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.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
								✓			

THE BRITISH AMERICAN
CULTIVATOR.

"AGRICULTURE NOT ONLY GIVES RICHES TO A NATION, BUT THE ONLY RICHES SHE CAN CALL HER OWN."—*Dr. Johnson.*

Vol. 1. TORONTO, APRIL, 1842. No. 4.

PROSPECTUS
OF A MONTHLY PERIODICAL
ENTITLED
THE BRITISH AMERICAN
CULTIVATOR.

WM. EVANS, EDITOR, and
W. G. EDMUNDSON, PROPRIETOR.

THE BRITISH AMERICAN CULTIVATOR has been published, solely with the view, to advance the improvement of Agriculture—to advocate the interests of Agriculturalists—and to promote the general improvement and prosperity of the noble Provinces comprised in the North American portion of the British Empire.

Possibly we may be accused of considerable presumption in professing to entertain such exalted views. We do entertain them, however, and if we are supported by the class for whose benefit this Periodical has been published principally, we shall use every exertion to redeem this pledge, so far as our humble abilities will enable us to do so.

We need not, perhaps, remind our Agricultural friends that this is the only publication, that is almost exclusively Agricultural, now published throughout the wide extent of the Canadas, and that it cannot be continued, or made useful to them unless it is supported by a numerous list of Subscribers.—Can it be possible that any Agriculturalist would refuse to subscribe one dollar annually to give a fair trial to a publication that promises so much benefit? We may not be able to effect all the good we anticipate, but from the means we possess, and shall have at our disposal, we confidently promise the subscribers, that we shall give them interesting information that will amply compensate them for the amount of their subscription.

We would observe further, that the columns of the CULTIVATOR shall be open to any farmer who may be disposed to circulate useful instruction for the benefit of his brother farmers. We do not propose that the CULTIVATOR should only contain our own ideas, on Agricultural or other subjects. On the contrary, we shall have great satisfaction in publishing any useful communications on the science or practice of husbandry, in any of its branches, or on any other subject connected with the interests of Agriculture, and with the general improvement of the country. If, therefore, the CULTIVATOR should not contain as much of interesting matter as subscribers would desire, the fault shall not rest altogether with us, but with those who withhold what is useful, when we offer them an opportunity of making it public.

The columns of the CULTIVATOR shall also be open to any communication that will relate to our domestic manufactures, and the means of promoting any that would be useful and profitable. Indeed, we shall gladly receive and publish suggestions from any class of this community, that will have for their object the general improvement and prosperity of the country.

With this explanation of our views and intentions may we hope for general support not only from the Agricultural class, but from all other classes? We profess that we desire to promote the true interests of all classes, by endeavouring to introduce a better system of Agriculture, and thereby greatly augmenting the annual produce created by our land and other labour. We wish to see the British American Provinces, rich in their own productions, and able to supply the British Isles, with any food they may occasionally require, perfectly independent of all aid from rivals and foreigners.

CONDITIONS:

To appear on the 1st of each month; to be double quarto form, on good paper and fair type; to be published at the exceeding low rate of

ONE DOLLAR PER ANNUM, (INCLUDING POSTAGE.)

PAYABLE INVARIABLY IN ADVANCE.

All Postmasters are authorized Agents,—Any person obtaining 10 yearly subscribers, and transmitting their subscriptions (free of postage) to the Proprietor, shall receive a copy each month for himself, *gratis*.

N. B.—All orders, and communications to be addressed to the Proprietor, Toronto.

*** Editors of Provincial Papers will please give the above one insertion.

To the Editor of the B. A. Cultivator.

PEMBROOKE MEDONTE,
9th March, 1842.

DEAR SIR,—As the Representative of the County of Simcoe, whose Inhabitants are principally engaged in agricultural pursuits, and having the advantage of your acquaintance, permit me to offer you a word or two of encouragement in the very arduous undertaking of publishing such a periodical as the British American Cultivator. Knowing you to possess, in addition to the necessary attainments for such a work, great energy and strict integrity, I have no doubt of your complete success, when the public shall have had time to appreciate the vast importance of your endeavors to prepare each month matter worthy of its patronage.—The B. A. Cultivator is not of that ephemeral character, to be hastily read and then thrown aside. Containing as it does, practical views and instruction on Agriculture, Horticulture, and economy, it will be invaluable to every Farmer and country resident who studies his own and the interest and satisfaction of his family, for the B. A. Cultivator will be not only a fireside companion but a reference in many cases of emergency. May the B. A. Cultivator contribute largely to infuse a spirit of association among us, by which we may be instructed how to improve the gifts of a bountiful Providence, and all the advantages of a soil and climate productive of both health and abundance.

To the credit of the settlers in the County of Simcoe, already much has been done to encourage and support the Agricultural Society of the County, and many spirited individuals have, at a very considerable risk, and expence, imported from Great Britain improved breeds of Durham, Devonshire, and Herefordshire Cattle. To Mr. Thomas Mairs of Vespra, in particular, Canada West is greatly indebted for his spirited exertions to improve the breed of Cattle and Sheep. I avail myself of this opportunity to assure the farmers of the Province in general, and of the County of Simcoe in particular, that my best efforts shall be exerted in behalf of their interests.

ELMES STEELE, M. P. P.

To the Editor of the B. A. Cultivator.

DEAR SIR,—Having experienced the good effects of Gypsum or Plaster as it is now generally called, and as I am anxious that every Farmer should know its valuable qualities I send you a short account of the good it has effected for me.

In the summer of 1836, I cut a piece of grass (Timothy & Clover), measuring about 12 acres, and as nearly as I could guess, there were about six or perhaps seven tons of Hay off the whole field.

I was advised next year to try the Plaster which I did. In the begining of May 1837, I sowed nearly 4 barrels on the same field, but my farming man not having much faith in its efficacy, left one land unsown. That year I had about 15 tons, but the land which was left unplastered, was nearly as bare as the road, I could not make out the reason why it was so, until my man told me that he had not put any Plaster upon it. Since that time I have continued to Plaster the same field every year with great success, having cut a larger quantity every year except last, which was very bad, for all grass being so dry.

Part of the field I ploughed up in the fall of 1840 and sowed with wheat, but in consequence of the drought it looked so badly in the spring, that I was afraid it would have to be ploughed up, but first I tried Plaster. In one week the difference perceptible was so great, that people passing by occasionally used to observe it. I had about 20 bushels per acre from that field, but it was not so fine a grain as some other wheat which was not plastered, and this I have observed to be the case with all the wheat I have ever plastered. I consider it is very good for grass of all sorts, but not for any grain which is wanted to ripen. If sown upon a mixed field of Clover and Timothy, it brings the Clover on far above the other, and this of course is owing to the border leaf of the Clover retaining the Plaster. It should always be sown after a shower, or when the dew is upon the plant.

I think the beginning of May is the best time, and the quantity about a barrel to three acres, or if the land is in very fine order to four acres will be enough.

G. W. GIRDLESTONE.

Thornhill, March 10th, 1842.

Report

Made to the Royal English Agricultural Society, on the trial of Messrs. Ransome's Portable Trashing Engine, and of Two Hand Trashing Machines, at Mr. Falkener's Farm, Fairfield, near Liverpool, on the 24th July, 1841.

The Portable Disc-Engine was coupled to one of Messrs. Ransome's Trashing Machines, by means of a shaft having universal joints, as exhibited in the Show-yard. The carriage remained steady during the working of the engine—its wheels being let a little into the ground, and the shafts supported. The engine performed its work satisfactorily: no sparks issued from the chimney. To prove this important disideratum an elbow-pipe was attached to the summit of the funnel, and joined to other pipes descending to the ground 4 or 5 yards distant from the engine. Straw was laid about the extremity of the pipe to ascertain if ignation was possible close to the orifice. It was evident, from the wet state of the straw quickly produced by the steam, and condensed water issuing from the chimney, that no danger of fire is to be apprehended in a barn-yard from this source. The furnace was fed with both cole and coke, with equal freedom from sparks; the temperature at the orifice of the funnel was below that necessary to inflame straw.

The short duration of the experiment, precluded the possibility of determining the consumption of fuel, but it may be safely estimated at the rate of about half cwt. of good coke per hour, when the engine is doing the work of about five horses; and that about 36 gallons of water would be required per hour to supply the boiler.

In the present experiment, judging from the number of sheaves thrashed by the respective machines in a given time, the engine did the work of twenty-four or twenty-five men; but it was evident that the men could not long have worked the hand-machines without repose or relay, so that no exact computation can be instituted of the power exerted; and the engine could have performed more work at a moderate and safe pressure of steam. The weight of the engine, boiler, and carriage, is about 35 cwt., moved by two horses with a supply of water in the boiler.

Were the carriage mounted on four wheels, and the Trashing Machine fixed and worked upon it, as is contemplated by the inventors, the whole would be still more complete in many points of view.

The Hand Trashing Machines submitted to trial were those commended by the Judges of Implements; the one constructed by the Earl of Ducie, the other by Messrs. Ransome. These two implements involved the use of distinct principles in the method of separating the grain from the ear, as also in the maner of supplying the power.

In Lord Ducie's machine the straw is fed in at a tangent of the drum, and has consequently only to pass round its circumference, the corn being *scutched* or stripped off by the revolving action of eight narrow blades or scutchers. At the back of the drum, and forming the end of the machine, is an open work concave screen of cast-iron, rendered adjustable, so as to be set nearer to or farther from the drum, as required by the sort of grain to be thrashed. A large portion of the corn, on being stripped from the ear, falls immediately through the interstices of this screen; the remainder passes with the straw down a wood grating.—The object of this arrangement is to effect a greater separation of the straw and grain, for the more easy collection of the latter.

The framing is constructed entirely of cast-iron, at one end of the machine is an axis having a fly-wheel, with a handle for a man at each end of it. The end of the drum-spindle carries a pully, to which motion is given by a strap passing round the fly-wheel. By fixing a pully in place of one of the handles on the fly-wheelshaft, the machine may be driven by animal or other power, equally as well as by men; or even altogether without the fly-wheel, by passing a strap from the moter round the drum-pully, as was done experimentally with the disc-engine.

The mechanical construction and execution of this machine merit the highest praise. All the requisites of portability are self-contained; it will stand on any spot; it is not disturbed by the action of the power; and extraneous means of fastening it are unnecessary.

The thrashing principle of Messrs. Ransome's machine is similar to that of their others, and to the general practice, viz., the shaking out the grain from the ear by sharp blows inflicted by the braters; a description, therefore, of the machanism for effecting this purpose is unnecessary.

The peculiarity of the machine consists chiefly in the application of the power by means of side levers or bars, standing out at right angles to the machine. One of these levers is applied to each side, having connecting rods for communicating the power to the acting parts. Two men work each lever, by alternately pushing and pulling, the reciprocating being converted into rotative motion by the connecting rods and cranks. This arrangement is ingenious, and it would seem to be an economical application of human force, as it is exerted in a manner convenient to the physical structure of the human frame. Practically, however, to a certain extent, and for the purpose of a portable machine, this advantage is counteracted by the disturbing effect produced on the machine by the alternate action of the levers on its opposite sides; an effect which requires the machine to be firmly fixed to the spot on which it is to be worked.

As regards the rotative perfection of the work performed by these two machines, there was no very distinguishable difference, judging from the state of the straw, and the cleanness of the ears. The performance of both was considered to be very good. The following table contains the numerical results, being data from which useful comparisons of the cost and relative economy of effecting the process of thrashing by the flail, by the hand-machines, and by animal, or steam power:—

Sheaves of Wheat Thrashed.	Time.		Produce.	Men employed	Machines.
Num'r	Min.	Sec.	Lbs	Num'r	Lord Ducie's.
20	22	40	106	2	Messrs. Ransome's Steam Engine.
20	11	20	103	4	
245	23	30	1200	24	

The produce of each machine was kept separate, and subsequently weighed by Mr. Falkener, after passing the corn once through the winnowing machine. He observes that the produce of each machine, proportionally to the number of sheaves, may be fairly considered as identical. He remarks that the sheaves supplied to the steam-machine were taken at random, and that a part of them had grown along side a plantation, and would not yield so well as the others; whereas the forty sheaves supplied to the hand-machines were picked.

A repetition of experiments of this nature, conducted for a greater length of time, with the attention directed to the difference in the power and effect produced by varying the velocity of the beaters, their number, &c., might be expected to elicit information of much value to the constructor. It was very apparent, during the trials, that skill in feeding exercises no slight influence both over the consumption of power, and the completeness of the operation.

JOSIAH PARKES.

We have given the above report in full thinking it might be useful to both farmers and mechanics, in constructing Thrashing Machines in this country. Lord Ducie's Hand-Machine, from its description, would be the most simple and easy managed as a portable machine, that might be placed in any barn floor without much trouble. The steam machine may not be free from danger by fire, notwithstanding that no accident occurred at the experiment referred to in this report, and we would be very cautious in introducing such a machine into our barn or farm-yard.

Fordyer Lectureship on Agriculture--Marischal College.

On Friday, the 27th November, Mr. Suier delivered his introductory lecture on agriculture for this season. It was well attended: there were several practical agriculturists present. The following in an abstract of the lecture:—

