano. The combustion of the whole is better than any of them singly. They all produce a marked change on the vegetable growth, the leaf assuming a dark green colour, and the stalks becoming vigorous and full of juice, presenting the appearance of sea tangles or rhubarb stalks rather than of potato shaws. Since the appearance of the disease, however, there is a common impression among many growers, that whatever tends to the vigorous development of the shaws gives greater facility for the depositing and action of the spores. This is assuming that the taint is of that class of microscopic plants such as mildew. Reasoning from analogy, however, we should be inclined to assume, that whatever tends to the vigorous development of the plant should also tend to ward off disease.

It is unnecessary, possibly, to add, that hitherto both scientific and practical men are *at fault* regarding the nature and remedy of this, the most wonderful of vegetable diseases which has occurred in the nineteenth century. Upon its first appearance, there can be little doubt that from one to two millions of the population of Ireland were swept away, partly from the want of food, and partly from partaking of diseased tubers. The continuance of the disease has been the great propelling cause of that tide of emigration which is steadily and progressively flowing from Ireland to America.—*North British Agriculturist.*

PERMANENT PASTURES.

From the Maidstone Gazette.

Sir,—I am frequently applied to for information on the best manner of laying down permanent pastures, and this being the time for such operations, I beg to offer a few remarks which may be found of some use to your readers.

It is commonly supposed that good pastures cannot be obtained under several years, and this is correct, if there be no other system than that of sowing rye grass and clovers, with, in some cases, a little crested dogstail (Cynosurus cristatus,) leaving to accident the supply of the other natural and artificial grasses, which are always found in excellent established pastures, numbering from twelve to eighteen kinds.

The herbage is influenced by different kinds of soils, and especially with relation to their state of dryness or wetness; soils have therefore been classed for practical purposes under three heads, viz., light, medium, and heavy. The light embraces soils more or less of a sandy and gravelly nature; the heavy soil embraces clays and heavy loams; and the medium soil varies between these two extremes. We also frequently find a light wet soil approaching to the heavy soils, and a dry heavy soil approaching to the light soils.

It is perfectly well known that certain kinds of grasses flourish most on particular soils and situations, hence the necessity becomes apparent for selecting such varieties as are most suited to the particular soil where the pasture is to be formed.

In commencing operations, care must be taken to have the ground thoroughly drained, cleaned, and brought into good tilth. *Success depends upon this.*

The quantity of seed should be arranged to weight, and not to measure, which will secure one against the fluctuations in the intrinsic quality of the seeds; although a little more expensive, it will be found the cheaper method in the end.—In sowing, mix the *light* seeds together and sow them first, and the heavy by themselves to follow; otherwise the heavy seeds would be at the bottom of the measure instead of being distributed equally with the light. The weight of seed per acre varies according to the nature of the soil. From 35lbs. to 45lbs. with a crop, and 45lbs. to 55lbs. without a crop; the latter mode of sowing is preferable, as the land is not exhausted by the crop, but great advantages will be gained both in saving of seed and in protecting the young plants in summer, by sowing a bushel of barley per acre with it in the spring; or if the sowing takes place in the autumn, a bushel of rye or winter barley, for shelter in winter, taking care that it is cut or eaten off while green. Grasses must be sown very shallow, and not buried, and an iron roll should be run over immediately after sowing, to fix the seeds.

I have known excellent pastures formed by inoculation, that is, by taking pieces of turf about three or four inches in size from an old pasture, and planting them on land (already prepared) about six inches or more apart, and a few grasses sown in the interstices; if this be done in showery weather, success is certain, and in exposed and hilly situations it will be found an excellent plan.

The acknowledged authority for quantity and mixture is Mr. Lawson, of Edinburgh; his tables being generally adopted (see Morton's Ency. of Agri., vol. 4, p. 1000); but I have been very successful in making some little alterations in laying down some of our lands in Kent, and I have no hesitation in asserting that the finest pasture possible can be formed in a short time, by having the soil and seed properly prepared and sown.

J. W. EPPS.

Agricultural and Horticultural Seedsman,
Maidstone and Ashford, England.

AUSTRALIAN GUANO.

