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# JOURNAL OF AGRICULTURE,

PUBLISHED UNDER DIRECTION OF THE BOARD OF AGRICULTURE OF NOVA SCOTIA.

VOL. I.

HALIFAX, N. S., APRIL, 1865.

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It is proposed to issue this JOURNAL in future once a month, instead of quarterly. The subscription will remain as at present—Half-a-dollar, payable strictly in advance. Secretaries of Societies and other Subscribers who have sent in their names, are requested to make payment of their subscriptions without delay to the Publishers Messrs. A. & W. MACKINLAY, Granville Street, Halifax.

### FIRST ANNUAL REPORT OF THE BOARD OF AGRICULTURE.

Halifax, 23rd Feb., 1865.

To the Hon. CHARLES TUPPER, M. D.,  
PROVINCIAL SECRETARY.

Sir.—

The Board of Agriculture has the honor to submit, for the information of the Legislature, the following Report of the proceedings of the Board for the past year, together with an Account of the Receipts and Expenditure, and relative vouchers.

In accordance with the provisions of the Act of last Session "for Encouragement of Agriculture," His Excellency the Governor in Council appointed fourteen gentlemen to represent the City and County of Halifax, and the five Rural Districts into which the Province was divided by the Act. These gentlemen, together with the Superintendent of Education and the Principal of the Normal School (members *ex officio*), met on 11th

August, 1864, and organized themselves into a Board for carrying out the purposes of the Act. The following Officers were elected, viz.: Hon. Alexander McFarlane, President; Captain R. Hugonin, Vice President; William Cunard, Esq., Treasurer. The Board appointed as paid Secretary, Dr. Lawson, Professor of Chemistry.

The first matter that engaged attention was the provision of the Act for the organization of County and District Societies throughout the Province, entitled to receive aid from the Provincial Grant for Agriculture. It was known to the Members of the Board that there already existed a number of Agricultural Societies in an active and efficient state, that there were others in a languishing condition, and that not a few had practically ceased to exist. As the new Act provided for certain alterations in the constitution of Societies, and afforded increased facilities for their surveillance, the Board directed an explanatory Abstract of the Act to be prepared, with special reference to the conditions necessary to be complied with to entitle Societies to participate in the grant, and copies of the same were distributed throughout all the Agricultural Districts of the Province, and wherever the information was likely to be of service. The Secretary was despatched to Cape Breton to enquire into the working of Societies in that Island, to reorganize the old Societies in accordance with the Act,

and, where practicable, to organize new ones. He was likewise directed to enter into correspondence with, and visit, as far as possible, the officers of Societies in other parts of the Province, to examine the Accounts of Societies and to ascertain that their funds were being devoted to the purposes contemplated by the Legislature in awarding to them annual grants from the public Treasury. In some cases abuses and irregularities had to be corrected; but it is gratifying to be able to state that, in nearly all parts of the Province, the Board and its officers have found a strong disposition, on the part of the farmers, to enter warmly into their views, to lend their aid in carrying out strictly the requirements of the Act, and to adopt generally all practicable measures for the improvement of agriculture in their respective districts.

After much labor, the Board succeeded in organizing in accordance with the terms of the Act, 87 Societies, in 15 Counties, of which number, 34 participated in the Grant for the past year.—A few other Societies are in course of formation, and during the ensuing season it is the intention of the Board to direct its efforts towards those Counties where there still seems to be room for useful effort in the way of organizing Societies. There is appended to this Report a list of Societies that have been organized and have furnished the requisite returns, together with a statement of the amount of sub-

scriptions raised by each Society during the year, the amount allowed by the Board in proportion thereto as provided by the Act, and the names of the chief officers of each Society.

Many of these Societies, having been very recently organized, there has not been much time for the development of their efforts in agricultural improvement. But the Reports that have been received afford evidence of vigorous action on the part of most of them. Several Societies have held local Exhibitions and Ploughing Matches during the past season, whilst others, and by far the greater number, have devoted their funds chiefly to the introduction of improved breeds of Neat Cattle, Sheep, Pigs, and improved Seed, Grain and Potatoes. It has been felt that, in many parts of the Country, much benefit was not to be looked for from local Exhibitions, until efforts were first made to improve the native Stock, by the introduction of thorough-bred animals.— This has induced the Board to encourage Societies to devote their funds, for the present, to the purchase of superior breeding animals, by which means much new blood has been infused into the Stock of the country, that cannot fail to prove of permanent benefit, and to show its influence in after years. Without entering into detail, it may be mentioned that the importation of superior Rams and Ewes from Prince Edward Island has been especially large.

The Board took other steps, for the purpose of aiding farther in the improvement of Stock. Being aware that in October last a triennial Provincial Exhibition was to be held at Fredericton, New Brunswick, and that the Prizes offered on that occasion were such as to be likely to bring together all the best animals of that Province, as well as some from the adjoining States, the Board named a Committee to examine the animals, and select such as were really likely to prove useful in our Province. The Committee found that many of the animals exhibited were not so well adapted to the purpose as was anticipated, and the purchases made were comparatively few. Several excellent animals were, however, obtained, including the first Prize Devon Bull, and first Prize Durham Bull, both pure animals and good

specimens of their breeds; likewise some young stock, and a number of excellent Rams. The purchases at Fredericton amounted in all to \$312.05. The whole of the Stock so purchased was afterwards exposed for sale by public auction at Windsor, on the condition that the animals were to be retained in the Province.—The amount realized at the sale was \$332.50. Thus more than the actual purchase money was recovered, and the only expense to the Province has been the charges for keep and carriage of the animals, together with the Auctioneer's Commission at Sale, and other incidental items. Particulars of the intended sale had been sent to the officers of the various Agricultural Societies, besides being advertised in the Newspapers; most of the animals were secured for Societies, and all fell into good hands.