"At that preliminary meeting he would direct their attention to a few of the things that were new in the science since last introductory lecture; and, second, indicated the nature of the course for the present session. He remarked on the increased activity of agriculturists, the demand for information, and the readiness with which experiments were undertaken. Some of the healthiest signs of agricultural improvement were that open and generous rivalry produced chiefly by our great agricultural associations, with their frequent competitions, discussions, and shows—that willingness to communicate, to give and receive information, and the increased readiness to adopt improvements. We were sometimes told that agriculturists were monopolists.—However that might be, it could not be maintained that they were monopolists in knowledge. There was scarcely such a thing as a purely agricultural patent; there were no concealed methods—no secret processes. What an agriculturist found to be an improvement he immediately made public, that all might adopt it, and share in the advantage. It was gratifying in the highest degree to mark the spread of this spirit.—Its good effect would soon become more abundantly manifest. He had occasion to notice in last year's introductory lecture the excellent effects that were resulting from the establishment of the Royal Agricultural Society of England. It was satisfactory to find it still succeeding beyond the most sanguine expectations. The English farmers were fairly roused, and the Scotch ascendancy would soon be put to a laugh—a severe trial. It was gratifying to find at the Berwick Show, that the best short-horned bulls had come from our own neighbourhood—from Buchan: that the cheviots of the north beat the native chavitos. Why were these things gratifying? Because of the exertions they would rouse. Depend upon it, the district where the Durhams were first improved, would strain every nerve to win back its laurels. And the men of the border, were not above taking a

hint even from the "far north." He had a particular reason for noticing some of the new agricultural publications. Professor Liebig's book he had noticed last year, and recurred to it now for several reasons.—First, from its importance it should be in the hands of every agriculturist. A new and cheaper edition was announced, containing very many additions, and a new chapter on manure. Second, he did not think some of our critics had done Liebig justice.—They had made no allowance for the German mode of writing, and seeming contradictions were hunted for, and triumphantly arrayed, when the author's meaning could hardly be mistaken. Third, Liebig's book had been the means of directing the Highland Society to several topics of vast importance for essays and experiments, on which they had most judiciously offered prizes. After some remarks, on the importance of the subjects proposed for prize essays, Mr. S. proceeded to notice Professor Johnson's lectures on Agricultural Chemistry and Geology, the first part of which was now completed. These lectures having appeared subsequently to Liebig's work, embraced many of his views. In some instances they are corrected, in others simplified, in many extended. The student would peruse them with advantage, especially if he could apply to any well-versed chemist to remove any difficulty that presented itself. The subsequent parts promised to be more practical—more important they could not be. In the foreign journals, many excellent papers bearing more or less direction on agriculture had appeared. He called particular attention to those of Boussingault, and of these none was more important than that in the February number of the *Annales de Chimiar*. Mr. S. entered into a detailed account of this interesting paper, comparing the rotations therein specified with those followed in this quarter, and referred to some very useful suggestions on this subject made at the last association by Doctor Daubery. Mr. S. noticed a number of other papers by Boussingault, Liebig, Dumas, and others. He was much pleased to see a translation of Von Thier's Agriculture announced. It was a work of the greatest merit, yet, very few in Scotland had read it. Farmers would now have the very great advantage of studying it in their own language. It deserved to find a place in every agricultural library in the country. Mr. S. next spoke in high terms of a work he was sorry to find scarcely known in this country—the Journal of the Royal Agricultural Society of England. It contained many articles of uncommon merit. He would specify in the last number a most interesting report on the diseases of wheat, by Professor Henslow. Wheat not being cultivated in Aberdeenshire to any extent, gentlemen might not feel so much interest in it; but oats and barley were liable to similar diseases. It would be proper to devote a part of the museum to specimens, preparations, and drawings, illustrative of these diseases. Specimens would be gratefully received, and he hoped farmers would communicate them.—Another excellent paper in the same number was that on the agriculture of the Netherlands, by Mr. Rham. Two of the subjects embraced by it demanded special attention. First, the *texture of soils*—without a thorough knowledge of that no other improvement could be permanent. Second, on the subject of *liquid manures*, they would get most useful lessons. Would it be believed that more than half of the dunghills of Aberdeenshire were placed on declivities, as if on purpose to let the liquid part run to waste, serving merely to give verdure to the acquatics in the ditches, yet it was so. Lastly, the same number contained a report on the application of Nitrate of Soda, from which they would get more information than from all the newspaper reports hitherto published. Mr. S. felt satisfied that the "Journal" required only to be known to be as extensively read by proprietors and practical men in this district as in England. At the outset, Mr. S. said he had a special reason for noticing so fully the new agricultural books and papers: that reason was that he wished to urge, in the strongest terms, the necessity of establishing an agricultural library, in connection with the class and agricultural museum. He meant to address the patrons of the Lectureship on the subject; and from the readiness they had shown to do every thing in their power for advancing the views of the founder, he was satisfied they would give every encouragement. Were the library well managed it would be of the greatest service—for, by means of comparatively small subscriptions agriculturists would be enabled to obtain a perusal of many works they could not otherwise hope to see. Many clubs and local associations had given too little attention to the establishment of libraries. Mr. S. next noticed several new experiments by himself and others, on manures, and gave an interesting detail of results. He noticed the attention now given to ascertain the comparative merit of different forms of plough, and the estimation of the force required to draw them, concluding by the recommendation to our local club to purchase a few dynamometers before the annual ploughing matches commenced."—*London Mark Lane Express.*

The Summers from 1816 to 1841—In England.—1816, extremely cold and wet throughout—one of the severest harvests ever known. 1817, very cold and wet in July and August, but very fine in September, which favoured the harvest. 1818, intensely hot and dry; the thermometer twice at 89, and often above 80. 1819, a very fine hot summer—the month of August intensely hot—scarcely any thunder. —1820, a fine summer on the whole, and very productive. 1821, some very hot days occasionally, but for the most part cold and showery—immense rains during harvest, which did great damage, 1822, a splendid year—hot and dry for the most part, but heavy rains at times, with much thunder—a very abundant harvest. 1823, a very cold showery summer. In July it rained every day except the 24th—very little thunder. 1824, very fine and warm throughout, but never intensely hot; the thermometer stood highest September 1, and was at 79. 1825, very hot almost throughout; July 18, the thermometer stood at 90, which is the highest observation in the course of these summers. 1826, the hottest and driest summer ever known; it began early, and continued late; the thermometer was twice at 88, and often at 84. 1827, hot and dry, but not in such extremity as in the preceding summer—much thunder. 1828, immense rains, which began July 9, and continued almost without cessation; large floods July 16th and 30th; heavy thunder storms, bad harvest. 1829, a very cold stormy summer; in September the rains were very heavy. 1830, very cold and wet, especially in June—much thunder. 1831, warm, gloomy, showery, and electrical—a sickly summer, great numbers of insects, especially horse flies. 1832, moderate for the most part, without much inclination either one way or the other. 1833, very fine, the early part especially; an abundant harvest. 1834, a very fine hot summer, but heavy rains at the end of July—an early and productive harvest. 1835, hot and dry, with some showery exceptions; another abundant harvest. 1836, in the midland counties dry weather predominated—remarkable for the almost entire destruction of the turnip crop by the fly; harvest not amiss. 1837, a fine average of hot weather, but preceded by a very severe spring; harvest difficient. —1838, a cold wet summer, and a late unproductive harvest. 1839, very heavy rains, almost without cessation; the harvest not unproductive, but much damaged. 1840, a fine warm summer with intense heat in August; fine harvest weather—food difficient. 1841, fine and warm in May and June; wet and cold in July and the beginning of August; fine harvest weather at the end, and in September.—*From the Farmers' Almanac.*

These statistics are given in order that we may compare our seasons here, and the results of the harvest, with those in England. Undoubtedly the seasons here were in some degree similar to those in England, but our seasons upon the whole were more favourable, particularly that of 1841. We always have less rain here, and more favourable weather for harvesting. Last harvest in England, as much as ten inches of rain fell in less than a month, when at the same period we had fine weather. Our seasons in Canada would be much more favourable for the farmer, than the changeable weather of the British Isles.

Prolific Pea.—Last year I published in a provincial paper, the *Shrewsbury Chronicle*, the produce of one single pea of the late Wyker Sugar Pea, viz., one hundred and fifty-one pods, containing eight hundred and ninety-three peas, stating that under more favourable circumstances it would have produced a thousand fold. I have tried the experiment again this year with peas of the same kind. The result I have sent to you: the first pea produced three hundred and seventeen pods, containing one thousand six hundred and twenty-six peas; the second pea, three hundred and forty-four pods, one thousand seven hundred and fifty-five peas; the third pea, three hundred and forty pods, one thousand six hundred and fourteen peas. Should any further information be required, I shall have no objection to communicate it, either through your paper or privately. —*Correspondent of the Gardener's Chronicle.*

Extraordinary Ewe.—A ewe, belonging to the Earl of Lauderdale, died about 14 days since at the extraordinary age of 18½ years. She had twin lambs for twelve successive years: viz., from the age of three to fifteen years, and one lamb every year since that age, this year included, but her last lamb died when a few weeks old. From this it would appear that nature was exhausted: her last lamb dying while young, and herself about six months afterwards.—*London M. L. Express.*

Five Facts.—A firm faith is the best divinity: a good life the best philosophy: a clear conscience the best law: honesty the best policy: and temperance the best physic.—*Ib.*

Produce from a single Grain of Wheat.—A single grain of wheat planted in a garden in England, in the month of October, without any particular cultivation, produced the following harvest, 64 straws or tillers, all bearing wheat; the total number of grains being 2,800, and the straw weighing when thrashed 14 ounces.

Directions for Farm Management.

The comfort and prosperity of farm establishments will be greatly promoted by enforcing a regular routine of work, in which each hired servant have their assigned place; by strict attention to hours of labour, by permitting no idlers of any description to loiter about the farm, to divert the attention of those employed from their work—and by the performance of every operation in the proper season. There is much coarse work to be done on most farms in British America, but this is not sufficient reason that any of this work should be done carlessly or in a slovenly manner, either at the fences, in the fields, in the farm-yards, or farm-buildings. We know from experience, that these regulations can only be enforced, by the strictest personal attention of the farmer, to see that those employed by him perform their duty properly. It would also be expedient that the farmer should habituate himself to keep regular accounts of all his affairs, the expenses and produce of his crops &c., &c. By this means the farmer will always be aware of the state of his affairs, and will be able at any time to satisfy himself whether any particular branch of his industry is profitable or the reverse, and whether his affairs and circumstances are improving or otherwise. With respect to the arrangement and management of a farm we beg to submit the following excellent rules from Sir John Sinclair's Code of Agriculture:—

"1. The farmer ought to rise early, and see that others do so. In the winter season, breakfast should be taken by candle light, for by this means an hour is gained, which many farmers indolently lose, though six hours so lost are nearly equal to the working part of a winter day. This is a material object, where a number of servants are employed. It is also particularly necessary for farmers to insist on the punctual performance of their orders.

2. The whole farm should be regularly inspected, and not only every field examined, but every beast seen at the least once a day, either by the farmer or by some sufficiently intelligent servaut.

3. In considerable farms, it is of the utmost consequence to have servants specially appropriated for each of the most important departments of labour; for there is often a great loss of time where persons are frequently changing their employments. Besides when the division of labour is introduced, work is executed, not only more expediciously, but also much better, in consequence of the same hands being constantly employed in some particular department.—For that purpose, the ploughmen ought never to be employed in manual labour, but regularly kept at work with their horses, when the weather will admit of it.

4. To arrange the operation of ploughing, according to the soils cultivated, is an object of essential importance. On many farms there are fields which are soon rendered unfit for ploughing, either by much rain, or by severe drought. In such cases the prudent farmer, before the wet season commences, should plough such land as is in the greatest danger of being injured by too much wet; and before the dry period of the year sets in, he should till such land as is in the greatest danger of being rendered unfit for ploughing by too much drought. On farms where these rules are attended to, there is almost always some land in a proper condition to be ploughed; and there is seldom, any necessity, either for delaying the work, or for performing it improperly.

5. Every means should be thought of to diminish labour, or to increase its power.—For instance by proper management, five horses may perform as much labour as six, according to the usual mode of employing them. When driving dung from the farm-yard, three carts may be used, one always filling in the yard—one going to the field, and a third returning. By extending the same management to other farm operations, a considerable saving of labour may be effected.

6. Every farmer should have a book for inserting all those useful hints which are so frequently occurring in conversation, in books, or in the practical management of a farm. Loose pieces of paper are apt to be mislaid or lost."

The above rules might be very beneficially adopted in British America. Very great advantage would be gained by strict attention to have each particular work done in the proper season, so as not to interfere with other work. Without observing this rule in this country, where the seasons are so short, the farmer cannot have all his work done in proper time, or in the best manner. Every operation will be hurried, and badly executed.

Ploughing.

The object of ploughing is to delve and turn over the soil in ridges, to destroy the surface vegetation, by burying it under ground, where it rots, and forms a kind of manure; to bury the dung spread on the land; to form furrows for different purposes; and generally speaking, to break up the hard mass of land, and prepare it for the action of the harrow and other instruments. To constitute good ploughing, there are certain requisites necessary, namely—a skilful ploughman, a steady team of horses or oxen, and a properly constructed implement.—Together with all this, the land must be nearly level, clear of all obstructions, and drained sufficiently. Where this is not the case, good, and neat work, cannot be executed.

Mr. Fynlayson in his Treatise on the Plough, gives the following description of an experienced ploughman:—

"Nothing can be more beautiful commodiously laid off, and neatly ploughed.—There is even none of man's handy-works that can please the eye more, and at the same time show more of its unruled accuracy, than a lawn which presents ridges of the same width, with furrow-slices running in straight equi-distant lines; and that, too, with such minute exactness, as scarcely to be equalled by the gardener.

It is not the man who makes the greatest to do with the horses who opens his ridges best, but more commonly he who goes steadily and directly forward himself, and keeps such a command by the reins, as to prevent their deviating far from the right path, yet without laying too much stress on their precision, or checking them suddenly from one side to the other; and he who can take a straight furrow at first, and continue so to the last, even on a ridge of fifteen feet, will finish with one, two, or three bouts less, than one who is all along undoing and over-doing, and that too, independently of the ease to himself and his team, and the preference of the work in every respect.

If broad-cast ridges are of unequal breadth, bent, or zig-zag, the work cannot be uniform, and in the turnings much time is lost, and harm done to the land which is ploughed; and with crooked drills there is a loss of ground, an unequal distribution of manure, if such has been applied, and hoeings cannot be so effectually done where they are far distant, or done at all, without saddening the mould, and injuring the crop, where they are narrower.

In fine, the grand criterion of ease and proficiency is, that of the ploughman's walking between the stilts, and in the furrow, with a free step, and erect body—for thus he is more convenient for himself, has the horses and the plough better at command, and increases not the friction by his weight, for thus he cannot go, excepting the horses and the plough are properly adjusted, and proceeding with the least possible obstruction, and thus, too, he is more graceful to look on, than when wriggling with one foot foremost or moving as if part of his muscles were under the domination of violent spasmatic contraction.

It would perhaps be impossible to give anything like a *system of rule*, for the most proper and convenient make, size, weight, turn, &c., of a plough for all the varieties of soil, or of diversity to be met with even in the same ridge; neither shall I make the attempt, but a few rules may be laid down, and observed as axiums in all ordinary circumstances, viz:

1. The horses should be yoked as near to the plough as possible, without too much confining or preventing them from taking a free step.

2. When at work they should be kept going on at a good pace.

3. The chains or traces should, from where they are suspended over the backs of the horses, point in a direction leading through the muzzle, to the centre of the cutting surface of the coulter and shear.

4. The implement, when taking the form of the dimensions required, should stand upright, and glide onward in the line of progression, without swerving in any particular way.

5. The ploughman should walk with his body upright, and without using his force to one point, or showing appearance of inclination.

The unteamed and liveliest, or most forward horse, should be put in the furrow, and only bound back to the right or off trace of the land-horse, at or near where the back band joins it, at such length, when stretched at the width required, as to prevent his end of the beam, or double trase, from being before the other. And further, the heads of the two should be connected together by a small rope or chain, at the distance wanted, giving the furrow-horse power over the other; that is to say, if tender-mouthed, it must be fixed well upon his head, and in the rings of the bit or curb of the other, so that he may have the power of the head over that of the mouth of the land-horse."

Ploughing is a most important operation, and on its being well executed, depends, in a great measure, the goodness of the farmers' crops. Indeed it is impossible any good system of farming can be carried on unless the land is constantly well and carefully ploughed.

The following observations with regard to ploughing, is from a late work on Agriculture:—

"In ploughing these different points require particular attention. 1st. The depth of the slice to be cut: 2nd. Its breadth; and 3rd, the degree in which it is to be turned over. The last operation depends much upon the construction of the plough, particularly the mould-board, and the care of the plough-man. The breadth and depth of the furrow-slice are regulated by judiciously placing the draught on the muzzle or bridle of the plough, setting it so as to be the depth and breadth required. The plough should be so regulated that if left to itself, and merely prevented from falling over, it would cut a little broader and deeper than is required. The coalter is placed with some inclination towards the left or land side, and the point of the sock or shear is slightly bent downwards. The degree to which the furrow-slice turns over is regulated by the breadth and depth; the proportion being usually nine inches broad and six inches deep—or perhaps an inch less each way would be better. When the slice is cut in either of these proportions, it will be nearly half turned over, or inclined at an angle of from 41° to 45°; and a field so ploughed will have its ridges longitudinally ribbed into angular drills or ridgelets. If the slice is considerably greater in width than in depth, it will be almost completely turned over, and each successive slice will overtop that which was turned over immediately before it.