One of the most important items of intelligence received from Australia by the recent arrivals is, that of the existence of a large deposit of guano recently discovered in South Australia. The attention of the local government had been immediately directed to a matter of so great importance, not only to the colony itself, but also to the mother country. Instructions were issued for an analysis of a sample of the guano, and the following is the official report thereon, which the lieutenant-governor had ordered to be published for general information :—

"Sir—I beg to forward, for the information of his Excellency the Lieutenant-Governor, the following analysis which I have had made of a specimen of guano which I received from his Excellency some time back, but which our numerous avocations, consequent upon the establishment of this office, have prevented my attending to at an earlier period.

"*Analysis of a specimen of South Australian Guano, in 100 parts of weight.*—Carbonate of ammonia, 3·5; carbonate of lime, 11·5; organic matter, 20·0; silicious sand, 10·0; sulphate of soda, 2·5; muriate of soda or common salt, 10·0; phosphate of lime, 30·0; water, 12·5: total, 100·0.

"From the above analysis it would appear, that the amount of comparatively useless matter in the form of carbonate of lime, silicious sand, common salt, and of water, constituting altogether 44 per cent. of the sample, is unusually large as compared with samples of the best Peruvian guanos. In order the more readily to compare the analysis of this sample with the average result of the analysis of the best genuine guano, as given by Dr. Ure, I subjoin the following table:—

	Average of Dr. Ure's Ayalysis of genuine Guano.		Analysis of South Australian Guano.
Fertilising Constituents.			
1 Animal matter	50	....	20
2 Phosphate of Lime	18½	....	
3 Ammonia, various forms	13	....	3
	81½		23
Other Matters.			
4 Silicious Sand	1	....	10
5 Common Salt, Carbonate of Lime, &c.	8	....	24
6 Water	9½	....	12½
Total of other matters	18½	....	46½

"The foregoing analysis of South Australian guano was made by Mr. Jones, one of the chemical assistants in this office, and does not pretend to any extreme accuracy, as the time that could be devoted to this purpose was limited. It should also be observed, that probably a portion of the ammonia, a valuable constituent of guano, present in the sample, might have been volatised before analysis, it having been kept some time in a warm room.

"I have the honor, &c.,
"B. H. BABBAGE,
"Mineral and Geological Surveyor.
"The Hon. the Colonial Secretary."

MISCELLANY.

THE GREEN LANES OF ENGLAND.

No scenes of savage grandeur can rural England boast,
No rugged glens, nor mountains high that in the clouds are lost;
But oh, what gentle beauty doth her verdant lanes display,
Where, all unpruned the hawthorn thickly lines the devious way,
The velvet sward beneath your feet, the wild rose by your side,
And all around rich fields of grain are seen fading far and wide,
Those mazy lanes of England, you know not where they go,
Nor, as ye trace their windings, dost thou much care to know;
Delighted still ye wander their silent depths among,
A-listening to the music of the throstle's pleasant song.
Farewell, dear lanes of England, may peace be still your lot:
When I forget your loveliness, all else will be forgot. A. C.

UNIVERSITY OF TORONTO.

The Annual Convocation of the University for the matriculation of students and conferring of degrees, was held in the Legislative Assembly Chambers on Tuesday the 19th ultimo. There was a large attendance, and the proceedings were as usual, very interesting. The Vice-Chancellor presided until the distribution of the prizes; the Pro-Vice-Chancellor then took the chair, which he occupied until the close of the meeting. The following gentlemen were admitted to the degrees named.

I.—ADMISSION TO DEGREES.

M D.—W. O. Eastwood, B.A., M. B. McKenzie, B.A., Wm. Winer, B.A., Wr. Boyd, H. Desmond, C. Freeman.

M.A.—Adam Crooks, B.A., M. Barrett, B.A.

B A.—1. H. W. Peterson, 2, J. T. Huggard, 3, E. J. Alma, Wm. Bettridge, Wm. Boyd, S J. Bull, Wm. Meudell, Wm. L. Lawrason, Wm. Woodruff.

II.—MATRICULATION.

†1, N. O. Walker, †2, N. Kingsmill, †3, M. M. A. Crombie, †4, Wm. Linklater, 5, T. McMicking, 6, J. E. Sanderson; Wm. Andersou, R. L. Ball, T. Benson, A, J. Cattanach, E. Goodman, R. Hume, A. Kirkpatrick, A. N. Laidlaw, Wm. McClure, J. T. McKenzie, Nels n McGarvin, Alex. McNab, Thos. Miller, Thos. Morrison, Wm. S. Scott, Wm. Tassie, James Whyte.