Notwithstanding this small purchase made by the Board, and the independent importations of the different Societies, already referred to, there is still very great want of pure Bulls, Rams and Boars in nearly every part of the Province, a want which, in the present state of Agriculture is not likely to be supplied, to any appreciable extent, by private effort.— Whilst in some special counties, and more sparingly throughout the Province generally, there are those who devote much attention to breeding and improving their stock, yet unfortunately the great mass of farmers continue to raise stock without due regard, many without any regard at all, to breed or race. This must be looked upon as a national evil, which limits both the amount and quality of our produce, and prevents Nova Scotia taking that place in the scale of Agricultural Countries to which her soils and climate entitle her. On some of the best sheep lands in the Province, the farmers acknowledge that their breeds of sheep are hopelessly "run out," and that sheep are becoming scarcely worth raising in consequence.

One circumstance which operates against the maintenance of pure breeds, especially in the case of neat cattle, is the fact that by judicious crossing, grade animals are often superior to those of pure breed for the purposes of the dairyman and grazier. In this way immediate advantage is apt to be gained at a sacrifice of future benefit, for it is obviously necessary to maintain pure stock in order that we may have the

means of making successful crosses. The circumstance here alluded to is what renders frequent importations necessary until the time shall have arrived when pure stock is appreciated by farmers generally to such an extent as to render the raising of it sufficiently profitable to engage private enterprise.

In regard to the Horse, an animal so important to the country in many respects besides his use in Agriculture, there is equal need of improvement as in the case of other kinds of stock. At different times entire Horses, some of them of great excellence, have been brought into the country, a large number of excellent colts have been raised from them, and the general breed of horses has in this way been very greatly improved wherever the farmers availed themselves of the imported animals. But of late years there has been no Horse of any celebrity in the Province, and a gradual deterioration is now going on, not only in the class of carriage and riding horses, but likewise in the heavier breeds used for farm labour.

The propriety of taking more energetic steps for maintaining and improving the breeds of Horses and Cattle, has seriously engaged the attention of the Board.— It has been felt that single animals brought into the Province from time to time, although of great service, yet too often exercised only a sporadic and temporary influence, the benefits of which are to be rapidly lost. These, and other considerations, have led the Board to the conclusion that it is essential to import from England, without delay, at least three thorough-bred Horses, one of them a Clydesdale, three pure Durham Bulls, and two Heifers of the same breed. With such an importation the members of the Board feel that they could make arrangements to give the use of these Horses to all the more important agricultural districts; whilst in the case of the Cattle, the importation of both Bulls and Heifers, of pure Durham blood would enable pure male animals of this important breed to be raised in the Province, and thus, in course of time, the various agricultural districts might be supplied with the means of crossing and improving the native breeds. The Board submits these suggestions, believing that the sum required for carrying out so important an object will be a wise and economical expenditure for the country.

As empowered by the Act, the Board has made arrangements for the publication of a quarterly Journal for the diffusion of Agricultural and Horticultural information, adapted to the condition and circumstances of the country. The first number has been published and widely circulated, and there is reason to believe that the continuation of this publication will serve to maintain a lively interest in Agricultural Science and Practice among the farmers, while affording, at the same time, a convenient medium of communication between the Board and the Officers and Members of the various County and District Societies. By the Act, the publication is limited to a "quarterly or semi-annual" serial; but it is found that a more frequent issue is desirable, and that a monthly Journal can be published at very little more expense.

The Act contemplates the holding, every third year or oftener, should the Board deem it advisable, in some central and suitable locality, a general provincial Exhibition of Agricultural and Horticultural Products, Animals and Domestic Manufactures. Arrangements have accordingly been made for holding such an Exhibition at Halifax in the Autumn of 1867, and a Committee of the Board is at present engaged in preparing the List of Premiums proposed to be offered on that occasion.

As regards the crops of the past season, the Returns received, and information otherwise obtained, show that there was generally a good yield, and that produce was of a fair quality. Wheat gave good returns in many places within the influence of the sea breeze. Hay, turnips, and grain suffered by the drought of early summer, and in the later parts of the Province, haymaking was prolonged by wet weather, whilst early frosts destroyed late unripened oats; but these effects were not of serious extent, and there was, upon the whole, a bountiful harvest.

The important subject of the Potato Disease has engaged the attention of the Legislators of this Province, as of public bodies in other countries, and there are several documents on the subject on record in the Journals of the House. Of the various remedies suggested, the plan of importing fresh seed from the native coun-

try of the Potato has been prominently noticed, and the officers of the Board entered into correspondence with the New York State Agricultural Society, and adopted other means of acquiring information on this point. It appears that the Rev. C. E. Goodrich, recently deceased, conducted very elaborate and careful series of experiments extending over the last 16 years of his life. He received the wild Peruvian Potato in 1851, but found that it could not be relied upon in a sickly season. In 1848 he received a variety from Bogota, on the elevated table lands of the Andes, but it was too late in maturing, and speedily declined, although when first received it was very hardy. In 1850 Mr. Goodrich received another variety from the same place, a little earlier in maturing, but it could never be adapted to the climate of the Northern States, and was rejected. In 1851, eight varieties were received from Panama, supposed to have been brought from the coast of Chili. Six of these were all too late for a northern climate, and four of them showed disease, both on vine and tuber, the first year; but one proved valuable, the Rough Purple Chili, parent of the Garnet Chili. In 1852, three others were obtained, one bought in the market at Callao, and one at Valparaiso, both of which were likewise too late, and gradually declined in health. The third sort from wild bushy pastures near Valparaiso, spread its roots like quack grass, became badly diseased, and never set a tuber.—In short, one only out of twelve sorts had any permanent value. This record of Mr. Goodrich's importations and experiments conducted at great labour and expense, did not encourage the Board to undertake a renewal of the experiments; but as Mr. Goodrich had succeeded in raising, from the ball of the wild potato, as well as from cultivated sorts, several varieties (carefully selected from 15,000 seedlings) which are highly spoken of as hardy and of superior quality, arrangements have been made for obtaining, in time for the ensuing season's planting, samples of these sorts now in the hands of Mr. Goodrich's family. It is believed that some of the Goodrich seedlings will prove valuable additions to those already cultivated in the Province.