When the depth materially exceeds the width, each slice will fall over on its side, and will be somewhat over-lapped by the next, having all the original surface bare and only laid obliquely to the horizon. The first of these modes of ploughing on the square slice is best adapted for stubble land after harvest, when it is to remain, during the winter, exposed to the influence of the frost, preparitory to fallow or green crop. The second, or shallow slice of considerable width, as five inches deep by eight wide, answers best for old ley or grass land, because it covers up the grass turf, and does not bury the manured soil. The third is a most unprofitable and slow operation, which ought seldom or never be adopted. The general breadth of a slice is from eight to ten inches, and the depth must depend on circumstances, such as the nature of the soil and the object in view. It ought seldom to be less than four, or more than six inches, except on soils of uncommon depth and fertility, or for particular crops such as carrots. Shallow ploughing, as four inches deep or less, ought always to be used when covering lime, which has a natural tendency to sink in the soil; but when covering dung a substantial furrow ought to be given.

To form the ridges straight and of an uniform breadth, a good ploughman is required—with a pole, which should be shod with iron, he first marks off the head or end ridges on which the horses turn when ploughing, and they should be about eighteen feet wide, being little enough space to allow two horses abreast to turn on. The forming of the head ridges first is necessary to let the ploughman know where to step out his plough when working the other ridges of the field. If this is not attended to, the head ridges will be gashed, and by the turning and cleaning of the plough, earth will be accumulated more in one part than another. This will render them not only unsightly, but in retentive soils water will be apt to lodge in the hollows thus formed, which several ploughings will scarcely fill up to the proper level.

Having determined the breadth of the head ridge, the ploughman will measure off the half of the first ridge of the field, if it is to be gathered, or one ridge and a half if it is to be ploughed flat. At this point he sets up a pole, and in a straight line at some distance, a second, and a third or more, as the irregularity of the surface may render necessary—the last pole being at the end of the intended ridge. He enters the plough at the first pole, and ploughs them all down successively, stepping at each, then setting the poles at the right distance for the next ridge. When he reaches the end, he returns along his former track, correcting any deviations, and throwing a shallow furrow on the side opposite to his former one, which, when reserved, forms the crown of the ridge. By skilful ploughmen, these lines are drawn with great accuracy.

In ploughing land, there are a variety of ways of forming the ridges. On dry soils, the slices of a ridge may be all laid in one direction, and those of the adjoining ridge turned the contrary way; this is termed casting. On soils medium between light and strong, the ridges are split out, so that the crown of the old ridge becomes the furrow of the new; this, in Scotland is called crown and feer. On strong soils, it is necessary to form the ridges by twice gathering all the furrow slices in the direction of the crown. In this case the ridges are preserved in their original situations, and the inner furrows in the same places. It is customary, when breaking up these ridges to be worked as summer fallow, to split or cleave them, reversing the former operation by turning the furrow slice outwards, beginning at the furrows, and ending at the crowns. In this operation the ridges are cut in two, the old water furrows carefully opened up to serve as surface drains, and an additional series of water furrows formed at the crowns. On the sides of hills, where the land is very steep, the best plan is to form the ridges in a slanting direction, for this renders the up-hill work easier for the horses, and in the event of heavy rains, the ridges prevent the manure from being washed away. One acre per day, throughout the ploughing season, and considering the difference of soils, is a fair average work for two horses to plough."

As the proper depth of ploughing, has become a subject of dispute, we give the following remarks of Sir John Sinclair:—

"Deep ploughing, by bringing up new mould, is peculiarly favourable to clover, beans, potatoes, and turnips; and without occasional dress-ploughing, these crops would diminish in quantity, quality, and consequently in value. It is of the utmost consequence, not only by supplying more pasture to the roots of plants, but, above all, by preventing the injurious effects of either too wet or too dry a season. This a most important consideration, as, if the season is wet, there is a greater depth of soil for absorbing the moisture, so that the plants are not likely to have their roots immerced in water; and in a dry season it is still more useful, for, in the lower part of the cultivated soil, there is a reservoir of moisture which is brought up to the roots of the plants by the evaporation which the heat of the sun occasions."

These remarks are well worthy of attention.

TO RENDER WHITE WASH DURABLE.

White Wash of Lime is rendered fixed and durable without cracks if made with water, in which common salt is dissolved.

A POEM ON AGRICULTURE.

Of all the employments of life,
To me there is nothing like farming:
It creates no unneighbourly strife,
Or anything else that's alarming.
Let the sailor go ploughing the ocean,
Let the lawyer read over his brief;
Of sea-ploughing I've not any notion,
And in lawyers I've little belief.

Manufacturers hold their heads high,
And so do our mercantile men;
But this truth they cannot deny,
So we'll say it again and again:—
The first want of nature is food,
Who denies this must be a great ninny;
The plough does a good deal more good
Than the shuttle or famed spinning-jenny.

So here is success to the plough,
The drill, and the harrow, and flail;
May good farming produce corn enow,
And good dairying milk in the pail;
May good grazing produce enough meat,
May good farmers lead happy lives;
Without females they can't have this treat,
So here's to their sweethearts and wives.

Of the farmers it ne'er can be said
That their labourers they have forgot;
May they daily have plenty of bread,
And a good piece of meat in the pot.
May good labourers have masters kind,
Who at all times will fair wages give
To dependants—thus bearing in mind
The good system of live and let live.

How greatly soever are prized
Manufactures, and commerce, and trade,
To these must be not sacrificed
Agriculture, by law to be made.
Manufacturers must soon bear a share,
When farmers distressed shall complain;
For both should the laws be quite fair,
For both are as links of one chain.

Filliard.

Happy the man whose wish and care,
A few paternal acres bound,
Content to breathe his native air
In his own ground.

Whose herds with milk, whose fields with bread,
Whose flocks supply him with attire,
Whose trees, in summer, yield him shade,
In winter, *fire.*

Blest, who can unconcern'dly find
Hours, days, and years slide soft away,
In health of body, peace of mind;
Quiet by day,
Sound sleep by night; study and ease
Together mix'd; sweet recreation!
And innocence, which much does plead,
With meditation.

Thus let me live unseen, unknown,
Thus unlamented let me die;
Steal from the world, and not a stone
Tell where I lie.

Pope.

RECIPE FOR MAKING WATER AND FIRE PROOF ROOFS OF HOUSES, SIDINGS, AND ALL KINDS OF OUTSIDE ROUGH WORK.—To five gallons of water, add five quarts of rock (or common) salt, boil and skim, then take six quarts of unslacked lime, slack and, soft it, put it into the hot brine, also 1 lb. allum, ½ lb. copperas, ¾ lb. Pearl ash, the last to be added gradually, then add four quarts of fine sand or wood ashes, mix well and apply the composition hot with a painter's brush, having previously well cleaned the roof or siding to which it is to be applied—any colouring matter may be used to give it the shade required; two coats are sufficient. It is lasting as slate, and proof against fire or water.

THE CULTIVATOR.

"Agriculture is the great art which every government ought to protect, every proprietor of lands to practice, and every inquirer into nature improve."—Dr. JOHNSON.

Toronto, April, 1841.

The Encouragement which ought to be given by the Government to Agriculture in British America.

The general state of the rural population in these Provinces,—the deficiency of capital—and the want of education and agricultural skill that prevails amongst a large majority of them, point out the necessity for the Government adopting decided and active measures for the encouragement of agriculture, if it is desirable that it should improve and prosper in this country.—*The agricultural class; who ought to possess the* greatest influence of any in British America, are, from the above causes, unable, and unqualified to assume that station they would be entitled to occupy, from their numbers, and the property they possess. The consequence is, that they possess scarcely any influence in the conduct of the affairs of the country, and therefore have no chance of introducing any measures that might be necessary for the encouragement and improvement of agriculture, and the protection of their interests. It is true, five hundred pounds are appropriated annually to the several Agricultural Societies throughout the Provinces, which is generally distributed in premiums for animals, but we know by *experience that this* mode of proceeding will never effect the encouragement and information required to insure us a prosperous and improved agriculture in British America.

In England the rich and powerful landed proprietors take care of the interests of agriculture—they encourage *every improvement by experi*ments made at their own cost, and the farmer has ample protection from foreign competition. The capital employed in agriculture is abundant to afford the very best chance of success. The farmer has land and buildings provided for him by the proprietor, and in many cases the proprietors pay for drainage and other improvements necessary for the tenant, and the farmer has only to provide stock, seed, implements and labour.—Together with all these advantages, premiums and encouragement is held out for every species of improvement that can be conceived necessary or useful in stock, seed, implements, labour, the dairy, the destruction of vermin injurious to agriculture, and the improvement and judicious management of land. Good and faithful servants are rewarded. In fact nothing is neglected that could possibly improve agriculture, or promote the prosperity of those engaged in it as proprietors, farmers, or labourers. In British America we have no rich and powerful landed proprietors to encourage improvements, or take any active interest in *agricultural prosperity*. There are many good farmers in this country certainly, who cultivate their lands in the best manner, and thus show a good example to the uninstructed, but this is not sufficient to effect the general improvement of husbandry, with the sort of population we have here. If our agriculturists, who are generally proprietors of the soil they occupy, were sufficiently educated, the progress of improvement would be much more certain and rapid, but this is a good that we cannot expect to attain for many years to come. It requires that men should receive a liberal education to free them from prejudice, and enable them to view new plans of cultivation and improvement without jealousy. Persons who have only received the first rudiments of education, and can merely read and write, without practicing much of either during their lives, are not much better qualified to form a correct judgment on subjects of interest to themselves and the community, than the totally uneducated. Indeed they are generally less qualified, because the little instruction *they have received, make them confident* and presumptious, and it is impossible to reason them out of any opinions which they have once formed.

A Board of Works have been very wisely established in Canada, for recommending and superintending all public works of improvement *that may be necessary for the country. We* humbly conceive that a General Board of Agriculture, would not be less necessary to promote the improvement and prosperity of agriculture.—This Board might produce the same good to British America, that the Royal Agricultural Society of England, is now producing in that country. Here we cannot have such a Society as that of England, because we have not such a class of rich proprietors. Our Government will, therefore, have to do for us, what the Royal Agricultural Society of England are doing for that country, and this we humbly conceive, can be best effected by the institution of a General Board of Agriculture. We have already, in a Magazine published by us in 1838, *suggested the* establishment of such a Board, and we beg to copy here, a part of the article that appeared on the occasion referred to:—"The organization of a General Board of Agriculture in each Province would, we feel convinced, produce much good, provided the Board was composed of men who understood the theory and practice of agriculture, and who would not be influenced by any other motives than a sincere desire to promote the general improvement of agriculture, and the prosperity of the country. The following outline of a plan for organizing such a Board, was suggested to the author, by having seen a report made by the Committee on Agriculture for the State of New-York, assembled in Albany in February last.

"There shall be organized a Provincial Board of Agriculture to consist of three or five members, who shall be appointed by the Governor, and shall hold their office, for at least five years, and shall receive, while necessarily employed in the duties of their office, the same compensation as Members of the House of Assembly did receive. They may choose a Secretary, if deemed necessary; and shall hold quarterly meetings in Canada, at Quebec, Montreal, Kingston, and Toronto alternately; and may also meet at such other times and places as may be found expedient to fulfil the duties enjoined upon them by their office.

"There shall be assigned for the meetings of the said Board of Agriculture, and as a museum for models, geological specimens, and agricultural productions, suitable apartments, both in Quebec, Montreal, Kingston, and Toronto; which museum shall be kept in order by the Secretary, or by some person appointed by the Board, and *shall at all times* be open and accessible to the public without charge.

"It shall be the duty of the Provincial Board of Agriculture to examine all reports and returns made by the Presidents of the County Agricultural Societies, and Boards of Agriculture; to select for publication such of them, and such other essays as they may judge advisable; and shall annually publish a volume, to be distributed in the several counties of the Province by the County Agricultural Societies. And they shall examine, when in session, and determine by practical experiment on the merits of all new farm implements or machinery offered for their examination, and they may award discretionary premiums upon *all such as may be found truly* meritorious and deserving of public patronage, provided the whole amount expended in any one year shall not exceed ——————; and provided further, that no such premium shall be delivered to the person claiming the same until he has deposited with the Board a model of his implement, machine, or improvement.

"There shall be deposited in the room assigned to the Board, specimens of choice and rare agricultural productions, models of implements, drawings of choice animals, books, and all other articles which may be presented to the museum, a registry of all which shall be made by the Secretary, and open to the public inspection.

"The Board of Agriculture *shall* report annually to the Governor in the month of January, a statement of their expenditures and of their proceedings during the previous year; and also all matters that they may deem calculated to promote the improvement of agriculture and of domestic industry.

"That the Board of Agriculture, constituted as aforesaid, shall have the authority, at their discretion, to award premiums for the production of extraordinary and valuable crops of grain, roots, or any other agricultural or horticultural productions, or household manufactures, which, in their view shall, by such encouragement, add to the productive wealth of the country, not exceeding, however, a *fixed* amount, *which shall* be placed at their disposal.

"The mode of organizing County Agricultural Societies might be as at present, namely, that all subscribers should be members. The members to elect annually such and so many officers as they may deem proper; none of whom should *receive any emolument from his office. It would* be the duty of such officers annually to regulate and award premiums on such articles, productions, and improvements, as they may deem best calculated to promote the agricultural and household manufacturing interests of the Province; having especial reference to the nett profits which accrue, or are likely to accrue, from the mode of raising the crop, or the animals, or the fabrication of the articles of household, or Canadian manufacture, with the intention that the rewards shall be given for the most economical or profitable mode of competition.

"It should be a part of the duty of the Board of Agriculture to see that judicious rules and regulations should be established *by the County* Societies in the distribution of premiums. And in order to secure public confidence in such Societies, without which their proceedings will be viewed with jealousy and distrust, and produce

very little benefit; it would be expedient that the officers annually elected, and the awarding committees, should forego premiums while in office. It would further be necessary to prevent an individual from receiving more than one premium at any anniversary meeting, or more than one premium on the same animal. This would give a wider circulation to premiums and to encouragement. It would also be right to provide, that before any premium shall be paid, the person claiming the same, shall deliver, in writing, to the President of the Society, an accurate description of the process in preparing the soil, including the quantity and quality of manure applied, in raising the crop, or feeding the animal, as the case may be—the expense and produce of the crop, or increase in value of the animal; with a view of showing accurately the profit of cultivating the crop, or of feeding or fattening the animal.

"That the several Presidents of the County Agricultural Societies which may be formed, and who may receive public money to expend, shall annually, in the month of December, transmit all such reports or returns, as they shall be required to demand or receive, to the Secretary of the Provincial Board of Agriculture, together with an abstract of their proceedings, exhibiting a detailed account of the expenditure of all monies which shall come into their hands, and stating to whom and for what purpose paid, with the the vouchers therefor."