III.—RECITATION OF PRIZE COMPOSITIONS.

English Essay, by A. M. Clark, B. A. Subject—"Tadmor of the Desert."

Translation into Greek Tragic Iambics, M. M. A. Crombie, Freshman. Subject—Shakspeare; Macbeth—Act IV. Sec. 3, from 'Let not your ears" to "never finds the day."

English Poem, by H. W. Peterson, Cand. B.A. Subject—"Jerusalem."

Prizes were also awarded to A. E. Rykert, for Latin Verse, J. Brown, for Latin Prose, S. J. Ball, for English Verse, and H. W. Peterson, for English Prose.

After the ceremony had been concluded, Dr. McCaul welcomed the successful candidates for scholarships to the enjoyment of the advantages which they had earned for themselves by the examination which they had passed—an examination creditable to their Teachers, and honorable to themselves. The Upper Canada College had more than sustained its well-earned reputation, for both the first scholarships had been attained by pupils of that Institution. The Toronto

†University Scholars.

Grammar School had also been again successful. One of its pupils had won the distinction of being second in both Classics and Mathematics. The other scholar on this occasion was a pupil of the Edinburgh Normal School, from which the University would be glad to receive more students, equally well prepared with their successful candidate at this examination. The Dr. then adverted in warm terms of praise to the character of the late Head-Master of the Toronto Grammar School, Mr. Marcus Crombie. An erroneous statement had gained some circulation, which he desired to contradict, that the majority of the students were composed of young men, who had obtained scholarships. Such was not the fact. Out of 180 Matriculated Students there were but 33 scholars, and of those Matriculated this day there were but 4. The worthy then explained the changes, which have been made relative to the scholarships, and concluded with a warm and exciting description of the advantages which had resulted in the mother country from the establishment of similar rewards and aids. Why may we not—he would ask—expect similar results here? His experience proved that there were equally good materials, and he confidently looked forward to equally good results. The assertion that the youth of Canada were an inferior race was an insult, a libel on her children, and a statement which was every day proved to be false. It was believed only by those who held the long exploded maxim—"Anything is good enough for a Colony;" whereas those, who had acted on this principle, had learned by bitter experience, that the person who is good for nothing at home, continues to be good for nothing here.

COUNTY OF YORK SPRING FAIR,

On Wednesday, the 20th ult., the County of York Spring Fair, chiefly for stud-horses and bulls, was held on the open ground, on Palace street, near the jail. There was a large number of stud-horses, some of them very good specimens, and some of them very heavy, rather, to appearance, too heavy for a horse of all work for this country, and better fitted for a London dray. On the whole, however, show was good. There were some good grade bulls. There was a large attendance of visitors, considering that that the show was principally for the two kinds of animals. The following prizes were awarded.

BLOOD HORSES.—STALLIONS.—FIVE ENTRIES.

1st	Mr. George Cooper, York,	£3	0	0
2nd	G. L. Ross, of Toronto,	2	0	0
3rd	do do	1	0	0

HORSES FOR GENERAL PURPOSES.—ELEVEN ENTRIES.

1st	Nathaniel Davis, York	£3	0	0
2nd	William Brown, Etobicoke	2	0	0
3rd	William Bowes, Vaughan	1	0	0

DRAFT.—SIX ENTRIES.

1st	David Roundtree, York	£3	0	0
2nd	John Bothwick, Scarboro'	2	0	0
3rd	J. W. Crawford, Scarboro'	1	0	0

DURHAM BULLS.—SIX ENTRIES.

1st	N. Davis, York,	£2	10	0
2nd	John Dew, York	2	0	0
3rd	E. W. Thomson, York	1	0	0

DEVON BULLS.—NO ENTRIES.

AYRSHIRE BULLS,—ONE ENTRY.

1st	R. L. Denison, York,	£2	0	0

GRADE BULLS.—TWO ENTRIES.

1st	R. L. Denison, York,	£2	10	0
2nd	John Dew, York	2	0	0

Judges of Horses—Messrs. Denison, Paul, and Allen. Judges of Cattle—Messrs. Bird, Wheeler, and Scott.