In submitting this Report it is hardly necessary to do more than simply to refer to the great importance of developing more fully the agricultural resources of our Province. At no former period in its history has there been a louder call upon our farmers to exercise their ingenuity in increasing the amount of marketable produce. The increase of mining operations in various parts of the Province has tended on the one hand to withdraw from agricultural labour a certain number of able bodied workmen, and at the same time to increase the demand for and raise the prices of agricultural produce. These circumstances point out the propriety of seeking what aid can be obtained from the use of those labour-saving implements and machines which now form so conspicuous a feature in the agricultural systems of the most advanced countries. There is still great room, likewise, for more thorough cultivation, for draining, and for the use of fertilizers. In order that our Province may make steady progress in mining, manufactures, fisheries and commerce, it is essential that there should be abundant supplies of food and clothing materials at reasonable prices, so that labor may be obtained on terms that will enable our capitalists to compete successfully with those of other countries. Without a successful system of agriculture, indeed, there can be no successful development of the numerous other resources of Nova Scotia.

Of late years the cotton famine has called the attention, not only of the planters of tropical lands, but likewise of the agriculturists of temperate countries, to the growth of fibres. A great impetus has thus been given to sheep husbandry in many countries, and although our woolen factories are not yet in a condition to encourage the production of the finer wools, yet the demand for the common long-staple wools is sufficient to give great encouragement to our sheep farmers, and to induce an increase in their flocks.—There are likewise vegetable fibres that may be profitably raised in Nova Scotia. Flax is an old crop with us, which succeeds well, and might be raised in much greater quantity than at present, especially were local factories established to purchase the crop as pulled on the fields, so as to relieve the farmer of all the after labor. This method is now adopted in Canada with the best results.

ALEX. MACFARLANE, *President.*  
GEORGE LAWSON, *Secretary.*

ABSTRACT OF ANNUAL REPORTS OF COUNTY AND DISTRICT SOCIETIES ORGANIZED UNDER THE BOARD OF AGRICULTURE.

(Continued.)

HALIFAX COUNTY.

LOWER MUSQUODOBOIT AGRICULTURAL SOCIETY.

Total amount of receipts for the year including subscriptions, Provincial grant, balance on hand and sale of stock, \$395.23. Amount of expenditure for stock, &c., \$193.48. Balance in the Treasurer's hands to date, \$201.75.

Last season has been an unusually dry one. The hay crop is less than the average, but of the very best quality.

Oats and wheat less than the average in quantity, but good in quality. Potatoes more than the average and keeping sound in the cellars. Turnips a light crop. In this part of the country raising stock is our main dependence. Our river for over 30 miles abounds with hay, much of it taken off year after year without manure. We need very much an improved breed of cattle. When there is stock imported into the province we are not able to compete with the wealthy farmers about Halifax or Windsor. If some of the improved breed were sent to this settlement it would be a great benefit to it; they might not bring the high prices they would in other parts, but we think it would be a more general benefit, with a population of two thousand persons, mostly farmers, and two Agricultural Societies in a flourishing state. This society has been a great benefit to the settlement, and we trust with the new Agricultural Act and increased Provincial aid, it may do more than it ever has done.

ROBERT A. LOGAN, *Pres.*  
C. N. SPROTT, *Sec.*

[A full list of office-bearers should have accompanied this Report, and the statement of accounts should have been more detailed.]

**PORTABLE FENCE.**—Four boards seven inches wide and twelve feet long, spread four feet wide, with two battens across each end, one across the middle, six inches wide, put together with tenpenny clinch nails, makes a length of this fence. In putting it up it requires two stakes for the first length, and one for each additional length. The fence may be fastened to the stakes with wire or withes at the top. This fence runs in a straight line, and the joints or lengths are fastened together with a piece of board twelve inches long passing between the battens of two lengths at the top and bottom spaces, and fastened with a nail. The ends should rest on a flat stone to prevent decay. This fence is easily put up or moved without injury. Forty feet of hemlock boards and half a pound of nails, with one stake, will make a length of fence. This fence is patented.

MANGOLD WURZEL OR FIELD BEET;

ITS HISTORY, CULTIVATION, AND USES, AS A DAIRY, FEEDING, AND SUGAR PLANT.

*Introductory Remarks.*—Mangold Wurzel or Field Beet will probably prove itself one of the most valuable agricultural plants that have been introduced to modern agriculture. It is already cultivated to a considerable extent on the continent of Europe, and has indeed for many years been grown in England and Ireland, and even in the colder climate of Scotland; but our experience of its peculiarities and adaptations to farm purposes, have scarcely been sufficient to enable us to correctly compare its merits with the potato, the turnip, and the carrot, and other plants of almost universal cultivation with which it is naturally associated in the public mind.

In estimating the agricultural and commercial values of a new crop, we are apt to put the question in a shape that ill accords with the avowed bent of enlightened farming. If the plant is a forage one (as in the present instance), we ask:—Will it produce a larger return of more nutritious food than any other plant known? And if the question be answered in the negative, or with qualifications, we are apt to throw aside the novelty as no improvement upon crops already in cultivation. But although this question of actual bulk of produce be a just one by which to decide the respective merits of certain crops, *when all other things are equal*, it must be kept in view that no such case of precise equality is possible in practice. Undoubtedly the strong tendency which obtains to introduce all new crops of value under exaggerated colors, has its rise in the want of just appreciation of this view, which, if it were fully acknowledged by the public, would lead to a more just and candid investigation of the claims of new crops, and would moreover effectually prevent the profligate waste of labour and capital upon worthless discoveries that suddenly rise into notoriety.