It is through a General Board of Agriculture that the wants of the agricultural class can be most effectually and impartially brought before the Government and Legislature. It is also through them that encouragement and suggestions of improvements will be best received.—If the business that gives occupation and subsistance to nine-tenths of the inhabitants of British America, could be made infinately more prosperous and profitable, by instituting such a Board, is it reasonable to neglect doing so? If the people of England have thought it necessary to unite all parties in a Society for promoting agricultural improvement and prosperity in a country, where agriculture is already in a higher state of improvement than in any other part of the globe; why should it not be good for us to adopt means that would be likely to produce the same results? We have already sufficient experience that we cannot attain this good through the instrumentality of any local Societies that may be formed here. With a General Board of Agriculture, local Societies may effect much good in their several localities, as they would be the proper medium of communication between the inhabitants and the Board. We trust that this suggestion may receive some consideration before it will be rejected. There are many more arguments that might be submitted in support of our views, but we shall defer them to another opportunity. We recommend this plan *solely* because we suppose it would be advantageous.

The Representatives to our Provincial Parliament of a population such as that of British America, that is strictly agricultural, in undertaking the duties and honours of Representatives, are, we humbly conceive, bound to attend to the interests of their Constituents. That there was some laws necessary to be introduced for the improvement and benefit of our agriculture, there cannot exist any doubt, though no attention has yet been given to them. To depend entirely upon our Municipal Councils for the laws that are to effect the local or public improvements that we so much require, will, we apprehend, produce nothing but disappointment to us, under the present circumstances of the country. Municipal Institutions, and their duties, are not yet perfectly understood by a large proportion of our population, and we cannot expect them to execute their duties advantageously, until they are better understood. To his Excellency our present Governor-General, the agriculturists of this country should respectfully submit their wants and wishes. His Excellency is connected with the best friends of agriculture in the British Isles, and no doubt, will be favourable to the infant agriculture of this part of the British Empire, that is the chief dependence of our population to supply all their wants. We certainly have more firm reliance upon his Excellency to forward the interests of our agriculture, than we have upon any other quarter. We know that his Excellency will make himself acquainted with the state and circumstances of a class that constitute nine-tenths of the population under his government, and that we shall obtain impartial justice, and all the favour we could reasonably expect, and God forbid, that we should ask or wish for any more. In England the most respectable of all parties are cordially united to promote the improvement of agriculture. The Royal Agricultural Society of England, have now near six thousand members, and there are no less than three hundred other agricultural societies in that country. These facts ought to stimulate us to exertion; who have no other resource but our agriculture. Agricultural Societies should suggest the laws and regulations that they would conceive necessary to the improvement and prosperity of agriculture. A judicious practical law, on the subject of drainage, is one of the most necessary for farmers, and for general improvement. We know from observation and experience, that British American agriculture, is more injured by the want of draining, than by any other local cause. It prevents proper cultivation, and the consequence is, that the soil is foul, and produces scanty and weedy crops. We shall refer to this subject in our next number.

What is a fair return for Capital invested in Land and Agriculture?

This is a question of great importance to the agricultural class in British America. In this country the farmers are generally proprietors, and are entitled to a fair return for the capital invested in land, whether they inherited these lands from their fathers — purchased them cleared — or brought them into a state of cultivation from the forest. For the amount of capital invested in land, we will say the proprietor is entitled to six per cent. per annum. For the amount in buildings two per cent. at the least, as they are subject to decay and to casualties. For the amount of capital in stock, seed, implements, and labour expended on the crop, six per cent. In addition to this, the farmer would be entitled to a per centage for risk—casualties in stock—and unpropitious seasons, perhaps to the amount of four per cent. For management and superintendence of crop, stock, &c., five or six per cent. would not be too much. A proprietor of two hundred acres of land, with stock, seed, implements, and labour expended annually to the amount of one thousand pounds, would not think it too much to pay a competent man fifty pounds annually, to superintend, to advantage, the whole business of such a concern,—and the proprietor would still reasonably expect interest on the capital invested in land, buildings, stock, seed, implements, labour, and for casualties, unpropitious seasons and risk. If the proprietor oversees and manages his own business, he is not the less entitled to a per centage for superintendence, even though he should not work. The farmer and proprietor, have their capital locked up and cannot make any return from it more than once a year; and capital employed in stock may, in many cases, not produce any return oftener than once in three or four years. Hence proprietors of land, and farmers, are entitled to larger returns on their capital, than the mercantile class, or tradesmen. These estimates may be considered high, but on consideration they will not be found so. A farmer, instead of employing his capital in stock, seed, implements, and paying for labour on a farm, may put his capital at interest, and still have his own time to employ otherwise. It is, therefore, only reasonable that he should charge for superintendence. His capital employed on the farm, will, by casualties of stock, unpropitious seasons, and other risks, be subject to serious loss, that he would not be subject to, if his capital was placed in the funds, or in other good security. For these casualties and risks he undoubtedly is entitled to a fair per centage. Those who are not acquainted with agricultural affairs, may be very clever in their own opinion, in estimating the farmer's profits, and no doubt would forget very many items in the account. We can state, without fear of contradiction, that the business of a farmer is most laborious, that his attention is required to be unremitted, and that his profits and remuneration for all this, is less than would satisfy any other class of the community. We do not make this statement in dispraise, or from any dislike to farming, for though it is a laborious and not a very profitable business, we would prefer it under every circumstance, even were they more discouraging, to any other occupation on earth.—It is by strict investigation into every matter connected with agriculture, that we shall be able to estimate fairly the probable profits.

Agriculturists pay too little attention to these matters, and seldom take into consideration the returns they have fairly a right to obtain from the capital invested in land, buildings, stock, seed, implements, and labour. If they obtain a farm by inheritance, and pay no rent for it, they look upon all its proceeds as profit, forgetting that if they were to sell it they could obtain interest for the money it would bring. It is the same case with those who bring them into cultivation from the forest state. They seldom take into their estimate the returns they are entitled to for capital invested, either in money or labour.—The agricultural class in British America have, at this moment, a very large capital invested in land, buildings, stock, implements, seed, furniture, &c., an amount certainly that would fully entitle them to have more attention paid to their interests than they have ever yet received, whatever has been the cause. The amount they have thus invested is much larger than the capital invested by all the other classes of the community put together. We do not desire unfairly to promote the interests of our class over that of other classes; but we wish to be on a perfect

equality with them. Upon a prosperous agriculture in British America, depends, we are persuaded, the improvement and prosperity of these noble appendages of the British Empire, and they never can flourish without it.

Draining.

There is not a greater defect in Canadian agriculture, generally, than the want of sufficient draining. No operation connected with agriculture is of more vital importance to its successful Pursuit, than that which will secure the soil against the injurious effects of water. It is impossible to produce healthy, and good crops, on any land that is not sufficiently drained, no matter how much manure may be applied. It cannot be properly ploughed, harrowed, or kept free from weeds, and where this is the case, good or profitable crops cannot be expected. It is difficult to find in this country, a farm properly drained. There may not be any water on the surface of soil, and yet it may be very imperfectly drained, and not in a fit state for arable culture. Within the last few years, draining has produced more benefit to British agriculture, than any other improvement that has been introduced.—Indeed there is scarcely any improvement possible in arable culture on land that is not sufficiently drained. At present, in the British Isles, the chief attention of both the proprietors of land, and the farmers, is directed to the more perfect drainage of the soil. There is not any means in our power, by which so great an improvement can be effected in land, as by draining, particularly, if the soil is strong clay. In British America, strong clay soils are never in a proper state to plough, work, or produce a crop, unless they are well drained. They must at all times be too hard or too soft.

At a late meeting of the Rutland Agricultural Society, Wm. Shaw, Esq., Editor of the Mark Lane Express, and a member of the Council of the Royal Agricultural Society of England, being present, his health was given, and in returning thanks that gentleman made the following observation with regard to draining:—"That he trusted the landlords present, possessing as they did the power and the means of promoting agricultural improvement in the most efficient manner, would not lay themselves open to the charge of failing to do so, by neglecting to provide good and sufficient drainage for the land of their tenantry. In the session of Parliament which preceded the last, a most important step was made towards a general drainage, by the passing of an act to enable the owners of entailed estates to raise money for that purpose, and to charge the estate with the expense. That was one step; but another and a most important measure had been proposed by a gentleman who was most zealous in the cause of agriculture, and who was now President of the Royal Agricultural Society, by which it was contemplated to obtain power to make main drains through the whole country, through which the water from the surface drains might be carried off, and by which many thousands of acres, in many places lying together, and now valueless, might be rendered valuable; these main drains, if he might be permitted the term, would be the turnpike road of drainage, into which the smaller drains, as the high ways, would run." Perhaps there is not in England a more zealous, friend of agricultural improvement and prosperity than this gentleman,—and if he sees the great necessity for additional drainage in England, the best cultivated country in Europe, we may well suppose how much drainage is required in this new, and generally flat country. In the Supplement to our Treatise on Agriculture, we suggested the great necessity of making large main drains, where they were very much required, and in situations where great improvement might be effected by them. Such main drains are essentially necessary in very many places in this country, and without them, the land in those places never can be properly drained.

Statistics of Agriculture.

We have long experienced the want of accurate Statistical information of the state of Canadian Agriculture. It is only by such information that we can become acquainted with its defects, and be able to suggest suitable remedies. We have often been surprised at the form of printed papers sent out to this colony by the home government, to be filled up here, and returned to England. Queries were put in these papers to be answered here, that it was impossible to answer accurately, from any information in the possession of any individual, or department in the country. If such information was not considered by the home government, both useful and necessary, we may reasonably suppose no such inquiries would be made. We took liberty of submitting this matter to the notice of the late Governor General, and transmitted at the same time, a number of queries which we conceived might be answered by the resident clergy, or by parish officers, if there was a law authorizing such queries to be made. We know that agricultural queries have been sent to the resident clergy in England, and tabulated answers received from them. The following queries are a copy of those we refer to, as having submitted to the late Lord Sydenham, with a few added to them. They are not exactly similar to the queries made in England, but we conceive they are such as are suitable for British America:—

Name the Parish.

Extent in Acres.

Number and size of Farms.

Nature and depth of the soil.

Nature of the sub-soil.

State of Drainage.

Number of acres under plough.

Usual course of crops.

Whether weeding the crops is generally practiced.

Number of acres in Meadow.

Number of acres in Pasture, and state the quality of the pasture, and what proportion of it has been cultivated.

Number of acres in waste, but occupied—what proportion is capable of cultivation—whether all is bearing wood, and the value of the wood.

Number of acres of unoccupied waste, its quality and suitableness for settlement and cultivation.

Average quantity of hay from artificial grasses, and from natural grasses.

Number of acres, and quantity produced, of wheat, rye, barley, oats, buck-wheat, Indian corn, peas, beans, and other grains, not specified in the years 1840, and 1841, each separately.

Number of acres cultivated for hops, and probable produce.

Number of acres, and produce of potatoes.

Number of acres under any other green crops.

Number of acres under summer fallow.

State how the process is executed generally, and if fallowing is found to be beneficial to the soil, and the production of crops.

Number of horses employed in agriculture, and other purposes, and whether generally geldings.

Number of working oxen.

Number of oxen annually fattened, on grass and stall fed, each separately.

Number of grazing cattle, and milch cows, each separately, and their breed, quality, and value.

Number of calves bred in the year for rearing and for meat.

Number of sheep of the long-woolled breed, their quality, and the average weight of each fleece.

Number of sheep of the short-woolled breed, their quality, and the average weight of each fleece.

Number of lambs bred in the year for rearing, and for meat, and the average mortality until weaned, per hundred born.

Number of sheep of all descriptions, sheared in a year, the breed, quality, and value of sheep generally.

Number of swine fattened in the year, what food they are generally fattened upon, their average weight, and what probable porportion sold.

Quantity and description of cheese and butter, made in a year, each separately, and what probable quantity of each may be sold.

What is the state of the roads, and how repaired.

What is the state of water communication, if there is any, might it be made useful and how.

What is the rate of wages for all description of servants and labourers, and the probable numbers employed by farmers. State if farm labourers are to be had at all times to meet the demand for them. State whether there are any domestic manufactories carried on—describe what they are, and the extent and value of the manufactures, together with the number of persons employed in them, and the wages they obtain.

Give any other useful information that will have a tendency to show the true state of agriculture in the parish, both as regards capital and the want of it.

Answers to these queries would give us some idea of the state of the country, and what measures it would be best to adopt to remedy any defects in our system. The physician will not know what medicine to administer to his patient unless he knows the nature of his complaint.—Let it not be supposed that it is our wish to represent agriculture in a depressed state if it is not so. We only wish the subject to be fairly investigated that is of so much importance to the vast majority of the inhabitants of British America.

We have copied the following observations that have some reference to Agricultural Statistics, from the Quarterly Journal of the Statistical Society of England. These observations are perfectly correct in stating that if any advantage could be gained by any party, from a knowledge of the true state of agriculture, and its produce, means would very soon be found to obtain the most perfectly accurate information on every point desired. The great obstacle in all these matters is—the want of feeling sufficient interest

in the subject, where there is no direct advantage to be gained:—

"The importance of accurately knowing the provision made for the maintenance of the people is surely not less than that of knowing the yearly produce of various articles of commerce, which are employed as accessories in manufacturing processes. * * * * It would not be possible to calculate with any tolerable accuracy the loss in money which this country has sustained, through the want of information, thus shown with regard to only one year's operation; but we can have no hesitation in believing that its amount must have been at least sufficient, if employed at interest, to provide in perpetuity for every expense that could accompany the most completely organized machinery for collecting agricultural statistics throughout the United Kingdom. * * * * * *

It is well known, by every body who have made any extensive inquiries concerning the state of agriculture, as a science, in various parts of the kingdom, that the advances made in some countries have not been hitherto followed in others; and it has been stated, in illustration of this fact, that, if all England was as well cultivated as the counties of Northumberland and Lincoln, it would produce more than double the quantity that is now obtained. To what can this discrepancy be owing, unless it be to want of information, such as the public agent would collect in each county, and which could not fail to interest deeply every farmer throughout the whole extent of the kingdom. If the cultivators of land where agricultural knowledge is the least advanced could be brought to know, upon evidence that would not admit of doubt, that the farmer of Northumberland or Lincolnshire procured, from land of fertility not superior to his own, larger and more profitable crops than he is in the habit of raising, is it likely that he would be contented with his inferiority? The farmers of England have often been accused of an undue preference for the plans and processes employed by their ancestors, and their pertinacity in this respect has been contrasted with the rapidity that accompanies the march of improvement in mechanical and manufacturing processes. The reason for this difference is obvious. Manufacturers, residing in town, are brought necessarily and constantly into collision; new inventions are continually brought under their notice, so that their results can be traced and judged with the greatest accuracy. Practical agriculturists, on the contrary, live apart; they come together but rarely, and have not that degree of acquaintanceship, the one with the other, which leads them, even when they met, to the interchange of professional experience. If the result of a successful experiment should at any time reach their ears, they cannot be certain that all the circumstances connected with its prosecution have been faithfully detailed, or that the advantages ascribed to a new method may not be the consequence of accidental causes, such as a propitious season, for instance. Men are generally prone to doubt every thing that is not presented to their own observation, and this is especially the case with regard to improvements which imply the mental superiority of others over ourselves. The manufacturer, on the contrary, sees for himself, he is not called upon to take any thing upon trust; he can weigh and judge with the minutest accuracy all the circumstances of each case; and what he sees can owe no part of its success to other than human agency; what another has once done, he may always successfully imitate. The tendency of information, such as would be procured by the agency already described, would be in a great degree to remove the disadvantage in this respect, under which the farmer now suffers.—Results placed before him, upon such unquestionable authority, resting not upon a single experiment only, but upon the practice of hundreds of men placed in the same circumstances as himself, must be received by him as undoubted facts, and he must be driven to the adoption of whatever might come thus recommended, with an alacrity equal to that which we see exhibited by the manufacturer.