PECULIAR MODE OF USING POTATOES IN NORWAY.

By M. Is. Hy. Beer, *Flekkefjord, Norway.*

The intention of this operation is to alter the flour or starch, which the potatoes contain, into sugar, by a simple process, and thereby render the potatoes more nourishing to animals. The potatoes are first washed, and then steamed or boiled in the common apparatus, which, I presume, most farmers in Scotland possess. When well boiled, the potatoes are to be crushed as *quickly* as possible between two wooden rollers, and immediately put into a wooden vessel or cooler wherein has been poured some water of the temperature of 75° Fahr. The crushed potatoes are then mixed well with crushed barley-malt, 6 lbs. malt for every 100 lbs. of raw potatoes, the malt being mixed by little at a time, *the warmth of the mass being constantly maintained* not under 140° F., nor *above* 155° F. It is very material to keep the said warmth, as it is indispensable to extricate the sugar. When the mass has been well mixed, the vessel must be covered with boards and a blanket, and the mass let stand from two to three hours, and stirred up in that time four or five times, its *warmth not being allowed to sink under 140° F.*

The mass, when well prepared, is a sweet brownish-like syrup, and is ready for use.

It is advisable to prepare the requisite quantity of potatoes every day as they are wanted, when the air is mild, or at least every second day.

The cooler must always be kept very clean, and, therefore, after being used, be washed well with hot water, sprinkled over with a little lime, in order to expel the acid, then rubbed and washed again, and dried with a cloth, letting it stand uncovered exposed to the air till the next time it is wanted.

It is evident that this operation can be executed by any one with a thermometer in his hand; and in fifteen, or at most twenty minutes, two quarters of potatoes can be crushed and mixed, as I know from experience.

Malt is an expensive article in Scotland, on account of the duty; but I presume there can be nothing against farmers making green malt for their cattle. For that purpose it is easily made. A farmer has only to steep barley three days in cold water, lay it afterwards in a heap in a shady place till it begins to sprout, turn it over, observing that the barley on the outside is turned inside of the heap, which should now be laid flat, about a foot and a half high, or less if the wea-

ther be mild. When it has sprouted a little more turn it over again, and so on till the sprouts are a good quarter inch in length. The malt should then be spread very thin, to dry in the air or upon a kiln.

Experience will soon tell that potatoes thus prepared will enable animals to extract more nourishment than from the same quantity of raw or boiled potatoes. The prepared potato mass is usually given, with chopped straw, to cows, oxen, and sheep, and is eagerly devoured by them; and it has been ascertained that a mass of 12½lbs. of potatoes, ¾lb. malt, with 4 lbs. of chopped straw, and 4lbs. of hay, are equal to nourish a little Norway cow fully as well as 20 lbs. of hay alone.

This method of preparing potatoes was contrived by a man in Norway about ten years ago. It was recommended to the farmers by the Norway Agricultural Society, and has been much used by the more enterprising farmers. The Royal Agricultural Society, at Copenhagen, has also recommended the method most earnestly; and, at its request, Professor G. Forchhammer has examined the composition chemically; and he states, among other things, that 200lbs. of potatoes, with 12 lbs. of malt, gave him 65lbs. of very thick sweet syrup, though the experiment was made in the spring; but that 12½lbs. of potatoes, ¾lb. of malt, 4lbs. of straw, 4lbs. of hay, do not contain so much nitrogen as 20lbs. of hay. The milk from the mass will give little cheese, but much better; little flesh, but much fat. He therefore recommended to add 2lbs. of oilcake, when the food will be equal to 24lbs. of hay; and he concludes thus, on the 16th June, 1842:—"Considering that this operation can be executed by every farmer, with apparatus he is mostly in possession of, I regard it to be of the highest importance to extend this method of preparing a nourishing food for cattle, at so low a price as this, as it will essentially contribute to the welfare of the farmers."

Many reports from different persons in this country and in Denmark have since been published, and they have stated that one quarter of prepared potatoes are equal to two of raw or of boiled, and it is highly recommended by all. One reporter says, "I have given my thirty-six milch cows each 12½lbs. of potatoes, ¾lbs. of malt, 10lbs. of cut barley and oat straw, and 4lb. of straw, with no hay from the middle of December till spring, and they have done uncommonly well. For fattening swine and sheep nothing can be cheaper."