Keeping this view before us, let us candidly enquire into the nature of the crop now specially under consideration, and detail its method of cultivation, and what it is really good for after being grown. Quite recently attention has been called to it by many agriculturists as one of the best feeding and dairy plants in existence, and it is therefore desirable that we should specially regard the plant from that point of view.

*Origin and Botanical History.*—Beet and Mangold Wurzel in their numerous varieties are cultivated forms of a plant called *Beta vulgaris*, which grows in a

wild state on the shores of the Mediterranean, and according to Koch, in Western Germany, &c.

In De Candolle's recent work, "Geographie Botanique," the origin of Mangold Wurzel is thus spoken of:—

The type (or original) of the white and red Beet, which has a fusiform root of small size, is found in sandy soil in the Canaries, around the Mediterranean, and in Persia, and even in those parts bordering upon India. It is said that in India proper it is cultivated for its leaves, but not for the roots, and has no Sansrit name. The Greeks as well as the Romans were wont to use extensively the leaves of Beet. They distinguished two varieties, the red and white. Since that time the kinds have become much more numerous. C. Bauhin enumerated most of those which were cultivated in his time, in particular the large rooted white and red kinds. Oliver de Serres describes also very fully the red Beet now cultivated on the great scale for cattle. If, as M. Moquin thinks, all the kinds of Beet, white and red, have proceeded from a single species, long cultivation has certainly made great variations on this species, although the specific identity has been maintained. If the red Beet were distinct species, it could not have come originally from the middle of Europe, nor the immediate neighboring regions; these have been well explored, but it has not been found wild, consequently the derivation from another country is more probable. The numerous transitions of color and form are in favor of unity of species. De Candolle believes that the red Beet is one of the most flexible of plants, one of those whose modifications quickly become hereditary, which is well borne out by the experience of M. L. Vilmorin.—De Candolle. [Geographie Botanique, ii., 831-2.]

Beet is said to take its name from the shape of its seed vessel, which when it swells with seed has the form of the letter beta in the Greek Alphabet; and the Grecians held it in great esteem.

*Introduction to Britain.*—Beet appears to have been first cultivated in Britain (the garden kind) in the year 1548, but it was not till the present century that its cultivation extended much to the fields. The Mangold Wurzel, properly so called, and the field Beet were long known in Germany, the name Mangold Wurzel being indeed of German derivation, and meaning Scarcity root. The French show a more lively verbal appreciation of its value by calling it *racine d'abondance*, or the root of plenty, but the German famine-name is again reproduced in a French synonym *racine de disette*. It was at the latter end of the eighteenth century that field Beet was first introduced to England, chiefly through the exertions of Dr. Letsom, a Quaker. Of late years improved

varieties have been principally obtained from the continent.

*Soil and Peculiarities.*—The two great properties, says Mr. Raynbird, which recommend the Beet as a field crop, are, that it will succeed upon soils too heavy and retentive for the turnip; and that its earlier maturity, and the absolute necessity of its early removal from the soil, to be stored for use, render it a better preparation than the turnip upon those soils for the following grain crop. "Another recommendation is, that it improves by storing, and that it does not come to its full perfection for feeding until late in the season. When turnips and swedes are either consumed or become unpalatable, and almost useless for fattening cattle, the Beet root has arrived at its greatest perfection; and it may then be used with great advantage, as well as safety, for fattening animals. Early in the season it seldom forms a large proportion of cattle food. Some of the most experienced graziers in the eastern counties use white turnips till Christmas, then Swedes till February or March, keeping the Mangold Wurzel in reserve for feeding in March, April, or May; and, indeed, we have ourselves frequently reserved Mangold for beasts as late in the season as July. In the spring, our fattening sheep have Mangold cut for them when feeding off clover and rye-grass, and the box fed beasts have a supply in the same manner, in addition to grass, clover, or tares, which are daily brought to them from the field."

"The neighborhood of the sea being the natural habitat of a wild variety of this plant, and chemical analysis having proved the existence of a large proportion of common salt in the mineral substance of the ash of Beet root, (frequently a fourth,) are reasons that indicate the cause of its greater luxuriance in maritime situations, and which plainly tell the farmer upon the sea-coast, that he may with some confidence give this root a trial if he has hitherto neglected to do so; for it is upon the alluvial soils, rich in organic matter, that the heaviest crops of Beet root are grown."

This crop appears to be well adapted for culture on farms whose heavy clay soils render them less productive in turnips than what is, for other purposes, regarded as light inferior land. It, therefore, especially concerns the farmers of heavy soils, being more suitable for these than any other tuber whatever,—all the turnips, carrots, and even potatoes, flourishing best on light soils. It is this fact indeed upon which partly depends the distinctive value of this crop, and a reference to it serves to illustrate the position we stated in our introductory remarks. For although it be quite true as a matter of agricultural economy that wheat should be grown as much as possible in preference

to every less profitable crop upon wheat soil, still such a crop as Beet (apart from the value it returns in cattle) is essentially necessary for working economically a judicious rotation, and thus developing in wheat, the golden riches of a wheat soil.

*Preparation of the Soil.*—Beet land requires a preparation of fallowing and drilling, somewhat similar to that required for the turnip; in fact the system of Beet culture recommended by most agriculturists does not differ essentially from what is usually considered good turnip husbandry; and where the means usually successful in producing a good crop of turnips, fails in the production of an equal crop of Beet, Mr. Raynbird is of opinion that it may be justly inferred that the soil or climate is unfavorable to the growth of the latter. In the case of the Beet it is even more necessary than in the case of turnips, that the preparation of the land should begin in autumn, especially where heavy soil is chosen for the crop; upon stiff soils more dependence should be placed upon the frost and rains of winter for a finely pulverized seed-bed than upon spring cultivation. If farm-yard manure is employed, it ought of course to be ploughed in Autumn.

