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THE

NOVA SCOTIAN

JOURNAL OF AGRICULTURE

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CONTENTS:

EDITORIAL NOTES.

WE issue, this month, a double number, in order to make room for the Communications of our Correspondents.

In these communications several subjects of interest and importance are discussed. We hope our readers will not merely read them, but will think over the statements and suggestions which they contain, and act upon them. "Many men, many minds." By all means let us have the other side of the medal in every case. Any farmer who differs in opinion from anything stated in our *Journal* will, we hope, write to tell us his opinion, and give the facts upon which it is founded.

Our correspondent "Super-Phosphate," enquires "What is our duty to the Farmer?" and he tells us that our duty to the farmer is to SAVE OUR BONES. It is a duty to ourselves, as well. It is likewise a duty to our country. Liebig has shown, long ago, that a State that wastes its bones and night-soil is sure to have a hard fall, when a slippery season of famine comes on. Let us save our bones, then. Let us grind our bones to make our bread. Let all the old dead cattle be sent to the Mill, and ground into young and living ones.

Our articles on the Principles of Vegetable Anatomy and Physiology as applied to Agriculture, we commend to the attention especially of farmers' sons, who have an ambition to master the science of their profession. A good Microscope is not so expensive a toy as a fast horse, but how seldom do we see the Microscope put upon the table after tea, in a farm house in Nova Scotia.

Our Colchester correspondent "A FARMER," has kindly furnished a second article on the Causes of Degeneracy in Stock. He takes up the Horse this time, and we commend his remarks to the serious attention of farmers. We hope, likewise, that some of them will follow his example, and give us the benefit of their experience in regard to the Improvement of Stock.

The abstract we give of Colonel Myers' Observations of the Weather of 1866, will, we hope, induce some farmers' sons and daughters to invest a dollar or two of pocket-money in a thermometer, and send us *their* observations for the *Journal*. If the farmer and his family do not care what kind of weather comes round, who, then, is to care?

"One who has spent twenty-five years on the Farm" has sent us a clear and comprehensive account of the Annapolis System of Cheese-making. There is no reason that we know of why the Annapolis system should not be practised over the length and breadth of Nova Scotia. Can any reader tell us why it is not?

"W. C.," whom we perceive to be a friend of the Horse, interests our readers in the Horse's Own Root, the White Belgian Carrot. W. C.'s article is published at a timely season, and will, we hope, serve to increase Carrot culture in the Province.

The Dry Earth Closet System is discussed in a letter to the *Colonist*, which we have transferred to our columns, with

an explanatory note. The products of these closets is just the material that is wanted by our farmers as a top-dressing for their grass lands.

"How now, Dame Partlet! the hen?" Let us invite to a careful reading of our Poultry columns. Therein will be found some excellent advice as to the kind of fowls that suit amateurs best, as well as remarks on the best methods of management, hatching, and fattening. But we chiefly desire to draw attention to a new organization that has come out in full feather, and which, as its name indicates, is of varied plumage,—the "Dog, Pigeon, and Poultry Club." We publish the rules of the club, and the programme of the prizes to be competed for at the exhibition in June. It embraces all kinds of Feathered and Furred Poultry, Pigeons, Singing Birds, Parrots, and even Domestic Pets that have no story to tell. We hope that our farmers, henwives, Poultry, Pigeon, and Dog Fanciers all over the Province, will enter cordially into the scheme, and so contribute to the show as to make it creditable to themselves and to those who have taken so much pains in getting it up. The annual subscription of Members is one dollar, and the prizes to be given will be handsome.

Within the last year or so we have had a great many enquiries regarding the breeds of Pigs. We print a short account of the "Chester Whites," which are highly valued in the United States.