When the method of preparing potatoes in the manner described has been approved of in Norway, where potatoes are dear compared with hay, and where cows can be kept, and oxen and sheep fattened in the summer on the mountains for almost nothing, and where flesh, therefore, is low in price, and seldom worth more than 1½d. or 2d. per lb., I consider it will pay better in Scotland and in England, and, as far as I am able to judge, it will be of considerable service to the United Kingdom, and it will come into general use if it were only tried; for I am persuaded that the farmer who has fed his cattle for only one month with potatoes thus prepared will never leave it off. *When the turnips are consumed the potatoes are still in store;* and these, thus prepared, will be the means of saving numbers of cargoes of oil cakes.—*Journal of the Highland and Agricultural Society.*

HIGHWAYS OF THE OCEAN.

An article in *Chamber's Edinburgh Journal*, entitled "Steam round the Cape," contains the following explanatory remarks:—

"Persons who do not pay special attention to nautical matters, are likely enough to suppose that, considering the large number of vessels at sea, the surface of the ocean must be dotted over, almost in every part, with the sails of the countless fleet. This, however, is not the case; the ocean, like the land has its frequent highways, and its wide regions of loneliness. If an observer, furnished with a forty-Herschell-telescope power of vision, could be elevated to a height great enough to give him a view of the great Atlantic, he would be struck by beholding hundreds of vessels following each other on certain lines, along a very irregular course, while over a large portion of the surface not a sail would be visible.

"Thus, he would see the ships which leave this country for the Cape or India, pursue at first a south-westerly course until they reach the neighborhood of Madeira, then keep more directly to the south, at a safe distance from the African coast, until they cross the line; then stretch away again to the south-west, in the direction of south America, till they gain the zone of westerly winds; and finally making a rather short turn into these winds go bowling along before them to the eastward, till they arrive at the Cape, or else, if so directed, pass to the southward of it. On the return voyage, a similar circuitous route is pursued, although the courses to some extent are reversed, the widest circuit or deviation from the direct line being made in the northern instead of the southern hemisphere.

"In the extensive space on either side of these frequented routes, few vessels will be seen.—Here and there an African trader might occasionally be perceived, dodging from port to port, or a slaver, scudding swiftly across the ocean with a royal cruiser following steadily in her track, like a bloodhound, in pursuit."

The writer proceeds to remark, that steam vessels possess an advantage over sailing ships, in being able to strike out a new and direct route for themselves.

CURING MEAT.

For round of beef or legs of mutton for hanging, mix 1¾lb. of salt, ½oz. of powdered saltpetre, or 1lb. of salt, ½lb. of sugar, ½oz. of powdered saltpetre, rub in and sprinkle on either of the above, mixtures in proportion to the quantity given to 14lbs. of meat. The meat should be kept in an earthenware pan or a deep wooden tray, and turned twice a week during three or four weeks, when the round of beef should be tightly bound with a coarse linen tape, and hung in a kitchen in which a fire is constantly kept for three weeks. The weight lost will be from

five to six per cent. in salting, and as much more by drying. Pork, hams, and bacon, may be treated in a similar way, but will require double the quantity of salting mixture; and if not smoke dried, they should be taken down from hanging, after three or four weeks, and kept afterwards, in boxes or tubs, amongst dry oat husks.—*Morton's Cyclopedia of Agriculture.*

WHITE BELGIAN CARROTS.