*Manurial Applications.*—Some writers, adopting spring preparation on light soil, recommend a broadcast sowing of 1 or 2 cwt. of guano or superphosphate of lime immediately previous to splitting the drills upon the dung, while others are contented with a good application of ordinary manure supplemented by steeping the seeds for 48 hours in urinary water, suds or lees, and drying with quick lime—a process which is said to hasten the decomposition of the albumen of the seed, and thus give vigor to the young plant by a free supply of food.

There can be no doubt, however, that guano and chemical manures have a powerful action upon Beet, which partakes in a great measure of the habits of other Chenopodiaceæ, required gross feeding. For example the best spinaige we ever saw was grown by continual applications of gas water; the common goose foot is one of the few plants that really luxuriate on the dung-hill.

*Sowing of the Seed and Summer Culture.*—The land being prepared as above directed, the seed is to be sown in the quantity of 4lbs. to an acre. The seed being larger, ought to be covered rather deeper than that of the turnip. The crop must be horse and hand hoed in a careful manner, very much in the way of turnips, the plants being at the same time singled out to a distance of twelve or eighteen inches, more or less, according to the nature of the soil and consequent size of root that may be expected.

During the summer, horse and hand-hoeing must be repeated at intervals, and

all weeds carefully removed. It is not recommended to earth up the drills, because it is found that the tap-root develops itself better and cleaner from lateral fibres when this process is not adopted.

Cobbett has given some observations regarding the garden culture of Beet that merit reproduction here as suggestive of some points in the management of the field crop. He says "to have fine Beets, the ground should be dug very deeply, and made very fine. There ought to be no clods in it, especially for the tap-rooted Beets, for clods turn aside the tap root and spoil the shape of the Beet.—No fresh dung by any means, for that causes side shoots to go out in search of it, and thereby makes the root forked instead of straight; and, as in the case of carrots, a forked root is never considered to be a good one. \* \* Beets may be transplanted, and will in that way get to a very good size, but they are apt to be forked."

*Capabilities of the Crop for Dairy Purposes, and its Influence on the Production of Milk.*—The Beet root is of extensive utility for farm and other purposes. Recently it has been very warmly recommended to the attention of the dairymen, as not only affording an excellent food for milch cows throughout the winter, and much superior to turnips during the spring and early summer, but on account of its beneficial effects in greatly increasing the quantity of milk. It has been objected that when cows are too exclusively fed upon Beet the milk is watery and thin, but it has not been shown that in the ordinary methods of feeding, even when large quantities of Beet are given, any great deterioration arises. There can be no doubt, however, that when cows are fed largely upon the leaves of Beet, as was the custom to a great extent for many years, the milk became watery, and deficient in cream; but no experienced farmer recommends that practice at the present time either with a view to increased produce or profitable feeding, for the cutting of the leaves greatly deteriorates the root, both in absolute size and nutritive quality. The effects of the Beet root as cow feed appear beneficial from the experiments of Boussingault, the great chemical farmer of Beechebronne.

*As Food for Pigs and Sheep.*—While its value as a dairy plant has chiefly drawn attention to this crop, that characteristic must not be allowed to eclipse its other points of importance in farm economy. Donaldson tells us that in a raw state there is no better food for store pigs and young cattle, and a practical authority to whom we have referred for information states that in the case of the garden Beet, which he has used as pig-food, the animals relish it better than almost any

other kind of diet, crunching up the leaves, as well as the root with great gusto,—in which process their snouts and other anterior parts become completely bathed in the sanguinary juice, as if the animals were weltering in blood. Beet is a favorite food for sheep and proves highly acceptable in the lankling season when milking and not fattening is required.

In the case of breeding sows it has been thought that Mangold Wurzel is injurious, causing miscarriage, &c., but this has been contradicted by a correspondent of the "Agricultural Gazette," who successfully fed his sows upon it alone for many years, except while they were suckling their young, when in addition to the supply of small roots a small allowance of boiled ones and bran (warm) was given 3 times a day. No one has ever doubted the propriety of *cooked* Mangolds for pregnant sows and we imagine the objection to giving them raw root would hold equally with any other crop.

*As Food for Horses.*—Boussingault states that horses readily get accustomed to field Beet, when the root is sliced and mixed with cut straw. For 11 lbs of hay which he retrenched, he allowed 44 lbs of Beet; the ration consisted as under:—

Hay,	- - -	11.00 lbs.
Straw,	- - -	5.50 "
Oats,	- - -	7.23 "
Beet,	- - -	4.40 "

A horse after having been kept on this diet for some time was weighed, and the regimen having been continued for a fortnight, he was weighed again:

First weighing,	- -	1014.0 lbs.
Second weighing,	- -	1023.3 "

Gain in a fortnight, - - 9 lbs.

The horse was all the while doing rather hard but very regular work, being for eight hours every day in the shafts of a grinding mill; health good.

*As Food for Cattle.*—In the feeding of cattle, Mangold Wurzel is almost equally successful as for the other purposes we have mentioned.

With regard to the practical results of feeding with Mangold Wurzel, they appear to indicate so far as hitherto published a value far above that of the common turnip, and rather equal to swedes, inferior to that root indeed for early winter feeding, but equal if not superior to it for spring use.

*As a Sugar Crop.*—The culture of Beet for sugar has principally taken place in France under the protection afforded by the political measures of the Emperor Napoleon I. It has, however, extended to other European countries; and a few years ago some valuable documents were laid before Parliament from Sir Robert Kane, with the view of show-

ing the probable advantages derivable from the culture of sugar Beet in Ireland.

*Varieties of the Mangold Wurzel adapted for Field Culture.*—The varieties of this plant are not very numerous.

1. **COMMON OR MARBLED FIELD BEET, OR MANGOLD WURZEL.**—Leaves reddish or reddish green; roots thickly fusiform or spindle-shaped, of a dullish red color on the outer surface, and marbled, or of a mixed white and reddish color of various shades in the interior.—This variety is the most generally cultivated for feeding cattle, from its being a free grower, and also from its producing a much greater weight of roots per acre than any other. The marbled or mixed color of its flesh seems particularly liable to vary, being in some specimens of a nearly uniform red color, while in others the red is scarcely, and often not at all perceptible. These variations in colour are however, of no importance in regard to the quality of the roots.