A large portion of the present number is occupied with Reports of the various Agricultural Societies, organized under the Board of Agriculture. We know very well that it is difficult even for a literary genius to convert Annual Reports into light, pleasant reading. But our Reports are none the less useful on that account, and many of them are pregnant with suggestions of a valuable character, from men who have made the agriculture of the Province their study for a lifetime. These Annual Reports exhibit to the public the various ways in which the Agricultural Societies use their own funds, and the grants-in-aid that are given to them, in the furtherance of agricultural objects.

Field operations in this month of April will depend entirely upon the weather. Every fine day should be taken advantage of. Fences have to be put in order —manure taken out—land cleared, and fruit trees pruned. More air should be given to cow-houses and stables. Cattle do great damage to the grass fields if allowed to wander over them in wet weather. In the garden, the hotbeds require constant attention, currant and gooseberry bushes want pruning; and the old canes of raspberries should be removed. Take the coverings off strawberries, and have them dug between the rows when the ground is dry enough. The Flower Garden and Shrubbery should be dressed, bushes and trees pruned and neatly tied up where necessary, and the coverings taken off climbers and tender plants.

PRINCIPLES OF VEGETABLE ANATOMY AND PHYSIOLOGY AS APPLIED TO AGRICULTURE.

[*Continued.*]

I. THE VEGETABLE CELL.

On the present occasion we shall briefly consider the Vegetable Cell in its anatomical and physiological relations.

The material world consists of bodies of two kinds,—*Inorganic bodies*, without life (minerals and rocks), and *Organic bodies*, which are endowed with life and possess an organized structure, (animals and plants). These two groups possess no characters in common save the universal properties of matter. Although the term "organic" originated in the possession of special *organs* for the performance of functions, it has in reality a wider and more definite meaning than that would indicate. Since it has been discovered that there are both plants and animals which scarcely possess special organs for the performance of different functions, but that all plants and animals are made up of tissues adapted for vital action,—the existence of such tissues is taken as the basis of organization. All living bodies possess these vital tissues, which are the apparatus of life; they have the power of assimilating dead matter and converting it into their own living substance; in this the growth of organic beings consists. It would be beside our present purpose to enter upon a discussion of the intensely interesting question of the distinction between plants and animals, which it would however be necessary to discuss before placing in a clear light what science can offer as an abstract definition of the plant. The animal and the vegetable kingdoms are so closely linked together, that "from man to the primary animal and the vegetable cell, there exists no gap in the realization of a general idea upon which nature as a whole is based." (Schmidt.) There are no chemical characters whereby we can separate the two kingdoms; respiration affords no definite distinction; their modes of reproduction merge into each other in the lower organisms; and locomotion is common to both animals and plants; even many of the algæ which are fixed during the progress of their development give off spores which are furnished with delicate cilia whose vibratory movements propel the spore until it has found a suitable resting place, whereupon its erratic life ceases, and it grows up into a plant with no desire to change its fixed abode. We can only define plants as organized beings endowed with life and motion, but without sensation and voluntary action.

The tissues above mentioned as composing the substance of plants are so fine that their peculiarities can only be seen by the aid of a compound microscope. If we make a cross section of the stem of a growing corn plant or grass, or cut a thin slice of a turnip or other succulent root, we shall find it to present a honeycomb appearance. The network therein shown is a cellular tissue; it presents the appearance of a substance in which numerous six-sided cavities have been made, and this was the explanation given by the earlier writers on Vegetable Anatomy. By careful manipulation, however, it can be shown that the membrane forming the partitions between the cavities is double, so that the tissue might be separated into as many minute vesicles or bladder-like bodies as there are meshes in the specimens. Each of these vesicles is a CELL. Cellular tissue is so called because it is composed of cells.