Mr. Edward Smith, of Isabel Mead, Harbledown, near Canterbury, favoured the Council of the Royal Agricultural Society, on the 9th inst., with the following account of the cultivation of the white Belgian carrot:—"I beg to offer a few remarks on the cultivation of the white Belgian carrot, and the system I have followed for several years in Wales upon a poor stony soil scarcely six inches deep. I plough the land early after harvest, either wheat, barley, or oat stubble, and in November, if dry weather, balk or ridge up the land to remain for the winter. About the middle of April, if the ground will work well, harrow and pick off all the couch or grass, and again strike out the furrows from 20 and 24 inches apart, and haul or cart in the balks about 20 loads of dung, and cover in the same for turnips. I have found this plan answer so well that I have adopted it in preference to the usual way of putting the dung on either in the autumn or spring, and ploughing it in, and have always found the carrots free from scab, and quite straight, and have had far better crops. Upon the ridge I draw with a small hoe a shallow furrow, and sow the seed by hand with a tin two feet long made like a funnel. I have had a much better plant by sowing by hand, which amply pays for the extra expense. The seed is then covered in by a boy following with a rake. I find from the middle of April until the first week in May the best time for sowing the seed. I do not approve of too early sowing, as the young plants are apt to be cut off by the spring frost, and much stunted and injured, and never appear to thrive so will after. I find about 4lbs. of seed sufficient for an acre, and I wet the seed a week before sowing, mixed with a little sand. A soon as the carrots appear above the ground, so as to be seen in the rows, I take advantage in dry weather to hoe between the drills, to give air to the plants. When the carrots come out into second leaf, and to be clearly seen from the weeds, I have boys to pull the weeds in the rows by hand twice before I thin any of the carrots as it gives an opportunity of seeing where they should be left. I leave the carrots about 4 or 5 inches apart, and never allow the hoe between the plants, as they can be done much better by hand, and without injury. I do not use the horse-hoe until the carrots get up strong, as the earth is apt to fall upon the crown. I have found by taking the earth from the carrots after they are about half grown they have been much larger. I usually commence digging the roots about the middle of November, and I lay them in lumps about 40 bushels on the field, or cart them off into clamps and put a good covering of straw without earth, unless very sharp frost. I have had the white carrot kept in this way up to the middle of May, and have been quite sound and as good as when first put in, which is a great advantage in the spring for sheep and other stock, when the swede turnip is not so good late in the season. I think the white carrot might be grown with much success in many soils, in addition to the swede, as there is sometimes a failure in one where there may not be in the other.

RECLAIMED SAND BANKS IN HOLLAND.

All voyagers between the Maas and the Scheldt, along the inland waters of Holland, have noticed the immense sand banks lying uncovered when the tides are out. Near Bergen-op-Zoom these sand banks are of enormous size, the abodes of innumerable seals and porpoises. Plans for reclaiming these islands, and for connecting them with the main land by means of a double sea wall, have been often broached; but while the Dutch possessed a magnificient colonial empire, the cost and labor of shutting out those stormy tides appeared to the merchants of Amsterdam as wholly disproportioned to the gain. Now, however, that the energies of Holland are contracted into a comparatively narrow space, every rood of land in the old country is gaining in value—and gigantic works like the draining of Haarlem Lake and the inclosure of Batt are undertaken in earnest. The latter works, including 36,000 acres, were commenced on the 10th of July last, and already very nearly 3,500 of these acres have been partially reclaimed by embankments. As the land reclaimed by these great works is from six to eight feet above the level of low water of spring tides, it will drain itself, having in this respect an immense advantage over the reclaimed land of the Haarlem Lake, which is from 6 to 11 feet below that level. The first great outer bank is already completed. During the winter the labours of the workmen will be applied to the internal completion of the portion thus reclaimed; and to the construction of a canal connecting the Eastern and Western Scheldt between Hanswere and Wemelding, which the company have undertaken to make in lieu of the branch of the Scheldt between Batt and Bergen-op-Zoom, which their reclamations will include. The canal to supersede for purposes of navigation, the branch of the sea thus recovered will be five miles in length, and have eighteen feet of water. Five hundred men are at work upon it. Sir John Rennie is the engineer employed. The benefits of this reclamation of land are more than local. To the King of Holland it will give forty square miles of additional territory, to his subjects a large extension of employment and wealth, and to the commerce of Europe it will yield 180,000 quarters more of wheat per annum.

THE COAL ERA OF GREAT BRITAIN.

It is indeed remarkable that so small a country should furnish so mighty a supply of fuel. England has 12,000 square miles of coal era—nearly one-tenth of the entire area of the Island; but still this bears but a small ratio to the total quantity in all countries. According to the estimates of Professor Austed and Mr. Taylor, the ascer-

tained area of all coal strata in the world is not less than 150,000 square miles. And yet the annual amount of coal worked and brought to light in the British islands is nearly double that of all other countries taken together—so enormous are their colliery operations. The number of coal fields in these islands, comparing districts detached from all others, is about thirty; the number of distinct working seams in these coal fields varies from one to eighty-four the thickest seam in any one field varies from three to forty feet; and the aggregate thickness of all the seams in each field varies from three to two hundred feet. From these various coal fields there are now extracted not less than 35,000,000, the value of which, including transit to the place of consumption is about $90,000,000.—Of the $90,000,000. it is supposed that about one-half is the value at the pits' mouth, and the other half the value of the transit to the consumer. The fixed capital employed in the British coal trade including mining machinery, and transit machinery is roughly estimated at $50,000,000.