2. **LONG YELLOW OR GOLDEN MANGOLD WURZEL.**—Leaves green with yellow or orange-colored ribs; root pretty regularly and thickly fusiform, with a deep yellowish colored skin, and light yellow, or almost white flesh. Compared with No. 1 the roots in this variety are in general much smaller, but they are considered finer in texture, to contain more saccharine matter, and therefore more esteemed for feeding horses, as well as for the manufacture of sugar, and also in the distillery.

3. **WHITE MANGOLD WURZEL.**—Leaves green, with very light green colored ribs; skin and flesh of the thickly fusiform roots white. This variety is used in the manufacture of sugar, and for the distillery.

4. **TURNIP-ROOTED MANGOLD WURZEL.**—Roots globular or heart-shaped, being generally lightly tapered towards the bottom, with reddish colored skin, and slightly marbled red and white or entirely white flesh. This is admirably adapted for shallow soils, in addition to which it is also said to be particularly suited for such as are of a light sandy or siliceous nature.

5. **YELLOW GLOBE.**—Very productive, and a good keeper; recommended also as giving milk of milder flavor than some of the other sorts, besides increasing the quantity.

6. **LONG WHITE OR LONG SILESIAN.**—Not so productive as some others, but valuable on account of the large proportion of saccharine matter it contains. Mr. Reeve of Randall's Park Farm, near Leatherhead, states in the Minutes of the Royal Agricultural Society of England, that his stock prefer this to any other kind.

To the Editor of the Agricultural Journal.

### ON MANURE.

SIR:—Being an ardent lover of Agriculture, and everything connected with the profitable working of the soil, I beg you will allow me to address your readers upon a subject, which, of all others, stands pre-eminent as the one thing needful to farmers, and without which all the good seed, or improved implements that may be supplied by Agricultural Societies, will be but partial benefit to the country.

How limited and unremunerative generally, is all our labour on land, without the requisite quantity and quality of manure. True it is, that manure ill-applied, almost invariably results in loss; but it is equally true, that without a good supply of manure of the right quality, our labour however well applied will be profitless, and it is therefore that I hail the advent of your paper with delight. I hope and trust its circulation will be great, and that it will be the means of inducing countrymen to think more highly of their occupation, and to give more attention to the science of practical agriculture, and at the same time lead them to appreciate every—even the smallest—matter that bears upon the successful cultivation of the soil, for so sure as they become educated up to the mark of scientific farmers, just so sure will they be, to measure the capacity (I had almost said size) of their farms by the amount of fertilizing ingredients within their control, rather than by acreage.

In the same way will they measure their future manure heaps, not by the number of cattle they may keep to make it, but by the amount of labor and skill, they themselves are able and willing to devote to the increase, and improvement of it.

I can scarcely imagine any country more dependent upon manure for good crops, than is Nova Scotia, or at least that part of it with which I am acquainted, and yet, do we as a rule, ever see the manure-heap so considered, as to give us an idea that the owner thought much of it, or relied upon it as his chief stay and staff to help him to raise good crops? No! decidedly no, for although we frequently see a big pile of stuff leaning against the barn or stable, it is often under the eaves, and as frequently on the sunny and stormy side of the building. It is here that the first A B C of improvement and reformation in agricultural pursuits should take place; for here, as on a hinge, hangs the first great gate through which we have to bring our future improved harvest.

The manure thus exposed to view, is commonly said to be "saved" but the plain English of it is, that it is not saved at all, it is simply thrown out of the way, and allowed to take care of itself. In

the aggregate this constitutes a serious public loss. There are several ways in setting the loss thus incurred plainly before the people. One of these would be, by entering into a calculation, and showing in figures how much it actually wasted by this loose mode of saving, taking as a guide either the quality or weight of the manure when first made by the animals, and contrasting with it the quality and weight of the manure left in the spring to be applied to the land.

By this it would be seen at a glance, that the sun and heat have taken away a large portion of the best quality that the manure possessed,—that the rain had washed another large portion away—that some again had drained itself away either into the soil the heap laid on, or into some neighboring pool or ditch, and that what remained was intermixed with the snow of all the storms that beat on its unprotected head.

Now if this is so, of the solid portion of the excrement of the cattle, what would the result in figures be, if we in like manner were to set forth the loss incurred by the almost utter absence of any attempt to save the liquid voided by the cattle? Why, sir, if the figures representing this loss could be properly placed before the public, it would be fairly alarming to contemplate. I am not just now in a position to do this; but let any owner of these exposed muck heaps I have above alluded to, take this piece of information, as a well grounded fact, that even if they were to take all the care possible of the solid portion of their cattle's excrement by housing and otherwise protecting it from waste, they would then have only saved the smaller and least valuable heap of the manure made by their cattle. Yours, &c.,

BEDFORD.

#### WESTERN HALIFAX AGRICULTURAL SOCIETY.

An adjourned meeting was held in the Christian Association Rooms on 18th March—His Honor the Chief Justice in the chair.

The Report of a committee appointed to prepare a draft of bye-laws was submitted, and approved of, with certain slight emendations.

The following office-bearers were elected—President, His Honor the Chief Justice; Vice-President, Charles Hamilton, Esq., Sackville; Secretary, Prof. Lawson; Treasurer, W. C. Silver, Esq.; Directors: Dr. Avery, Henry Wright, Esq., Joseph Kaye, Esq., S. Tupper, Esq., Charles Hester, Esq.

About 120 members have joined the Society. The annual subscription is two dollars, of which the Treasurer is now ready to receive payment from members.