The primary form of the simple cell is that of a globular vesicle composed of solid membrane of cellulose; with fluid and solid contents. Its form and structure are subject to great variation, and, if cells do not become converted into vessels (or compound elementary organs), the early development of vessels is certainly not appreciably different from that of cells. According to Mohl, the sphere must be regarded as the fundamental form in which every freely developed cell first appears; its ultimate form depends upon its indwelling laws of development, and the influences exerted upon it in modifying the expression of these by surrounding tissues. We accordingly find that while cells are most frequently of a roundel or oval form, they vary much in shape according to their mode of arrangement in the tissue and their special functions. For example when they occur in the form of hairs on the plant's surface they are often drawn out into a conical form; in the pith of the rush, &c., the cells are of a stellate form, an arrangement which gives rise to numerous intercellular spaces or air cavities. The same object is effected more fully in the tissue forming the pith-like substance of the

paper reed of the ancients (Papyrus Sicula), a substance which was employed by the ancients in the manufacture of paper (some of the most ancient manuscripts in existence being written on papyrus.) The cells are arranged in a chain-like form, leaving large intercellular cavities between, which are filled with air. Vegetable tissues when rendered soft and spongy by such a free intermixture of air cavities, become highly inflammable; the use of the pith-like substance of rushes as lamp-wicks is well known.

But it must not be understood that when cells are of a rounded form, that intercellular cavities always exist; for the cells are generally united together by an intercellular substance, and even where the cells of a tissue appear to be spherical, they have often flattened surfaces at all points of contact with each other, and thus no intercellular cavity exists.

In the case of many minute Algæ (Diatomaceæ, Desmidiaceæ, &c.,) the plant consists of a single cell; this is its simplest form. In other algæ, it consists of cells arranged in a linear form giving rise to simple or branched filaments, as in Cladophora fracta, a minute plant which has of late years appeared in such quantities in Duddingston Loch as to have seriously affected the beauty of that fine piece of water in the autumn months; the Town Council have waged war against it, and it has been proposed to make the most of the evil by converting the microscopic plant into paper, for although unsuitable for forming a pulp, its masses of filaments may be pressed into a paper-like substance. It is in such simple plants where there are few cells, and these so arranged that we can examine them in their active state without injuring the tissue, and without placing them in unnatural conditions, that the history and development of the cell is most easily traced. In order, therefore, to understand the growth of his farm crops, the farmer must turn to those organisms which vegetate in the form of green scum on stagnant pools, or which float in masses of green filaments in lakes and rivers. But the whole subject of cytogenesis must remain for future discussion.

The size of cells is very variable in different plants, but in all cases they are very minute; it is only in rare cases and chiefly in the lower plants (algæ) that they are individually visible to the naked eye. In a piece of cork, for example, which is a cellular tissue, more than a thousand cells have been counted in the length of an inch. There are upwards of three millions in a cubic inch of carnation leaf.

Cells, in their active condition, are thin and brittle, filled with juices, &c., and have little cohesion; and plants in their early stages consist for the most part of this kind of tissue, hence in their young state, vegetables are soft, juicy and tender. When the plant increases in age, and woody tissue is developed in its structure, it then acquires a firm and fibry consistence. In age, therefore, many of our culinary vegetables become coarse and useless. In many cases it is the object of cultivation to increase the development of parenchyma-cells in plants, and thus arrest the development of the woody tissue. In turnips and other esculent roots this is encouraged by rich soil and good cultivation; in fact the turnip owes all its esculent value to the abnormal development of parenchyma cells, the thin wiry root of the wild plant containing its normal proportion of cells.

While the cell is formed of a close membrane of cellulose (C_{12}, H_{10}, O_{10}), a substance permeable to fluid, but subject to great variation in its physical properties, such as brittleness, viscosity, and density, and liable also to chemical variation, there are various other matters contained in the interior of the cell. In some cases these occur in the form of a general incrustation over the inside of the cell membrane, as the lignine of wood cells, and the stone of stone fruits; but more frequently deposited matter has a spiral arrangement. Thus, in the ærial roots of epiphytal orchids we have cells with fine spiral threads of lining matter wound round the interior of the cell. In the structure of vessels this is a conspicuous deposit, the spiral vessels which form so important a feature in the anatomy of plants depending upon it.