It is feared that the time is yet distant in which various classes of the same community will be willing to make the apparent sacrifice, each one of its own fancied advantages, on the altar of the general good, with the conviction that the share each must obtain of that good will prove an ample compensation for the peculiar benefit that may be relinquished. The contrary principle seems at present to be held with the greatest tenacity. It is besides feared that, if the public should acquire knowledge of any such peculiar advantages, those who possess them would be exposed to have them invaded. The agricultural is, in this country, what is called a *protected* interest; our cultivators, consequently, appear desirous of excluding inquiries which might have the effect of weakening their claim to the continuance of that protection. This fear is altogether chimerical. In Belgium where the utmost publicity is given to every circumstance connected with the agriculture of the country, it has never been pretended that any advantage has been taken of that publicity. * * *

The information which it appears to be so desirable to obtain with reference to the whole kingdom, is already easily procurable with regard to each individual farm, by any person who has a sufficient interest to instill him to the task. The landlord, who is interested in extracting a due proportion of the produce of a farm under the name of rent, cannot find much difficulty in correctly estimating that produce. A similar facility attends the operations both of the tithe-proctor and the parochial-tax gatherer. The knowledge is, in fact, already procureable by every one who can turn it to the disadvantage of the farmer; all that is wanted is to extend the information, so that the farmer himself may be placed in a condition to profit from its possession."

Working Oxen, or Spayed Heifers.

We have always been of opinion that oxen or spayed heifers, might be more profitably employed, both in the cart and plough, particularly the latter, in situations remote from our principal cities, than horses. They are less expensive to keep—they may be worked a few years, without the original value of the animal being materially, if at all reduced; and then fattened and sold to the butcher: whereas the farm-horse is much more expensive to keep, and soon begins to lessen in value, and this deterioration continues from year to year, until he is completely worn out, and only worth the price of his skin.

We have seen speyed heifers worked at a ploughing match in the old country, and too without a driver, and performed their work in a shorter time, than most of the ploughs that was drawn by horses, of the very best description.—Spayed heifers, well selected, would answer in this country much better than oxen—they are faster, and will bear the excessive heat better.—In the old country, we were in the constant habit of using them, and found them to answer extremely well. In England, a considerable diversity of opinion exists upon the subject of employing oxen or horses in agriculture. Our own opinion is, that *both* should be employed on almost every farm in British America, that is over ten miles from our principal markets. Farmers in this country have not to travel so much upon hard roads as in England, and can better dispense with a large number of horses, One horse consumes the produce of as much land as would support five or six human beings, or perhaps more. By adopting a proper system of managing working oxen or speyed heifers,—having them to come to the yoke in regular succession, and fattening those that were becoming old, farmers might have most of their work, both of ploughing and carting, executed at much less expense than by horses. Oxen and speyed heifers, that have been worked for a few years, fatten readily, yield a large quantity of tallow, and make beef of the very best quality.

We have the means of selecting very suitable animals here for the yoke, and no doubt we might effect considerable improvement in our present stock of neat cattle, by careful breeding. In England the Devonshire, and Sussex oxen are generally considered as unrivalled in the yoke, and are supposed to possess some of those qualities most desirable in working cattle; among which may be mentioned great quickness of action, docility and goodness of temper, stoutness, and a truth and honesty of purpose when at work, that many horse-teams cannot pretend to. Mr. Yonatt, a modern writer of much consideration, observes:—"The principal objection to the Devonshire oxen is, that they have not sufficient strength for tenacious clayed soils; they will, however, exert their strength to the utmost, and stand many a dead pull, which few horses could be induced or forced to attempt. They are uniformly worked in yokes, and not in collars. Four oxen, or six young steers, are the usual team employed in the plough." Vancouvre, in his "Survey of Devonshire," says, "That it is a common day's work on fallow-land for four steers to plough two acres with a double-furrow plough."

Mr. Yonatt in speaking of the Sussex oxen, says;—"Almost the South Downs oxen are much employed, but not perhaps in an equal degree to horses. In the Weald of Sussex they have the greater share of the labour; and on a farm of 100 acres there is usually a horse and an ox team; on a larger farm there are more oxen. The coarse breed is always slow, and soon after six years old, it can scarcely be worked at all to advantage. The light breed, the true Sussex of many a century, will step out as light and as fast, and will do almost as much work as any horse, and stand as many of those dead pulls. Of the speed which some of them possess, proof was given when a Sussex ox ran four miles against time, over the Lewes race-course, and accomplished the distance in sixteen minutes."

Mr. Yonatt, in reference to the Devonshire ox employed in the plough, says:—"There is a peculiarity in driving the ox team which is very pleasing to the stranger, and the remembrance of which, connected with his early days, the notice does not soon lose. A man and a boy attend each team; the boy chaunts that which can scarcely be regarded as any distinct tune, but which is a very pleasing succession of sounds, resembling the counter-tenor in the service of the cathedral. He sings away with unwearied lungs, as he trudges along, almost from morning to night, while every now and then the ploughman, as he directs the movement of the team, puts in his lower notes, but in perfect concord. When the traveller stops in one of the Devonshire valleys, and hears the simple music from the drivers of the ploughs, on the slope of the hill on either sides, he experiences a pleasure which the operation of husbandry could scarcely be supposed to be capable of affording. The chaunting is said to animate the oxen somewhat in the same way as the musical bells that are so prevalent in the same country. Certainly the oxen move along with an agility that would be scarcely expected from cattle, and the team may be watched along, while without one harsh word being heard or the goad or the whip applied. The opponents of ox husbandry should visit the valleys of North and South Devon, to see what this animal is capable of performing, and how he performs it."

Certainly it is only by seeing how oxen suitable to the yoke, and properly managed in the yoke, perform their work, that we can be able to form an accurate estimate of their value in agriculture, compared with horses. This we do not often see in British America. Farmers breed oxen without any regard to their suitability to plough or cart, and they employ them in plough-teams, without any selection. They have a pair, two pair, or more, of oxen, and all are trained to the plough whether fit for it or not. Breeding of neat cattle for every purpose is conducted in the same way, so far as regards the female. All the heifer kind, no matter how defective in shape or appearance, are put to breed — no selection is made— and hence, it may well be conceived that we cannot have very choice or perfect stock for any purpose. There are some exceptions certainly, we have farmers who are very particular in breeding stock, and have excellent stock to show, but in general there is not much attention given to make judicious selections of the female, or heifer kind for breeding. Almost every heifer bred in the country is allowed to breed again, and while that is the case, we never can have an excellent and profitable stock.

SHEEP.

Anxious to promote the cultivation of a useful and profitable stock of sheep in British America, we shall occasionally give extracts from a very excellent "Treatise on Sheep," lately published by a Mr. Blacklock. In this number, we shall commence with the History of the Sheep, and all their different varieties, and some other information respecting them, that we trust will be interesting to our readers.

HISTORY OF THE SHEEP.

(1). *Origin of the Sheep.*—As the origin of our domesticated animals has afforded scope for much curious speculation, so none have attracted a greater degree of attention in this respect than the sheep. Into these arguments, however, it would be absurd to enter; I shall therefore content myself with such opinions as are deemed the best.

Placed in the Class Mammalia, and Order Ruminantia, the innumerable varieties at present existing may, according to Cuvier, whose tact in arranging animals is universally acknowledged, all be referred to four species—the Argali of Siberia, the Moufion of Sardinia, the Moufion of America, and the Moufion of Africa—though to be rigidly accurate in natural distinctions, he would refer them all to three, thereby excluding the third.

(2). *The Argali of Siberia* (*Ovis Ammon*) inhabits the mountains of Asia, where it attains the size of a fallow deer. The male has very large horns, with three rounded angles at the base, flattened in front, and striated transversely. The horns of the female are compressed, and hook-shaped.—The hair is short in summer, and of a fawn-coloured grey; in winter it is thick, rigid, and of a reddish grey, with some white about the muzzle, throat, and under the belly.—The Moufion of Sardinia (*Ovis Musimon*, Fig. *.) differs from it only in its inferior size, and in the smallness of the horns of the female.

(3). *The Moufion of America* (*Ovis Montana*) closely resembles the Argali, and is supposed by some to be identical with it, and to have crossed from Asia to America at Behring's Straits by means of ice.

(4). *The Moufion of Africa* (*Ovis Tragelaphus*) is distinguished by its soft and reddish hair, by its short tail, and by a long mane hanging under the neck, and another at each ancle; it inhabits the rocky districts of Barbary, and has been observed in Egypt.

(5). *British Breeds.*—The breeds of our island, as they at present stand, may be divided into two kinds — long-woolled and short-woolled; the former embracing the Lincolnshire, the Teeswater, the Dishley, or New Leicester, and the Devonshire Nots; while the latter will include those of Dorset, Herefordshire, and Sussex, with the Cheviot, Mogg, and Black-faced variety.*

(6). *The Lincolnshire* has no horns; the face is white; the carcass long and thin; the legs thick, white and rough; bones large; pelts thick; and the wool from 8 to 10 inches in length. The ewes weigh from 14 lbs. to 20 lbs. per quarter; and three-year old wethers 20 lbs. to 30 lbs. The fleece weighs from 8 lbs. to 14 lbs., and covers a coarse-grained slow-feeding carcass; so slow, indeed, at feeding, that it cannot be fattened at an early age, except upon rich land; but the breed is encouraged, from the great weight of wool that is shorn from them every year. It and its sub-varieties are extremely common in the English counties.

(7). *The Teeswater* sheep were originally bred from the same stock as the former, but have become different, from the size having received greater attention than the wool, which is inferior both in length and weight. They stand upon higher and finer boned legs, which support a firmer and heavier carcass, much wider upon the back and sides, and afford a fatter and finer-grained mutton—the two-year old wethers weighing from 25 lbs. to 30 lbs. per quarter. Marshall, in his work on Yorkshire, remarks, that they are not so compact, nor so complete in their form, as the Leicestershire sheep; nevertheless, the excellency of their flesh and fatting quality is not doubted, and their wool still remains superior. For the banks of the Tees, or any other rich fat land, they are singularly excellent.

(8). *The Dishley*, or *New Leicester*, is distinguished from other long-woolled breeds, by clean heads, straight broad flat backs, round bodies, small bones, thin pelts, and a disposition to fatten at an early age. But more of this hereafter. The weight of three-year old ewes is from 18 lbs. to 26 lbs. per quarter: and of two-year old wethers from 20 lbs. to 30 lbs. The wool averages from 6 lbs. to 8 lbs., and is thought by some to be superior in quality to that of Cheviot sheep, but, from being fully fed at all seasons, they yield great quantities of it.

(9). *The Devonshire Nots* form the fourth hornless variety of long-woolled sheep.—Forty or fifty years ago, they ranked as middle-woolled sheep, but they now figure among the long-wools, under the name of Bampfords—their fleece having been lengthened, and rendered finer, by crossing with the Leicesters. There is yet, however, much room for improvement in these crosses.—They have white faces and legs, the latter being short, and the bones large, while the necks are thick, the backs high, and the sides good. They approach in weight to the Leicester, but the wool is heavier and coarser. In Devonshire are found a white-faced and horned variety, which are known as the Exmoor breed, from the place of their nativity. Though delicate in bone, they are not good, having a narrow flat-sided carcass, while the weight of the quarters and fleece is a third short of the former variety.

(10). *The Dorsetshire sheep* are horned and white-faced, with a long thin carcass, and high small white legs. Three-year old wethers weigh from 16 lbs. to 20 lbs. a quarter; but the wool, being fine and short, weighs only from 3 lbs. to 4 lbs. a fleece.—It is, however, amply compensated for by the mutton, which is of superior quality. The peculiar and most valuable property of this breed is the forwardness of the ewes, which take the ram at any period of the year, often lambing, so early as September or October. They are, on this account, extremely useful for supplying large towns with house-lamb at Christmas.

(11). *Herefordshire* or *Ryeland sheep* have white legs and faces, and no horns. The wool grows close to the eyes. They are a small breed, suited to every market, weighing from 12 lbs. to 16 lbs. a quarter. The carcass is tolerably well formed, and the wool fine and short, each fleece weighing from 1½ lb. to 2½ lbs., rarely, however, exceeding 2 lbs. They were called *Ryeland* sheep, from a district in the southern part of Herefordshire being thought capable of growing nothing but rye. Though their figure is good, the back is not so level, nor the ribs so well rounded, as in the improved breeds. They fatten easily, however, and arrive soon at maturity, though reckoned inferior in these respects to the Cheviot variety.

(12). *The South Down*, like the Ryeland, are, from the delicacy of their constitution, unadapted for bleak situations, but sufficiently hardy and active for a low country; their average weight is from 15 lbs. to 18 lbs. a quarter; that of the fleece, which is very short and fine, being from 2½ lbs to 3 lbs. They are without horns, have grey faces and legs, a neck low set and small, and a breast neither wide nor deep; their mutton is fine in the grain, and of an excellent flavour, having been brought to great perfection by Mr. Ellman of Glynd, and other intelligent breeders. They are mostly found in Sussex, on dry chalky downs producing short fine herdage, and arrive early at maturity; in which respect they are equal to the Cheviot, though inferior to them in quantity of tallow. Formerly they would not take on fat till four years old; now they are always at market when about two years of age, and many are killed before that period.

(13). *The Cheviot Sheep* have a bare head, with a long jaw, and white face, but no horns. Sometimes they have a shade of grey upon the nose, approaching to dark at the tip; at others, a tinge of lemon colour on the face, but these markings scarcely affect their value. The legs are clean, long, and small-boned, and covered with wool to the hough; but there is a sad want of depth at the breast, and of breath both there and on the chine. A fat carcass weighs from 12 lbs. to 18 lbs. per quarter, and a medium fleece about 3 lbs. The purest specimens of this breed are to be found on the Scotch side of the Cheviot hills, and on the high and stony mountain-farms which lie between that range and the source of the Teviot.—These sheep are a capital mountain stock, provided the pasture resembles the Cheviot hills, in containing a good proportion of rich herdage.

(14). *Mugg Sheep.*—"In this variety," says Dr. Fleming, in his History of British Animals, "the face and legs are white, or rarely spotted with yellow, and the forehead covered with long wool. This is the native breed in Scotland, to the north of the Forth and Clyde. They are of small size, and seldom weigh above 8 or 10 lbs. per quarter. Some tribes have horns; others are destitute of them, and they vary in the length of the tail. They may be considered as the stock of the numerous modern and valuable varieties, which are bred in the best cultivated districts. The Shetland sheep belongs to this kind. The fur consists of firm wool next the skin, with long coarse hairs, indications of an inhabitant of an arctic climate."

(15). *The Black-faced or Heath Sheep* are known by their large spiral horns, wild-looking eyes, black legs and faces, with short firm carcasses, covered by long coarse wool, which weighs from 3 lbs. to 4 lbs.—As the form of this sheep has lately been much improved, by inducing a short and round carcass, they have acquired the name of *short* sheep, in contradistinction to the Cheviots, which are termed long sheep.—When three years old, they fatten well, affording excellent highly-flavoured mutton, and weighing from 10 lbs. to 16 lbs. a quarter. They are the most valuable upland sheep in Britain, abounding in all the western counties of England and Scotland, and are now becoming great favourites in the London market.