#### MANAGEMENT OF MOWING MACHINES.

The farmer who possesses a good mowing machine, a pair of good horses, and understands how to drive and keep it in order, may almost set the elements at defiance. But there are many who purchase machines, who do not possess either the ability or the inclination to keep them in order, and to such, they are a hindrance rather than a help. A word to those who belong to this large class:—

First, then, it is your interest to understand the nature and wants of the mower, because without this familiarity, it will soon become worse than useless. We know of machines in good repair, and almost as effective as when new, which we sold seven years ago. On the other hand, we have seen the best machines, in careless hands, rendered nearly useless in a single season. The cause of these strikingly different results is readily explained. In the case of the first machines, their purchasers were men, who, before using, made themselves familiar with all their details. They ascertained where the friction was greatest and how to relieve it,—they comprehended the importance of sharp knives, and consequently understood fully the value of a good grindstone—a first-rate whet-stone, a suitable file, surplus blades to replace damaged ones, and abundance of rivets to replace worn out or broken ones. They knew the virtue of abundance of oil at the proper points—the removal of gummed grease from the journals, and rust from the parts which were brought in contact with the ground. Every nut was properly drawn every day, and suitable wrenches were always at hand for this important purpose. When the season was over, they did not permit the machine to lie in one of the fence corners of the field in which it was last used, until the succeeding summer; but carefully cleaned and housed it at once—applied a coat of paint to the wood work in leisure hours, removed the knives and oiled them, to prevent rusting, and scraped away the accumulation of gummed grease on the journals. These attentions were the cause and the long and effective use of the machine, the result. Take their opposites, and you have an explanation of the rapid destruction of the second machines.

In addition to the above, much depends upon the driver. There are those who do everything by main strength. They start, or attempt to start a mowing machine in heavy grass, as they would start in a horse race—with a blow and a sweat for the horses. The sudden jerk, and the increased resistance consequent upon the knives being brought thus suddenly in contact with a heavy body of grass, cause a strain upon the frame, which not infrequently deranges the whole machine, and unfit it for further use, until the damage is repaired. This sudden starting in heavy grass is especially to be condemned, where, as is now almost invariably the case, the frames are made of iron. The starting of a mowing machine should be gradual. Far better spend a minute in backing, so as to get the knives fairly into play, than follow the unwise plan alluded to. Nearly all of the machines in use may be backed as readily and easily as a cart, and if the horses could speak, they would tell their foolish driver, how much easier backing would be to them.

A word more and we have done. Buy only a well approved machine. Almost any

of those in general use may be purchased with safety. In fitting up your tool box, (which, by the way, should always accompany the machine,) buy none but the very best tools. A tip-top monkey wrench—a good Washita whet-stone—a steel polled riveting hammer, a file of the first quality, and above all, oil of the best kind and enough of it. In the end, the best things are always the cheapest, and those necessary to the management of the mowing machine, are not exceptions to this well established rule.—Culturist.

#### CARE AND MANAGEMENT OF POULTRY.

Poultry raising is very interesting, and it is exceedingly convenient at all times to have chickens, which can be killed and put on the table so quickly on the arrival of unexpected visitors, or in case of sickness. What a delicacy for the invalid or those in a state of convalescence, while for a party how well the turkey of 20 pounds and the goose of 12 or 15 pounds sets off the hospitable board, besides the profit of having, at all seasons, varieties for sale.

Like all other kinds of live stock, early reared young ones pay best, for spring chickens make double the price of later ones, and the pullets saved for laying will commence when eggs are scarce, and as they do not molt the first fall, will, with good feeding, keep on, and where it can be contrived for the hens to roost over any warm place, as for instance where by tubes or natural ascent the breath of cattle will go to their apartment, they will not cease laying entirely in the coldest spells.

By managing to have the young broods where none of the old fowls resort, and not confining them to the same spot of ground after they have soiled it with their dung, very pleasing results will follow, for more than half the losses of the feathered tribe occur through keeping the coops so close together, and so long in one place—have no bottoms in them, and daily move on fresh ground; then the broods will be sweet and clean, always healthy, and will grow as fast again.

When the hen deserts her young it is best to have them roost apart from the general stock of old fowls, to escape the perpetual pecking and worry which occurs when chickens first go among the hens; any place that is safe from vermin will do by placing a few sticks for them to roost on, as their welfare is the same in a common shed as in the finely built poultry-house of the wealthy, and very much greater than in many gentleman's places where the range is limited. Where great numbers of cattle are wintered, the buildings are extensive and the premises have litter, horse dung, &c., here and there in different parts—it is at such homesteads poultry may be kept ten times as numerous as where they are restricted to particular quarters, for it is their own droppings which to them poison the ground and the atmosphere, but the more of other animal manure they have access to, and the less of their own lying about where they feed and resort, the better.

Don't coddle the young turkeys too much; don't have any kind of fowls always round the kitchen door; a few steps farther to feed will be well taken, and don't begrudge food and give too much sop to young or old. The digestion of poultry is stronger than a mill-stone.—J. B. in Cultivator.



## BOARD OF AGRICULTURE.

HALIFAX, March 22nd, 1865.

The semi-annual meeting of the Board of Agriculture, provided by the Act, was held this day in the Speaker's Room. Present: Hon. A. McFarlane, President, in the chair; Capt. Hugonin, Joseph Northup, Esq., George S. Brown, Esq., M. P. P., Hon. R. A. McHefley, W. H. Harris, Esq., Pictou, Hon. J. McKinnon, Hon. Wm. McKeen, Dr. C. C. Hamilton, M. P. P., Avar Longley, Esq., M. P. P.

After some routine business, the President called attention to the difficulties connected with the holding of a Provincial Exhibition, as contemplated, in 1866, and in consideration of the whole circumstances, it was deemed advisable to postpone the proposed exhibition till the autumn of 1867. By this means the agriculturists of the Province will be better able to prepare for the exhibition, societies may be organized in localities where they do not now exist, and greater efforts made to represent the agricultural resources of the Province in a creditable manner.