In the young state of all cells we have a membrane interior to the cellulose one, which is called the primordial utricle. This is present in all actively vegetating cells, and contains the proper cell contents. These are *nuclei* (which are concerned in cell development), starch, gum, sugar, chlorophyll, and all colouring substances, oily, fatty, and resinous matters.

Starch (C_{12}, H_{10}, O_{10}) is an important substance contained in the vegetable cell, whether we regard the part it plays in the plant's development, or the manifold benefits it confers upon man. It occurs in the form of minute colourless transparent granules, which lie loosely in the interior of the cell.

If we examine a thin slice of wheat under the microscope it will be observed that the cells are packed full of the starch granules, while a few of the latter which escaped, are floating freely on the field of the microscope. By applying a drop of tincture of iodine to such a preparation, the starch granules become of a deep blue colour, while the other parts of the tissue remain unaltered; iodine is thus a ready test for starch, so much so that it is not necessary in many cases to use the microscope to determine the presence of starch in an esculent root; the sliced surface of potato, for example, to which iodine is applied, becomes of a deep blue colour, indicating the great abundance of starch in its tissue.

The structure and development of the starch granule have formed the themes of much learned discussion among vegetable physiologists. "No substance has been more investigated, and yet of which there is less known than starch. After the researches of ten years, in the course of which the most varied views have been propounded on the nature of starch, and after all its characteristics as a proximate vegetable substance have been discussed, we are little or nothing in advance of the old point of view; and although we may, perhaps, not be wholly without some addition to our knowledge in secondary points, we are still entirely without any sound reasons to suppose that we have arrived at the truth." In these words did Poggendorf indicate the state of our knowledge on this subject in 1847, and succeeding observers have quoted his words with a kind of gratification which shows the continued want of satisfactory results. Mohl says, "Observation has not yet taught us anything concerning the development of starch granules."

The starch granule of the potato when examined under a high power (say 260 diameters) presents the following characters:—The granules appear in the form of small, solid, but pellucid, more or less ovate corpuscles. Towards the narrow or pointed extremity of the corpuscle a small round dot is seen; this is the "nucleus," and may be regarded as the organic centre of the corpuscle. This "nucleus" is encircled with numerous lines, which at first pass concentrically around it, but gradually become elliptical and eccentric. These are obvious appearances presented by the starch granule; let us see how its structure is explained. Many views have been brought forward, all more or less conflicting, but they have been brought together by Mr. Busk in these terms:—

1. According to one view the starch granule is a vesicular body, the wall of which differs at all events in consistence, if not in chemical constitution from the contents.

2. In the other view the granule is considered as a solid body, constituted either of a homogeneous substance, or composed of concentric layers, deposited, according to one set of observers, around a nucleus, either differing in its chemical nature from the layers around it (Fritsche), or not essentially different in that respect (Endlicher, Unger). Schleiden and others regard the nucleus as a minute cavity or indentation.

The most satisfactory observations that have recently been made on the vexed question of starch, are those of Professor

Allman,* who arrived at the following results:—

1. That the starch granule consists of a series of lamellæ in the form of closed hollow shells, included one within the other, the most internal inclosing a minute cavity, filled with amorphous (?) amylum; that the concentric striæ visible in the granule indicate the surfaces of contact of these lamellæ; and that the so called nucleus of Fritsche corresponds to the central cavity.

2. That while the lamellæ appear to be all identical in chemical constitution, yet the internal differ from the external in consistency or other conditions of integration.

3. That the order of deposition of the lamellæ is centripetal.

4. That while the starch granule is thus a lamellated vesicle, it cannot be included in the category of the true vegetable cell, from which it differs not only in the absence of a proper nucleus, but in presenting no chemical differentiation between membrane and contents.

[*To be continued.*]

*Quarterly Jour. of Microscopical Science, ii., 163.

POULTRY BREEDING.