(16) *The Merino.*—Though many foreign breeds have from time to time appeared in this country, yet almost all of them have been viewed merely as objects of curiosity, and, as such, have speedily been disregarded. Far different, however, was the reception of the Merinos. Brought into

* Encyclopedia Britannica, 7th Edition, Article Agriculture.

England under the most favourable auspices, and placed at once under the fostering protection of royalty, their native merits could not but be speedily appreciated and diffused throughout the kingdom. They have received the name of *Merino* from a peculiar buff or reddish hue of the countenance, and are supposed to have come originally from Africa; at least Marcus Columella, having seen a strange variety from that country exhibited at Rome, during some public games or shows, took them to his farm, and, having crossed them with the breeds of Tarentum, sent the offspring to Spain. There they throve remarkably, attracting the attention of other nations, to whom they were from time to time exported, and at present may be found in almost every part of the world.

Merinos were brought to England for the first time in 1788, but attracted little attention, owing to the want of rams. Lord Somerville went to Portugal in 1801, for the purpose of selecting such animals as appeared valuable, from uniting a good carcass with a superior fleece, and he succeeded, notwithstanding the disturbed state of the country, in obtaining specimens, which called forth the praises of the shepherds, through whose travelling flocks they passed. Public attention was attracted to them on the commencement of his Majesty's sales in 1804; and their distribution over the country was accomplished in 1811, by the formation of the principal landed proprietors and eminent breeders into a Merino Society.

The Merinos had much prejudice to encounter on being first brought before the public in 1804; but they soon rose in favour and value, and steadily progressed till the Merino Society was established, when, strange though it may appear, all these advantages were at once destroyed. This paradox may, perhaps, be explained, by supposing that the institution of local committees, which immediately followed, allowed the enemies of the change, in distant parts of the kingdom, ample opportunity of striking at the scheme, now that it was entrusted, in many instances, to persons ill-qualified for the task either of making converts, or retaining the advantages already gained.

The horns of the Merino are of large size, twisted spirally and extended laterally, approaching closely to these characters to the sheep of Mount Parnassus, a specimen of which is delineated in the work by E. T. Bennett, on the Gardens and Menagerie of Zoological Society. The face has a characteristic velvety appearance, but the cheeks and forehead are disfigured by coarse hair. The legs are long and small in the bone; the breast and back are narrow, the sides flat, and too much of the weight is expended on the coarser parts. There is a peculiar looseness of skin beneath the throat, which is admired in Spain as denoting a tendency to weight and fineness of wool, though regarded in this country as a sign of a bad skin and want of aptitude to fatten. The average weight of the fleece in Spain is, 8 lbs. from the ram, and 5 lbs. from the ewe. The abundance of the yolk enables the wool to detain all the filth which comes in contact with it, so much so, that by washing the weight is diminished about three-fifths.—The fibre of the wool is finer than that of any other sheep, and the carcass, when fat, averages from 12 lbs. to 16 lbs. a quarter. They are quiet and tractable, and possessed of many good qualities, but they are liable to abortion, are bad nurses, and require a large supply of food, for which, owing to an unprofitable form, they yield no return.

The Merinos were at one time in great request in various countries, from a supposition that they would speedily supplant other breeds; but this has never been the case, as the animal soon degenerates when out of Spain, and is only valuable so far as giving rise to varieties, which are equal, if not superior to itself. Large profits were at first expected from their wool, but these were reduced to a trifle when the loss of weight, and fineness in the carcass were taken into account. Mr. Hose of Melton Mowbray, put a certain number of Leicester ewes to a ram of the same breed, and an equal number to a Merino ram. The result was, that the Leicester fleece weighed 7 lbs. and the one from the cross with the Merino, 8 lbs.; and that the former brought in the market 1s. per lb., and the latter 1s. 6d., being a gain of 5s. on the fleece. The carcass of the former, however, weighed 27 lbs. per quarter, and the latter only 25 lbs., being a loss of 5 lbs. on mutton. Much advantage may, however, be expected from our crosses with the Saxon Marino, which is in every respect well suited to our notions of a fine animal, as it yields a good wool, and is little inferior in carcass to some of our best breeds.

(17). *Teeth of Sheep.*—In common with the rest of the ruminating animals, sheep have eight incisors in the lower jaw, unopposed by any in the upper, a callous pad, which is substituted, being attached to the distal end of the intermaxillary bones. Between the incisors and molars, or grinding teeth, there is a vacant space of about an inch and a half. There are twenty-four molars, six on each side of each jaw; their crowns are marked with two double crescents, the convexity of which is turned inwards in the upper, and outwards in the lower jaw. The lamb, when newly dropped, is devoid of incisor teeth, though the two central ones are occasionally above the gum at this early period. When one month old, the first set of incisive teeth are complete. The two fore-teeth of the under jaw drop out at the end of the first year; six months after the two next to these are lost; and at the end of five years the teeth are all renewed. When the permanent teeth are fully grown, it is almost impossible to ascertain the age of the animal, as the soil, the texture of the provender, and the original form of the teeth, have all a greater or less influence over their durability.

(18). *Distinctions between the Sheep and Goat.*—Though a comparison of the most common domesticated breeds of sheep and goats, tends to confirm the broad distinctions drawn between them, yet these differences almost entirely disappear, when we attempt to define the characteristics of those races, which still exist in a wild state in various parts of both Continents, where it is so far impossible to determine the precise division to which they belong, that Cuvier holds them unworthy of a generic separation. Sheep and goats, in fact, agree in so many points as regards structure, form, stature, and habit, that were it not that sheep, according to that naturalist, have "their horns directed backwards, running more or less forwards in a spiral manner, with a generally convex line of profile, and no beard," while the goats have "their horns directed upwards and backwards, their chins generally decorated with a long beard, and their line of profile almost always concave," there would hardly exist a difference worth the noting. Some writers place great reliance on the differences indicated by the different coverings of the animals, ascribing wool to the sheep, and hair to the goat, forgetting that most of the wild sheep, and some of the domesticated races, are covered with hair, while some goats, as those of Thibet and Angora, are remarkable for the fineness of their wool. Even supposing these distinctions to hold good, we have still to combat the fact, that *sheep and goats produce mongrels capable of reproduction*, a consideration sufficient of itself to prove, that the sheep and goat can never be made to form the types of separate genera.*

(19). *Horns of Sheep.*—As the Chevrotains or Musks are distinguished, with the Camels, from other animals of this order by the absence of horns, so are sheep, oxen, goats, and antelopes, distinguished from the rest of the horned genera of the order, by the persistence of their frontal prolongations. The horn is an elastic sheath of *agglutinated hairs*, which appears within the first twelve months, though sometimes present at birth, and increases by layers, one being added every year, so that the age of a ram may be known by the number of rings.—The ewes have commonly no horns, but only a protuberance in place of them. The horn is supported by, and serves to cover, a highly vascular prolongation of the frontal bone, and it is at its root, where large vessels, and nervous filaments are entering, that blows occasion so great agony to the animal, apart from the damage which the other bones sustain by the infliction of violence on so powerful a lever.

(20). *Structure of the Stomach.* — The term ruminating, indicates the power possessed by this animal, in common with many others, of masticating its food a second time, by returning it to the mouth after a short maceration. This they are enabled to do, from the structure of the stomachs, or, more correctly speaking, stomach; as anatomists have now concluded, from all animals being constructed on one common principle, that ruminating animals are not possessed of four stomachs, as formerly supposed, but only of one, which they view as being divided into four compartments. In drawing precise conclusions, we are bound only to admit the existence of two compartments, the other two belonging properly to the gullet; and being equivalent to the cheek pouches of monkeys, or the crop and membranous stomach of birds, may be viewed as an apparatus designed to serve a nearly similar purpose (that of moistening and macerating the food); while the real stomach will cease to excite wonder, or puzzle the ignorant, on being contrasted with that of other animals, in many of which a division exists, and from which even the human stomach, though generally a single sac, is not always exempt.—Dr. Knox, of Edinburgh, being in possession of one that resembles a pair of small globes joined by a narrow tube, and which, when taken from the body of a person who was advanced in life, bore every mark of soundness in texture, and must, therefore, have been congenial.

(21). *Digestion.*—The food descends by the gullet, after being partially crushed, into what is called the first stomach, or paunch, in Latin, *rumen*, or *ingluvies*, in which cavity are found those morbid concretions so much, and so superstitiously, prized in the Eastern world, under the name of Bezoar stones; from this it passes into the second, termed bonnet, king's hood, or honey-comb, in Latin *reticulum*, which is much smaller than the other, and receives its name from the inner coat being arranged into cells; here it is moistened, made into pellets, and, while the animal is at rest, impelled by the antiperistaltic motion of the tube to the mouth, and after undergoing a complete mastication, is returned through the gullet to the third stomach, or smallest

* For further information on this subject, see that excellent paper on the Natural History of the Sheep and Goat, by James Wilson, Esq., in No. IX. of the Quarterly Journal of Agriculture.

compartment, which goes under the name of *omasum*, or many-plies, from its resembling a rolled-up hedgehog, and sometimes, from the longitudinal *lamina* of its mucous membrane, that of leaflet. The food remains but a short time in the omasum, proceeding into the fourth division, or abomasum, which in its structure, especially in that of the mucous, or inner membrane, is nearly allied to the same organ in the human being, and is, by the French, from its power of coagulating milk, called *caillette*. The last compartment is the largest of the four, so long as the animal continues to live on milk; but the paunch speedily surpassed it in magnitude when grass becomes the sole provision. The milk always passes at once into the fourth stomach, there being no reason why it should be returned.

(*To be continued*).

THE CULTIVATOR.

"Agriculture is the great art which every government ought to protect, every proprietor of lands to practice, and every inquirer into nature improve."—*Dr. Johnson*

Toronto, April, 1842.

In our last number we submitted our views with regard to some of the measures, we conceived, would be necessary to be adopted in British America, in order to ensure the progress of general improvement—as well as the improvement of agriculture. When undertaking a share in the conduct of this Periodical, we pledged ourselves, that we would endeavour, so far as our humble abilities would permit, to persue such a course, as we would believe to be best calculated to promote the interests of the class upon whose prosperity we are convinced that the welfare of nineteen-twentieths of the population of this country mainly depends. We have only in our power to suggest such measures, as our practical connection with agriculture, our acquaintance with the country, and with the wants and wishes of the agricultural class, may point out to us as necessary; and this we are determined to do, honestly, and fearlessly. It will then remain with our Government and Legislature, to consider our propositions, and do that which will be best for the general interests. So far as we are capable of forming a correct judgment on these matters, and we believe that we are supported in the opinions we have formed, by the whole of the agricultural class in British America, we are firmly persuaded, that unless some very material change is introduced, in respect to the mode of our commercial intercourse with the United States, agriculture cannot improve, or be in a prosperous condition, and that the progress of general improvement in these naturally fine Provinces will be very slow indeed. If we are only be the carriers of the produce of a foreign country, or if this is to constitute the most valuable part of the exports from British American ports, we certainly cannot boast much of the profitable uses we make of our vast possessions on this continent, that are many times the size of the British Isles, and that have a climate and soil, that are generally better than that of the latter countries.

The amount of Imports to Canada alone, during the last year, at Quebec, Montreal, Gaspe, and New-Carlisle, is a little over two millions. The amount of agricultural produce Exported during the same period from these ports, will be seen by the following table:—

Beef, Tierces and Barrels.....	3,635
Pork, Barrels.....	34,620
Butter, estimated in pounds.....	177,350
Barley, minuts.....	4,580
Cheese, in pounds.....	14,000
Flour, in barrels.....	871,700
Flaxseed, in minuts.....	1,550
Lard, in Casks.....	1,420
Do. in pounds.....	178,700
Indian Meal, barrels.....	120
Oat Meal, barrels.....	4,832
Oil Casks, number.....	13,163
Peas, minuts.....	138,600
Wheat, minuts.....	563,000

The estimated value of the above, exclusive of the flour and wheat, which we believe is not equal to the quantity of these articles that have been Imported from the United States into Canada during the past year, would not amount to one hundred and fifty thousand pounds currency. We may further state, that the quantity of live cattle, sheep, hogs, butchers' meat, cheese, butter, and lard, imported into Canada from the United States, during the same period, was of much greater value, than our exports of the same articles, that appear in the above table. Consequently, the amount *actually* of Canadian agricultural produce exported, was a mere trifle,—and not, perhaps, equal to the amount paid for foreign imported spirits alone, of which there was about four hundred thousand gallons imported sea-wards, last year, besides what we may have received from our very civil neighbours at the other side of line 45°. These are facts not very encouraging to our agriculturists, and affords a convincing proof of the great neglect of their Representatives hitherto, to the interests of those who elected them.

One of the worst features of our carrying trade is, the large amount of capital that is employed in it, and which we think cannot be estimated at less than one million, five hundred thousand pounds currency, in the wheat and flour trade alone. Let us suppose that there may be from twenty to twenty-five per cent., gained on this capital by merchants, and their employs, in every way, by carrying, &c., this wheat and flour through the Canadas', and it will not amount to more than from three hundred thousand to three hundred and seventy-five thousand pounds per annum. This is a considerable sum undoubtedly, divided as it is between a few comparatively; but what would it be compared to the immense advantage of the general improvement of our agriculture, that must take place, were this large amount of capital paid annually for Canadian agricultural produce, instead of a foreign produce. We may be told that merchants cannot reasonably be expected to forego these advantages, when the Canadian farmers do not raise a produce of the same description that might be exported. We respectfully maintain, that were reasonable encouragement and protection afforded to the Canadian farmers, *they could, and would*, raise more than would be wanted for our own consumption, and for exportation. Wheat, in the United States, is *produced* under different circumstances from ours in Canada, and therefore, we cannot compete with them in selling our wheat. We shall, in a future number, endeavour to explain these circumstances.—Will any man pretend to say that we have not good land, a favourable climate, and excellent farmers, in a large proportion of Canada? And if this is the case, why should not our agriculture be more improved and prosperous, and our produce more abundant? The soil and climate of Canada, are extolled to the skies, for the superior excellence of the one, and the highly favourable nature of the other, for every purpose of agriculture: and notwithstanding all this, capital is employed in the encouragement and support of foreign agriculture, rather than the agriculture of Canada. The amount of wheat and flour exported last year, allowing five bushel of wheat to be equal to one barrel of flour, would be about five million bushels. We have seen reports from Canada West, of crops of wheat yielding as much as from fifty to sixty bushels to the acre. Suppose we say that on an average, the yield may be twenty-five bushels to the acre, it would only require two hundred thousand acres of land to produce this quantity of five million bushels of wheat, and surely it would not be too much to expect that this quantity of land should be appropriated to such a purpose, out of the vast territory comprised within the bounds of Canada West, besides as much land as would produce all the wheat required for their own consumption, and what Canada East might want for the present. This might, perhaps, be about half as much more, or from two to three million bushels.—Hence we conclude, that from three hundred thousand to three hundred and fifty thousand acres of wheat annually, would yield ample supply for all the wants of Canada, and for exportation. This, we believe, could be raised in Canada West, under a judicious system of agriculture—with sufficient capital, and with reasonable protection from foreign competition. There are more than 60,000 farms occupied in Western Canada, and if only *six acres* on each farm was in wheat annually, it would yield a produce of seven million three hundred and eighty thousand bushels, at twenty-five bushels to the acre. Can it then be deemed a wild speculation, that we should assert that these things are possible? Our calculations and estimates are moderation itself, compared to what is said in other quarters of the capabil-

ities of the soil and climate of Canada West for agricultural purposes. Let us have only fair remunerating prices for produce, and capital, and labour will be employed in the cultivation of crops, and then good and profitable crops will be produced. Is it probable, that farmers who understand their business, and the advantages resulting from adopting a good system of husbandry in every department, would not do so, and employ all the labour required to drain, manure, cultivate, and weed the soil, if they found the produce would remunerate them? Certainly they would do all this, however ignorant, and indolent farmers might act. The working classes of our country-men, instead of being employed in cultivating the soil, of this portion of the British Empire, and raising food for their fellow-subjects of the British Isles, are employed in a foreign country, by British capital, to improve and cultivate their wastes, and to augment the resources and population of a foreign, and a rival nation. If this be wise policy, we confess we can have no pretensions to be politicians.