A FEW WORDS ABOUT SLEEP.

No one of active mind should try to prevent sleep, which in such persons, only comes when rest is indispensable to the continuance of health. Infact sleep once in 24 hours is as essential to the existence of mammalia as the momentary respiration of fresh air. The most unfavourable condition for sleep cannot prevent its approach. Coachmen slumber on their coaches, and couriers on their horses, while soldiers fall asleep on the field of battle, amidst all the noise of artillery and tumult of war.—During the retreat of Sir John Moore, several of the British soldiers were reported to have fallen asleep on the march, and yet they continued walking onward. The most violent passions and excitement of mind cannot preserve even powerful minds from sleep; thus Alexander the Great slept on the field of Arabela, and Napoleon on that of Austerlitz. Even stripes and torture cannot keep off sleep, as criminals have been known to sleep on the rack. Noises, which serve at first to drive away sleep, soon become indispensable to its existence; thus a stage coach stopping to change horses, wakes all the passengers. The proprietor of an iron forge, who slept close to the din of hammers, forges, and blast furnaces, would wake if there were any interruption to them during the night; and a sick miller, who had his mill stopped on that account, passed sleepless nights till the mill resumed its noise. Homer, in the Iliad, elegantly represents sleep as overcoming all men, and even the gods, except Jupiter alone. The length of time passed in sleep is not the same for all men; it varies in different individuals and at different ages; but it cannot be determined from the time passed in sleep, relative to the strength or energy of the functions of the body or mind. From six to nine hours is the average proportion, yet the Roman emperor, Caligula, slept only three hours, Frederick of Prussia and Dr. John Hunter consumed only four or five hours in repose, while the great Scipio slept during eight.

Poetry.

SPRING.

O Spring! of hope, and love, and youth, and gladness,
Wind-winged emblem! brightest, best, and fairest!
Whence comest thou, when, with dark winter's sadness,
The tears that fade in sunny smiles thou starest?
Sister of joy, thou art the child that wearest
Thy mother's dying smile tender and sweet:
Thy mother Autumn, for whose grave thou bearest
Fresh flowers and leaves like Powers, with age all fleet,
Disturbing not the leaves, which are her winding-sheet.

—*Shelley.*

ON PATIENCE.

That man on earth, whom meek-eyed Patience trains,
Beyond the grave immortal pleasure gains.
On Providence below the virtuous rest,
And deem whatever Heaven appoints is best.
Thus resignation smooths life's thorny way,
Through death's dark vale to realms of endless days.

EDITOR'S NOTICES.

NOTICES TO CORRESPONDENTS.

DRAINING TILES.—J. B. O., Beamsville; we cannot state the prices of draining tiles, as very few are made and the prices vary considerably, we understand, in different places. The Board of Agriculture at their last meeting resolved on offering facilities for the introduction of Machines for draining pipes.

GOLD OF PLEASURE.—J. C., Guelph; want of time and space has prevented us acceding to your request in this number; we will prepare some remarks on the cultivation and uses of this plant in our next.

The Canadian Agriculturist,

EDITED by G. BUCKLAND, Secretary of the Board of Agriculture, to whom all communications are to be addressed, is published on the First of each month by the Proprietor, *William McDougall* at his Office, corner of Yonge and Adelaide Streets, Toronto, *to whom all business letters should be directed.*

TERMS.

SINGLE COPIES—One Dollar per annum.

CLUBS, or Members of Agricultural Societies ordering 25 copies or upwards—*Half a Dollar each Copy.*

Subscriptions always *in advance*, and none taken but from the commencement of each year. The vols. for 1849-'50-'51, at 5s. each, bound.

N. B.—No advertisements inserted except those having an especial reference to agriculture. Matters, however, that possess a general interest to agriculturists, will receive an Editorial Notice upon a personal or written application.