The improvement of our domestic poultry has become one of the popular movements in these days of agricultural progress, and almost universal in our rural economy. The movement is not confined to that eminently useful individual to whom we are accustomed to look for our eggs and poultry supplies—the farmer's wife, but poultry amateurs have sprung up everywhere. There is scarcely a "London Cit" who does not keep his yard of poultry at his "out-of-town residence." This is highly commendable as well as pleasing and useful. It is not so much for profit that so many amateurs are breeding poultry, as for the interest and pleasure such engagements bring with them. Many breeds of our poultry are very beautiful in form and feather, others are prized for their larger size and stately appearance, others for the very smallest of proportions and beauty, &c., so that all our breeds meet with patronisers, and their continuation and improvement as distinct breeds are kept up. We rejoice at all this. It is a course deserving of praise, and adds wealth and happiness to the country. How pleasant and recreative at even it is for a busy "Cit," or a country town resident, to have a bevy of such handsome and attractive birds to command his attention, and give him health and quiet employment after the close confinement at office, study, shop, or counting-house during the day. To my mind it is beyond comparison preferable to cards, chess, and the many attractive games and amusements of the parlor. It is to these amateurs that I desire to say a word or two on poultry breeding. It is indispensable to success that you breed from pure and good stock of whatever variety of fowl you adopt. If your accommodation for poultry is limited in extent, you should adopt the quiet tribei, such as do well in close confinement, *i. e.* the Cochin China, Bramah Pootra, or Malay kinds. They will almost prosper in a tea chest. If space is plentiful you are independent, and may adopt any variety you like. The Dorkings are most serviceable as a whole, both as layers and setters, and many specimens are very pretty, and for table fowl unsurpassed. They will bear rather close confinement, such as a small yard, and would roost in a hogshead. The Game variety is very handsome, and the quality of flesh exceedingly good, but requires plenty of room for its active habits. The pencilled Hamburgs are the prettiest of our farm-yard poulty, and the most prolific layers, but are small and rather wild in character. The Black Spanish are very fine jet blacks, and lay the largest eggs and many of them. These are very attractive to amateurs. The Black Polands, with their large and handsome top-knots, are just the fowls for gentlemen's lawns, noble and proud of carriage, they always attract notice, and as a breed are of a very useful character. The pretty little Bantams are quite the ladies' birds, perfect models of poultry, and where amusement and recreation are chiefly prized, are the most pleasing of any kind to adopt—the very kind to have—their common habits are so attractive, so fussy, self-important, courageous and presuming, that it is quite laughable to witness. The Game Bantams are the prettiest of their kind, and for beauty, symmetry, and plumage, unequalled. There have been of late some other foreign sorts introduced into the kingdom, but I would advise sticking to our established breeds. The Houdans, a French fowl, is probably the best of the recent introduction. In the management of poultry, considerable attention and close watchfulness is requisite to good success, One cockerel to eight hens is the recognized number to keep for profit: more will entail much and many extras. A hen under first-class management will bring off three broods in a year. Their nests may consist of the simplest contrivance, to be about 15 inches diameter. Their coops, for the hen and young chickens, should have covered tops. Their food as inexpensive as possible, or the profit will be small, *i. e.*, potatoes boiled and mashed, mangolds cut into slices, cabbage, greens, in moderation, corn of any kind sparingly, and plenty of pure water. If in confinement they must have grit and lime. A little straw, upon which grain may be thrown, is very conducive to health in promoting much scratching. In fatting, barley meal is probably the best food, mixed stiffly. If troubled with fleas use flour of brimstone. If medicine is requisite, put charcoal, camphor, or iron in their water. O. F.

—*Gardeners' Chronicle.*

THE SEASON OF 1866 IN HALIFAX.

From Colonel Myers' valuable series of daily observations made throughout the year 1866, and laid before the Institute of Natural Science at last meeting, it appears that the coldest weather was in January, the thermometer standing during the night of the 6th and 7th, at 15° below zero. The mean temperature was 20°, being 2° lower than that of 1865, and 5° below the average of that of the preceding three years,

On the night of the 6th and 7th Feb., the thermometer indicated 7° below zero, on the 8th the harbour was frozen. A rapid thaw commenced on the 11th, and the ice broke up on the 12th. The mean temperature of the month was 25°, being 1° above that of 1865 and of the average of the three preceding years.