In addition to any protective measures that might be necessary to save us from foreign competition, we would hope that our agricultural produce would be admitted into the ports of the British Isles, on the same terms exactly, that British goods are received here. We must consider ourselves as a distant province of the Empire, and entitled to all the privileges of British subjects, in our commercial intercourse with Britain, or we are worth nothing. The indulgence and favour that may be extended to us, will never injuriously affect our fellow-subjects of the British Isles. We wish, however, to be distinctly understood, that it is only for the *bona fide* produce of British America, that we would ask for free admission to British ports.

It is true, that the duty on wheat imported into Britain from this country, is only five shillings sterling per quarter of eight bushels; but even this is a serious amount, considering the immense distance that farmers in the back woods of Eastern Canada, have to transport their wheat to our shipping ports. This duty is about ten pence currency at the present rate of exchange, or very near it, on the bushel, and that is a great draw-back to the Canadian farmer.—The duty paid on beef, pork, butter, and cheese, amounts to nearly a prohibition, so that unless these duties are reduced to a mere trifle, we may give up all hope of profitably increasing our stock of cattle, either for the shambles or for dairy purposes.

The farmers are a class that are entitled to influence in British America, and if they will only learn to understand their true position, they will have their due influence.—Our Representatives are elected to attend to our interests, and introduce laws and regulations, that will secure these interests, and the general prosperity. We do not expect or wish, that the interests of our class, should be advanced unfairly, or at the expense of other classes, but we would expect that we should have the same protection for the produce of our labour and capital, that other classes enjoy. Let farmers only be true to themselves, and they will no longer be left in the back ground, that has hitherto been their position in this country. If they will now act with judgment, union, and decision, their affairs will receive that degree of consideration that has long been denied to them.

LABOURERS WANTED.—The *St. Catharines' Journal* states, that 1000 additional labourers are wanted to work on the Welland Canal Feeder, wages 4s. 4½d. per day.—Board can be had for 10s. per week.

Durham Agricultural Society.

Principal Officers for the ensuing year:—

PRESIDENT,

DAVID SMART, ESQUIRE.

VICE-PRESIDENTS,

Alex. Broadfoot, Esq., | John Knowlson, Esq.
R. W. Robson, Esq., | John Smart, Esq.

WILLIAM SISSON, Esq., *Treasurer.*

MORGAN JELLETT, *Secretary.*

THE first Exhibition of Stock will take place at Port Hope, on the last Friday in the month of April next, at the hour of 12 o'clock, noon, when the following premiums will be awarded:—

	£	s.	d.
For the best Stallion	5	0	0
Second best do.	2	10	0
For the best Bull, sired in the Province	2	0	0
Second best do. do.	1	0	0
For the best yearly Bull	1	0	0
Second best do.	0	10	0
For the best fat Ox, Heifer, or Cow	1	10	0
Second best do. do.	1	0	0
For the best pair of fat Sheep, Ewes, or Wethers	1	0	0
Second best do. do.	0	10	0

The second exhibition of Stock, Turnips, and Mangel Wortzel, will take place at Bowmanville, on the third Tuesday in the month of October next, at the hour of 12 o'clock, noon, when the following premiums will be awarded:—

	£	s.	d.
For the best brood Mare with foal at foot	2	0	0
Second best do. do.	1	0	0
For the best Milch Cow	2	0	0
Second best do.	1	5	0
For the best two year old heifer	1	5	0
Second best do. do.	0	15	0
For the best pair of two year old Steers	1	5	0
Second best do. do.	0	15	0
For the best year old heifer	1	0	0
Second best do. do.	0	10	0
For the best pair of one year old Steers	1	0	0
Second best do. do.	0	10	0
For the best aged Ram	1	10	0
Second best do.	1	0	0
For the best Shearling do.	1	0	0
For the best Tup Lamb	0	15	0
Second best do.	0	10	0
For the best Ewe	1	0	0
For the best Pen of three Ewes with their Lambs	1	5	0
Second best do. do.	1	0	0
For the best two Ewes with their Lambs, not full bred	0	15	0
Second best do. do.	0	10	0
For the best Boar	1	10	0
Second best do.	0	15	0
For the best breeding Sow	1	0	0
Second best do.	0	15	0
For the best acre of Swedish Turnips	1	10	0
Second best do. do.	0	15	0
For the best half acre of Mangel Wortzel	1	10	0
Second best do. do.	0	15	0
For the best sample of fall wheat, the growth of this County, and of the present year, the whole quantity not less than twenty bushels, one bushel at least of which to be exhibited, together with a certificate from two of the Directors, certifying the quantity to be correct	1	10	0
Second best sample of fall wheat, subject to the same conditions	1	0	0
For the best sample of Barley and Oats, quantities exhibited, not less than one bushel, each	1	0	0
Second best sample of Barley and Oats, with the same conditions, each	0	10	0
For the best sample of spring wheat, on the same conditions as the fall wheat	1	0	0
Second best sample of spring wheat, conditions as above stated	0	10	0

A Premium of One Pound Five Shillings, will be given for the best sample of Red Clover Seed, grown in this County, by any member of this Society, to be shown at the next Spring Meeting, 1843, quantity not less than one bushel. Second best sample of ditto, with the same condition, fifteen shillings.

Those Members who intend competing for prizes, are requested to give one week's previous notice to the Secretary, before the day of Exhibition, (if by letter, post paid).

No person shall be entitled to compete for prizes, unless he has been a Member of this Society, at least three months, except for the prizes for the Stallions and Bulls, and any person is at liberty to show them, whether a Member of the Society or not.

Should there be any single animal, or any other single article exhibited at the Show without competition, it shall be of such description in quality, as the Judges shall approve, or the owner of said animal or article, shall not be entitled to the premium.

The Turnips and Mangel Wortzel to be inspected early in October. The successful Horses and Bulls are to serve expressly in the County of Durham. The fat Cattle and Sheep to be judged more from their fatness than from their size or breeding.

Yearly Subscriptions or Donations to the Society, will be received by the President, Vice-Presidents, Treasurer, or Secretary. And any Member, on paying his yearly Subscription on or before the 20th of August, will receive a copy of the Rules and Regulations of this Society for the current year.

MORGAN JELLETT,
SECRETARY.

N. B. The Premiums for Stallions and Bulls, shall not be paid until the first of August in each year.

March 1st, 1842.

MANURES. — "Complete Farmer," observes as follows:—"Manures are intended either to repair the decay of exhausted worn-out lands, or to cure the defects of other soils, which are as various in their qualities as the manures used to ameliorate and restore them. Some lands are too cold, moist, and heavy, whilst others are too light and dry. To answer this, some dungs are hot and light, as that of horses, sheep, pigeons, &c.: others, again, are fat, and cooling, as that of oxen, cows, hogs, &c.; and as the remedies used must be contrary to the distempers they are to cure, so the dung of oxen, cows, and hogs, should be applied to lean, dry, light earths, to make them fatter and closer, and hot and dry dungs to cold, moist, and heavy lands."

A LONG CHIMNEY.—The largest chimney in the world is at the Soda Ash Manufactory of James Muspratt, Esq., near Liverpool—It is the enormous height of 406 feet above the ground—45 feet diameter inside of the base, 9 feet ditto at the top, and contains nearly 4,000,000 of bricks.

From the Toronto Patriot.

To His Excellency SIR CHARLES BAGOT, *Governor General of British North America, &c. &c.*

MAY IT PLEASE YOUR EXCELLENCY:

As it is probable that the Agricultural interests of this Province will shortly engage your Excellency's attention, and as various statements, apparently in their behalf, are likely to give a false impression of the nature of the evil they complain of, and the relief they seek, I take the liberty, as an agriculturalist, of addressing your Excellency, with a view to explain myown, and, as I believe, the sentiments of the great majority of those engaged in the cultivation of the soil.

In the year 1832, the following duties existed:—

	£	s.	d.
Wheat flour per bbl.,.....	0	5	0
Wheat per bushel,.....	0	1	0
All other descriptions of grain,	0	0	7
Live Stock, for every £100...10	0	0	
Salted Beef and Pork, the cwt.	0	12	0

An Act was then passed, called the Canada Trade Act, which gave free admission to foreign agricultural produce. The great immigration at that period probably experienced some relief by its enactment, as the population of Upper Canada was then thin and scattered; but during the years 1830 to 1834, two hundred thousand emigrants arrived, the principal portion of whom were employed in agriculture. An abundant supply could therefore be obtained, of their own produce, and the removal of the restrictive duties on American produce was thought so injurious to the interests of the Province, as to induce the Legislative Assembly of Upper Canada to petition the Imperial Government for agricultural protection.

It is necessary to observe, in order to account for this sudden transition from scarcity to abundance, that, at the same period, an extensive change was also in operation in the neighbouring Republic:—vast numbers from the Eastern States of the Union had sold their possessions, and exchanged an exhausted soil for the rich prairies of the West; crowds of emigrants from all parts of Europe were constantly proceeding in the same direction, and British capital supplied the means of effecting such internal communications as would facilitate the transportation of their produce.

From 1834 to the present period, emigration from Great Britain has continued to this Colony, but to a much greater extent to the United States. As emigration has extended, so have the difficulties of the Canadian farmer increased. Unable to compete with the far-West, which possesses a mild climate and abundance of fertile land, fit for immediate cultivation, and congenial to the growth of corn, with a boundless extent of pasture, the settler in Canada can no longer rear cattle with any reasonable expectation of profit; and the twenty-five to thirty thousand barrels of pork, with which the West India market was formerly supplied by the Canadian farmer, are now furnished by the American.

The difficulties we have to contend with, which nature has imposed, are only presented to your Excellency's notice, in order to explain the true position of the Canadian farmer.

Exposed to an unequal competition in his own and the British market, by the free admission of American produce, he is likewise subjected to heavy duties on similar produce when imported into the United States. Prohibited by a duty of 70 or 80 per cent. from exporting his wool, which is frequently unsaleable, he has to contend with the American, who has derived a large profit on the fleece in supplying the market with the carcass; and whilst the agricultural produce of the United States is freely admitted to rival his staple productions, he is compelled to purchase every article necessary for his *own consumption, 15 to 30 per cent. dearer* than it can be obtained in the neighbouring States. The duties which are considered necessary to protect British manufactures would never cause a murmur, were the difficulties they impose on the Canadian farmer duly considered; but it cannot reasonably be expected that the producer, who labours under so many disadvantages, can bear the additional burthen this heavy taxation must create. Salt, so requisite for agricultural purposes, is taxed 40 per cent.; tobacco, 20 per cent.; leather, coffee, sugar, iron, glass, machinery, cotton sheeting, and all other goods, from 15 to 30 per cent.

As it is evident the source of the evil arises from the free admission of American agricultural produce, the remedy must be, protection.

Greatly as the boon of the remission of the Imperial duty on Canadian produce would be esteemed, were a just, discriminating duty imposed, yet, under existing arrangements, no relief would be afforded, but, on the contrary, an additional impetus would be given to the settlement of the Western States of America, which would effectually crush the agricultural interests of this Province. The emigration of 400,000 British subjects to the United States, during the last ten years, has excited some surprise in the mother country, and various conjectures are surmised as to the cause and to the mode of correcting the evil. Can your Excellency peruse this statement, and think it a matter of astonishment, that the stream of emigration has been diverted from these shores? Is it not natural that discontent should be the fruits of a policy, which has been sowing the seeds of separation? Can it be expected the connexion with the parent state, should be an object of solicitude to those who daily experience proofs that the interests of a foreign nation are preferred?

The efforts now making to promote emigration, presents a favourable opportunity of strengthening the bonds of union with the mother country. Canada, with only one fifteenth part of her surveyed land in cultivation, and millions of acres of rich forests, could, with proper encouragement, afford employment to the superabundant population of Great Britain. The importance of encouraging a settlement of this Province, to the British manufacturer, is sufficiently evident; for whilst his productions are successfully competed with in Europe, and almost superceded in the United States, Canada has steadily increased in her demand, and consumes, in proportion to her population, three times as much as any foreign customer he possesses.

The Agricultural interests having been totally neglected, it is not surprising that so small an amount of grain is raised for exportation; but, instead of using it as an argument in favour of a continuance of the present system, would it not be more rational, whilst so large a portion of the Province is unsettled, to change a policy which has discouraged production and prevented settlement? The assertion that the price of grain in Canada is not affected by importation from the United States, is supported by no evidence, and the prices obtained for wheat during the last two years, is sufficient proof to the contrary: the profit which the importers of American produce assert to arise from the flouring of the grain, is equally unfounded; for it is well known that but a trifling portion of American flour, exported via Canada, is manufactured in this Province. It forms a subject of complaint from the forwarders in the State of New-York, who state, they are losing a portion of the carrying-trade, from the facilities afforded the Canadian merchant in purchasing his flour in Rochester, which he brands and ships as Canadian. The farmer is no longer to be duped with the fanciful illusions of interested speculators or vain theorists, experience has proved to him that his prosperity (if it is to arise from remunerating prices for his produce) is not to be obtained by free admission of American produce for the sake of the carrying trade—supposing the trading community increased by an extension of this commerce, the farmer is well aware their consumption is supplied from their own importations,—as nearly the entire population of Upper Canada can only be profitably employed in agriculture. If the carrying trade is thought to be more advantageous, it is worse than folly to encourage emigration to a country, where neither capital nor labour could be profitably employed. The ridiculous idea of claiming to be an integral part of the British Empire with a view simply to free admission of agricultural produce into Great Britain is too absurd ever to have been entertained by the agriculturists. If Canada is entitled to this distinction, the protecting laws of England should equally guard the Canadian and British farmer.

The British market is our home market, and before the agriculture of the neighbouring republic should be so extensively encouraged,* *it would be prudent to test our* own capacity of furnishing the requisite supply. It should be remembered that, within no distant period, England for several years raised sufficient for her consumption, and although the last few years of bad harvest have compelled her to import largely, a succession of favourable seasons may render her independent of foreign supply; (the general use of steam carriages will also most probably cause more wheat to be raised)—An increased production from our own soil, is the most beneficial and effectual method of regulating the exchanges, and commerce is more likely to be increased by an exchange of our produce for British manufactures than simply acting as forwarders for the United States, who import nothing in return via Canada.

It being generally admitted some duty is requisite, its amount is the principal object for consideration. The merchants of Lower or Eastern Canada cannot object to a just protection of the agricultural interests of Western Canada, for if they have been made liable by the union of the Provinces for a debt contracted without their authority, they should consider they have been the parties principally benefited, and the vast improvements now in contemplation, chiefly tend to their advantage. The merchants surely do not see, that reducing the farmer to the condition of a mere serf, must recoil upon themselves, by destroying the means of their customers.