The first number of the *Journal of Agriculture*, published under authority of the Board, was laid on the table, accompanied by estimates of the expense of publishing the same monthly. The Board agreed to recommend to the Legislature to amend the Act so as to permit a monthly issue of the journal, and requested the President and Secretary to attend to some other slight alterations required to facilitate business, and render some provisions of the act more explicit.

The Board took into consideration the impracticability of holding exhibitions in large counties, where all the societies of the county are at present required to combine for that purpose. It was resolved that the Board, when necessary, should grant special permission to individual societies to hold separate local exhibitions.

Dr. Hamilton moved that extra prizes be given by the Board to a county society holding an exhibition, where the society consists of not fewer than 100 members, each paying at least \$1 annually; and similar prizes to a county exhibition where two or more societies (comprising all those in the county) combine to hold such exhibition.

The motion was seconded by Mr. Harris and agreed to.

The Secretary submitted correspondence in reference to the Goodrich Seedling Potatoes, and a supply of samples was ordered, and arrangements made for growing them in those parts of the Province adapted for potato culture.

It was resolved to announce to societies that all certificates of payment of annual subscriptions, entitling them to participate in the Government grant, must be lodged

with the Secretary of the Board not later than 1st September. Societies not sending in their certificates at that date will lose their allowances for the year.

The Secretary was instructed to visit the counties of Pictou, Kings, Annapolis, and Lunenburg during the ensuing season.

After several other matters of detail were arranged, with a view to the business of the Board, likely to require attention during the summer, the Board adjourned.

## DOMESTIC RECEIPTS.

## SECOND SERIES.

**CORN MEAL CRUMLERS.**—Beat 4 eggs light, and pour on them one quart of sour milk (1 sweet milk, cream of tartar must be used); add half a teaspoonful of salt, and a small teaspoonful of soda; stir them all together, and then stir in sifted corn meal enough to make a very stiff batter. Have ready a frying pan, half full of hot lard, into which drop the batter from a spoon; when nicely browned, turn them over, and when done, lay them on a colander to drain, and send to the table hot.

**TEA CAKE.**—Mix 2 cups cream, 3 cups sugar, 5 eggs, the whites beaten to a stiff froth, 1 teaspoonful soda, flour to make about as stiff as pound cake. Salt and spice to the taste.

**NUMBER CAKE.**—Ingredients: 1 cup of butter, 2 of sugar, and 3 eggs. Beat the eggs and sugar together, then add one grated nutmeg and one teaspoonful of saleratus. Stir with sufficient flour, roll them, cut in rounds, and bake in a quick oven.

**SCALDED GINGER CAKE.**—Put 1 pint of molasses and 2 spoonfuls of butter in a pan, heat to boiling, then pour it on to 1 quart of flour. Stir it well and when cool add 2 eggs well beaten, 1 tablespoonful of soda dissolved in two large spoonfuls of brandy, and one of ginger. Add enough flour to make it thick enough to roll; work it out thin, and bake in square tins.

**HUCKLEBERRY GRIDDLE CAKES.**—Stir in one even teaspoonful of soda to two quarts of sweet milk, one teaspoonful of salt; one pint of ripe huckleberries with flour to make a thick batter; bake on a griddle as other cakes.

**CREAM PIE.**—Mix together 1 egg, 1 cup sugar, a piece of butter as large as an egg, 3 cups flour, 1 teaspoonful cream tartar, 1 teaspoonful soda, 1 cup sweet milk. Pour this on tin plates and bake light brown. When cold, split them open and put in the custard, made as follows: Take 2 eggs, 1 cup sugar, 1 cup flour, 1 pint milk, flavor with lemon. Beat the eggs, sugar and flour together; boil the milk, and while boiling stir in the mixture, letting it cook a few seconds. The above quantity will make three common sized pies.

**POTATO GRIDDLE CAKES.**—1 qt. of milk, 6 cold boiled potatoes grated, 2 eggs, and flour sufficient to make a batter.

**VINEGAR PIE.**—Mix 2 cups of vinegar, 1 1-2 of sugar, 2 tablespoonfuls of flour, and a piece of butter the size of a walnut. Prepare a paste to receive these ingredients, and bake the same as any ordinary pie.

**JELLY CAKE.**—Take 1 cup of sugar, 4 eggs, 1 lb of flour, one teaspoonful of soda dissolved in a tablespoonful of sweet milk, and 1 teaspoonful cream of tartar mixed in flour. Bake in one long tin, then spread with jelly, roll up, and cut in slices.

## ADVERTISEMENTS!

1865. FRESH SEEDS. 1865.

(Received per Steamer Canada from England.)

A New Supply of GARDEN SEEDS;—comprising all the most approved early sorts.

—ALSO:—

A Good Assortment of FLOWER SEEDS from the same source as those which last year gave entire satisfaction. Catalogues will shortly be ready and may be had on application to

G. E. MORTON, &amp; Co.

Halifax, April, 1865.

N. B.—Removed from Granville Street to No. 185 Hollis Street, next the UNION BANK.

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AVERY, BROWN &amp; Co.,

Have Received by the Steamer Africa,—

22 Sacks, 1 Cask, and 4 Cases of

GARDEN AND FIELD SEEDS.

2 Hampers POTATO ONIONS and SHALLOTS.

These Seeds comprise 800lbs of Swedish and other Turnips, as well as every approved kind and variety of Vegetable and Flower Seeds, which are warranted of the best quality.

—ALSO:—

AMERICAN and WHITE DUTCH CLOVER and TIMOTHY. All of which they offer wholesale at the lowest market prices.

Agicultural Societies supplied on the most favorable terms.

Halifax, April, 1865.

## FOR SALE!

A HORSE POWER for Two Horses, with THRASHING MACHINE, CIRCULAR SAW TABLE, and Mill for Cracking Corn.

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