The mean temperature of March was 20°, being 5° below that of 1865, but corresponding exactly with the average of three preceding years.

Mean temperature of April 40°, same as 1865, but 2° in excess of the average of three preceding years.

May was characterized by cold backward weather. Mean temp. 47°, being 7° below that of same month previous year, and 10° below the average of the three preceding years.

June—mean temperature 50°, being 2° below that of 1865, but an exact average of the three preceding years.

July, which was remarkable in the United States for the long continuance and intensity of heat, indicated 87° on the 13th as the highest temperature. Mean temp. 61°, being 1° in excess of 1865, and 1° below the average of three preceding years.

August exhibited a mean of 62°, being 1° below 1865, and 2° below the average of the three preceding years.

September—mean temperature 58°—being 1° above last year, and the average of the three preceding.

October was a beautiful month, very favorable to farm work—mean temperature 45°, being 1° above 1865, and 2° below the three years average.

The month of November was generally fine till towards the close, when gales occurred—mean temperature 38°, being 10° below that of 1865, and the three years average.

During December the ordinary winter weather prevailed, with a sharp gale from

the S. W. on the 23rd, and a heavier one from the S. E. on the 27th. New Brunswick and portions of the United States appear to have suffered more from those gales than Nova Scotia. Mean temp. 28°, being 4° above 1865, and 2° above the three years' average.

It was noticed as remarkable, in connection with the temperature in January and February, that although the harbour of Halifax did not freeze over while the thermometer was at 15° below zero in January, yet it became passable on the ice on the 8th February, 6th–7th of which month the thermometer indicated but 7° below zero. This was accounted for by a combination of two causes being required to produce the result—a perfect calm with a certain low state of the temperature—without which the harbour of Halifax does not freeze.

PIGS.

ORIGIN OF CHESTER WHITES.

They originated about fifty years ago, through the exertion of a number of prominent and enterprising gentlemen of Chester county. They imported, at great expense, the best hogs to be found in England, and other European countries, and crossed them on the sows of Chester county, from which have sprung a breed of hogs whose reputation is world wide. This has only been accomplished by long years of careful breeding. They endeavored first, by a wide selection and a judicious and discriminating coupling, to obtain the type desired; and then, by close breeding connected with vigorous weeding out, to perpetuate and fix it.

Having been for the past twenty-five years engaged in breeding Chester County White Pigs, N. P. Boyer & Co. are enabled to offer the best breed of Hogs in the United States, and challenge all other breeders of stock Hogs in the United States, to exhibit twelve pigs, from one to twelve months old, at the "Metropolitan Sanitary Fair," in New York; each breeder to deposit the sum of $500 or $1000 to be paid to the one that exhibits the best stock. A committee of seven persons to be chosen to decide on their merits, and all the pigs to be sold for the benefit of the Fair.

Their pigs have always taken the highest premium wherever exhibited. They have all the good qualities desirable in a hog; they are quiet, kept easily, have a good square form, deep and wide chest, plenty of play for the lungs, very heavy hams and shoulders, broad in the back, short head and legs, and without exception always white; they readily fatten while young or at any age, and will grow to weigh from 500 to 800 lbs., at 14 or 16 months old. They will make more pork in a given length of time, with a given quantity of food, than any other breed of hogs. We have had them to weigh 1280 lbs. at 21 months old.

The Chester white pigs are remarkably free from diseases of every kind. They are not attacked with hog cholera, even where it is very fatal to other breeds.—*Stock Journal.*

RUSTICS IN TROUBLE.