When the difficulties which the farmer has to encounter in his competition with the neighbouring republic, are duly considered, a duty of less than one shilling, currency, per bushel on wheat, and five shillings per barrel, on flour, would be insufficient.—Whether it should be a fixed duty on all grain imported, or only on such part intended for home consumption (that for exportation being bonded) is immaterial to the farmer, the amount of the duty effects him individually, the disposal of the revenue is for the consideration of the Province. The proposition to establish a fixed duty of five shillings per quarter, to be paid into the Imperial Exchequer, (in lieu of the Imperial

duty) on American wheat imported, does not appear to me, an equitable measure.—In the first place the duty is too low; secondly—although it must be admitted that Canada is not entitled to the duty on wheat exported to Great Britain, it is equally clear the Province can justly claim the duty on what is brought into consumption (as in case of a bad harvest) or on such portion as may be shipped to British America or the West Indies.

The great importance of the question involving the prosperity or ruin of nine-tenths of the population, must be my excuse for so long intruding on Your Excellency's attention—relying on the justice of their claims, the agriculturists can with confidence leave them to the consideration of that enlightened British administration of which Your Excellency forms a part, assured a powerful advocate will not be wanting should Your Excellency conceive the relief they seek, would tend to develope the resources of the Province.

I have the honour to be,
Your Excellency's ob't. humble Serv't.
J. BROWNE.
Secretary to the Committee for the Protection of Agriculture.
Vaughan, March, 1842.

---

* The Rochester Democrat stated a short time since—they would be enabled to manufacture two millions barrels of flour, which would find a reliable market through the St. Lawrence.

Benevolence should be expansive; a man that does good to none but himself is a hateful encloser; he imputes God's bounty by usurping a strict property in those blessings which he intended for the common use of mankind.

Home.—The only fountain in the wilderness of life, where man drinks of water totally unmixed with bitterness is that which gushes for him in the calm and steady recess of domestic life. Pleasures may heat the heart with artificial excitement, ambition may delude it with its golden dreams, war may eradicate its fine fibres, and diminish its sensitiveness but it is only domestic love that can render it truly happy.

Industry.—There is no art or science that is too difficult for industry to attain to: it is the gift of tongues, and makes a man understood and valued in all countries and by all nations; it is the philosopher's stone that turns all metals and even stones into gold, and suffers no want to break into its dwelling; it is the north-west passage, and brings the merchant's ship as soon to him as he can desire, in a word, it conquers all enemies, and makes fortune itself pay contribution.—*Clarendon.*

Dr. Channing on Monopoly.—What is the happiest community? What the city which should be chosen above all others as our home? It is that, the members of which form one body, in which no class seems a monopoly of honor or good in which no class is a pray to others, in which there is a general desire that every human being may have an opportunity to develope his powers—What is the happiest community? It is not that in which the goods of life are accumulated in a fine hand, in which property sinks a great gulf between different ranks in which one portion of society swells with pride, and the other is broken in spirit; but a community in which labour is respected, and the means of comfort and improvement are literally diffused. It is not a community in which intelligence is developed in a few, whilst the many are given up to ignorance, superstition, and a gross animal existence; but one in which the mind is so reverenced in every condition, that the opportunities of its culture are afforded to all. It is a community in which religion is not used to break the many into subjection, but it is dispensed, even to the poorest, to rescue them from the degrading influence of poverty, to give them generous sentiments and hopes, exalt them from animals into men, into Christians, into children of God. This is a happy community, where human nature is held in honour, where, to rescue it from ignorance and crime, to give it an impulse towards knowledge, virtue, and happiness, is thought the chief end of the social union.

Celebrated Oaks.—The oldest Oaks in England is supposed to be the Parliament Oaks (from the tradition of Edward I, holding a Parliament under its branches) in Clipstone Park, belonging to the Duke of Portland; this park being also the most ancient in the island; it was a park before the conquest and was seized by the Conquerer. The tree is supposed to be 1500 years old. The tallest Oak in England was believed to be the property of the same nobleman; it was called the "Duke's walking stick," it was higher than Westminster Abbey, and stood till of late years. The largest Oak in this country is called Cat'thorp Oak, Yorkshire, it measures 78 feet in circumference when the crank meets the ground. The "Three Shire Oak" at Worksop, was so called from its covering part of the counties of York, Nottingham, and Derby, it had the greatest expanse of any recorded in this island, dropping over 777 square yards. The most productive Oak was that of Gelonos, in Monmouthshire, filed in 1810, its bark brought £200, and its timber £670. In the mansion of Tredegar Park, Monmouthshire, there is said to be a room forty two feet long, and 227 feet broad, the floor and wainscoats of which were the production of a single oak tree, grown on the estate. While on the subject of trees, the following anecdote respecting an old elm-tree, that formerly stood in a park near Cognac, may not be uninteresting:—The Duchess of Angoulême, mother of Francis I, during a morning ramble in the park, being at that period far advanced in the last stage of her pregnancy of that Prince, was suddenly seized with the pains of immediate labour, and being unable to reach the Castle, or obtain assistance, was, obliged, under the shady and wide spreading canopy of an ancient elm-tree, to give birth to the Prince. The singularity of the circumstance excited general interest at the time in favour of this venerable inhabitant of the forest, and to secure it from the sacrilegious axe, a wall of hexagonal form was erected around its base. Time, however, the general destroyer of all things, led to the total decay of the old-elm, which was speedily replaced by another planted in its stead, and called "L'Orme Fille."—*London Mark Lane Express.*

The following is copied from the fifty-second volume of the "Transactions of the Society of Arts, Manufactures, and Commerce."

Culture of the Cambridgeshire Fens.

The thanks of the Society were voted to George Aikin, Esq. of Cook's Court, Carey Street, for the following account of the recent improvements in the culture of the Cambridgeshire Fens.

In the preface of part 2nd, of Volume 51, of the *Transactions of the Society*, noticing Mr. Glynn's paper "On Draining the Fens Cambridgeshire and Lincolnshire by Steam-Engines," a conjecture is hazarded, that "the time is probably not far distant when all the Fen lands in the kingdom shall be enabled to exert their exuberant fertility." So far as the fens of the *Bedford level* are concerned this conjecture is being carefully verified; the more complete and certain system of drainage by means of the Steam-engine, as well as the great improvement of the out-fall, having enabled the occupiers of the land to avail themselves of the valuable strata of clay and marl which are now accessible at a very short depth from the surface, and by which a new and most advantageous system of farming has been introduced.

As some account of this new method may be interesting to such members of the Society as are acquainted with agricultural pursuits, I have endeavoured to collect some information on the subject which I now with great deference submit to the Society.

The practice of using clay and marl upon the fen or *moss* land in other parts of the kingdom, especially in Scotland, has been in use for many years, and their good effect has been fully appreciated; as may be seen in Mr. Steel's excellent work on the subject: the mode of practice laid down there, however, being somewhat different from that in use here, it will not preclude any benefit which may be derived from such information as I have been able to obtain.

The soil of the fens is a dark-coloured almost black, peat, mixed with silt, and graduates downwards into spongy peat.—In many places occurs a tenacious soapy-feeling peat, mixed with micacious sand, in which state it obtains the local name of *bean's muck*, forming a barren untractable soil, which, by drying, becomes of a stony hardness. The peat in some parts rests one thick stratum of blue calcarious clay, called *gault*, (a fair sample of which was found to contain 30·7 per cent of carbonate of lime,) but in other parts a deposit of gravel, varying in thickness, is found between the peat and the gault.

The great Ondford Level contains upwards of 330,000 acres, which formerly were subject to continual floods, so that the cultivation of the land was exceedingly uncertain; and, at best, it could only be worked in spring and summer. The usual course of husbandry was to pare and burn the sod, as a preparation for coleseed or rape, which was fed off by sheep, and was followed by one or two successive crops of oats; according to circumstances; and was then laid down to grass for two or three years; when it was again broken up and the same return of crops observed. The crops, of course, varied according to the situation of the land; where it was very low and wet, the oats rarely exceeded four or five quarters per acre, and were light in quality; but in more favourable situations, where the land was higher and stronger, the crop would be from five to eight, and sometimes ten quarters per acre; all this, however, depended upon the state of the land, as to being flooded or not. Fifty years ago, the drainage was very inefficient.

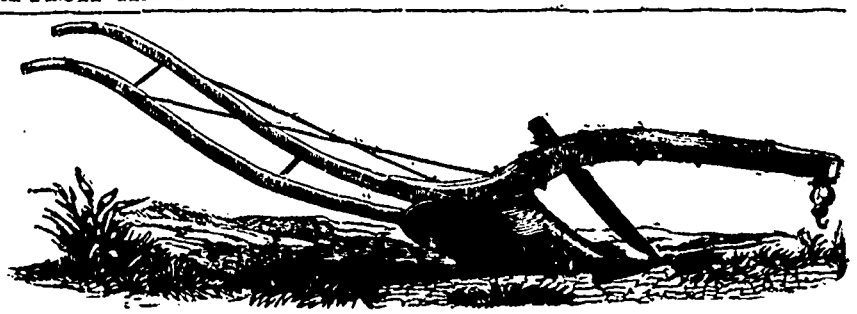
The out-falls for the waters having been much improved by forming the Van Brink Cut; by scouring out and deepening the Hundred-foot River, which communicates with the Van Brink, and conveys the upland waters of the river Ouse more directly to the sea, also, by scouring out and deepening the river Nene and other main drains, and by the introduction of the steam engine, the drainage has become so complete, that the land is now esteemed almost certain from being injured by floods; the consequence of

this has been a new system of farming, and the general introduction of wheat crops, and the practice of *claying or marling the land.* This complete drainage has enabled the farmers to dig for these earths with success; and the benefit arising from their being laid on the land, is as great as that effected on the light sandlands of Norfolk, and by the same means. Where formerly an uncertain crop of very inferior oats was grown, and in many cases kept on the ground; the farmers being unable to get them off from the rise of the waters; now, from the use of clay, they grow excellent crops of *wheat* and of oats of a very superior quality. The land is also much improved and kept in heart by the *manure* they are enabled to put upon it;—formerly a fen farmer never thought of raising manure, which indeed, he could not often get upon the land where he inclined so to do. Instead of the former course of pare and burn for coleseed, then oats, and grass, the present mode is, in the first instance to pare and burn for coleseed, then oats, wheat, clover, wheat, and fallow for coleseed, with occasionally a crop of *beans*, which is exceedingly productive; so that the old mode of paring and burning every five or six years, is now very generally going out of use where the lands are clayed.—Another advantage from this new mode is found in the land being less obnoxious to the ravages of the wire-worm; when the fen land has not been clayed, and at the same time lies dry (*draining*) the wire-worm abounds to the serious injury of the farmer; but it has been found that the worm does not infect the land so much where it has been made heavier, and more consolidated, by the clay.

The mode of claying the land is as follows:—Trenches are formed the length of the piece of land, 7 feet long, and 30 inches wide at the surface, they are dug sloping down to the clay, where they are 8 feet long and 4 feet wide; the clay is taken out *two spits* deep, of about 14 inches each, and thrown on the land on each side. When the first trench is finished, another is begun, and so on, leaving a heading between each trench of from 30 to 36 inches. When the line of trenches is completed, another is commenced at the distance of from 12 to 20 yards, according to the quantity of clay intended to be laid on the land; but the general quantity is about 200 cubic yards per acre. A pit of the dimensions above stated, viz: 8 feet by 4 feet, and 2 spits of 14 inches or 2 feet 4 inches, will contain 74 feet 8 inches, or about 2¾ yards.

The depth at which the clay is found varies considerably; in some places it is touched by the plough, and so on form 2, 3, to 8 feet. The expense per acre, of course, varies according to the depth of the pit, and the quantity laid on the land, from 50s. to 70s. A very great advantage attending this mode, is the saving of expense, *no horses and carts being required.* From the peculiar nature of the fen earth, these trenches are soon ploughed in, and no traces left of them.

GEO. AIKIN.



Morgan's Improved Scotch Plough.

Contents of this Number.

TORONTO MARKETS:

For the week ending 1st April, 1842.

		s.	d.		s.	d.
Flour Farmers', *in barrels*		0	0	*a*	27	6
Wheat	per bushel	5	0	*a*	5	0
Barley	do,	1	3	*a*	1	8
Oats	do,	1	2	*a*	1	4
Pease	do,	2	0	*a*	2	6
Clover Seed	do,	25	0	*a*	30	0
Grass Seed (Timothy)	do,	5	0	*a*	5	6
Potatoes	do,	1	0	*a*	1	4
Oatmeal	per barrel	22	6	*a*	25	0
Salt	do,	11	3	*a*	0	0
Pork	per 100lbs.	15	0	*a*	18	9
Beef	do,	15	0	*a*	22	6
Mutton and Veal (qr.)	per lb,	0	3½	*a*	0	4½
Butter	do,	0	5	*a*	0	7½
Turkeys		2	0	*a*	3	6
Fowls	per couple	1	3	*a*	1	6
Eggs	per dozen,	0	4	*a*	0	6
Hay	per ton,	60	0	*a*	70	0
Straw	do,	35	0	*a*	45	0

ACKNOWLEGEMENTS.—We have received Communications from the following gentlemen, which have been unavoidably postponed until the MAY NUMBER:—JOHN HOWITT, Esq—W. MCDOUGALL,—JAMES MCGREGOR,—CHARLES SMALLWOOD, M.D. We have, likewise, received others bearing anonymous signatures, which we cannot insert, owing to that circumstance; we hope our friends for the future will see the propriety of appending their names and place of residence to all contributions for the Cultivator.

Independent of the exertions of Post-Masters, we expect to appoint Special Agents. The following are a list of Gentlemen, the most of whom have kindly consented to act in that capacity. We hope from time to time, to add others to our list.

Special Agents.

Berlin	Editor German Canadian
Bradford	John Davies,
Brantford	Elijah Barton Esq.
Bath	John G. Davy Esq.
Beemsville	Samuel Gross Esq.
Cavan	Asael Dexter,
Erinville	J. O. Brien Scully, Esq.
Guelph	John Harland Esq.
Hamilton	Dr. Harmanius Smith, M. P. P. & G. Sunley.
Holland Landing	—. McMasters,
Markham Village	William Ketchum,
Napanee	David Roblin Esq.
Newmarket	Michael P. Empey, Sec. Agricul. Society,
Picton	D. B. Stephenson, Esq.
Richmond Hill	Alexander McKechnie,
St. Catharines	Fitz Gerald, & Dudley,
Sherbrooke	G. W. Barnham Esq.
Sandwich	Editor of Western Herald
Sharon	Charles Doan & Hugh D. Willson,
Toronto Township	John Simpson,
Uxbridge	Joseph Gould,
Vaughan	Richard Bywater,
Whitby	R. Ritson, & Dr. Annis,
Whitchurch	R. Machell and B. W. Smith.
Churchville	William Jones,
Woodstock	Henry Frankle.

Orders will be received at J. Eastwood & Co.'s—Leslie & Brothers,—George Leslie's Seed Store,—and at the Star & Transcript Office.

Printed at the Star & Transcript Office.
160 KING STREET, TORONTO.
Every description of Book and Job Printing