At Leeds, John Dalby, a farm servant, summoned William Appleyard, a farmer of East Keswick, for refusing to supply him with sufficient wholesome provisions. He engaged at £14 10s. per year, and washing, and was to take charge of four horses, and assist in ploughing. When he got to the place, he found, in addition, ten cows to look after. His bed had sheets made from guano bags, and was in an "apartment" stowed with corn; he was fed with large hard cakes, an inch or an inch and a half thick, which, after having been baked, were hung up on a cord near the fire place. The only inmates of the house were the ploughman and the farmer, and a blind couple 80 years old, the parents of the latter; no domestic. The house was filthy—the walls "black bright;" no stockings washed, and only one shirt all the time. The matter was settled by the farmer releasing his man, and paying costs.

At Dumbarton, Mary Ann Stewart, a young, strong-looking amazon, the wife of a shepherd, near Luss, was accused of snaring hares on the lands of Sir James Colquhoun, bart. On pleading guilty, was sent to prison for 15 days.

Mr. Sadler, Balnurick, had 40 sheep killed or destroyed by a dog, which dog was found on the premises of Mr. McIsaac, and belonged to one of his servants. Mr. Sadler sued McIsaac before the Perth Sheriff Court. The defendant pleaded that the dog was not his, but his servant's; but the Court held that it was not necessary to prove ownership of the dog; any one allowing a dog to harbour on his premises is responsible for his acts; and accordingly McIsaac had to pay $500 damages, besides expenses. Let dog owners and sheep farmers take a note of this.

THE DOG AND POULTRY SHOW.

The President of the Dog and Poultry Club requests us to state that Members of the Club will have the privilege of entering Poultry and Birds for competition at the June show, without the payment of any entrance fee. Persons not members may compete on paying a small entrance fee for each pen. Exhibitors will provide their own pens. It is probable that the Club will make some arrangement for Dogs, and for these an entrance fee will be charged from Members as well as others.

Communications.

THE ANNAPOLIS SYSTEM OF CHEESE-MAKING.

Written for the N. S. Journal of Agriculture.

The average number of cows kept by the cheese-makers throughout the county of Annapolis, varies from ten to fifteen, which are principally kept in granite pastures too rough for cultivation, the grass of which is much sweeter if the bushes are not allowed to grow and shade the ground. The cows are brought into the yard about sunset, and milked, where they remain until morning, when they are again milked and turned into the pasture about sunrise. A tub is provided of sufficient size to contain the milk from the number of cows kept for the two milkings, at night and the next morning. A light frame of wood, made with cross-bars, is laid across the top of the tub, over which a cloth or strainer is laid, and the milk obtained at evening is passed through the strainer into the tub, where it is allowed to remain until morning, when it is skimmed, and the cream with a portion of the milk is put over the fire and heated sufficient to warm the whole milk obtained at night and morning to about the degree of warmth when first taken from the cow.

The liquor from a piece of rennet which has been in soak for twenty-four hours, is then put into the milk, but care should be taken not to put in too much, as it injures the cheese; a piece of good rennet, three inches square, will be sufficient for about twenty gallons of milk. The cheeses in this county are mostly coloured with annatto, which is put in the milk in a liquid at the same time with the rennet; it is then allowed to stand for half an hour, or until a curd is formed; it is then cut into squares with a flat piece of wood sharpened at the edges like a bone paper-cutter, reaching to the bottom of the tub. After the whey begins to rise, a box made like the hopper of a grain mill, with a wooden strainer, is placed over a barrel to catch the whey, over which the cheese strainer of coarse cloth is placed, and the curd is dipped out of the tub into the strainer, and the whey passes into the barrel, which is afterwards mixed with other food for the hogs. The corners of the cloth are then drawn up over the curd, and a small weight placed on it until the whey is all out. It is then cut with the cheese-knife into pieces about one inch square, well salted with Liverpool salt, and hung up in a cloth in a cool place until next morning, (except when single curded cheeses are made, which is seldom the case). The next two makings are prepared in the same manner, except the salting, when the curd made on the previous day is put in a tray

and hot water poured over it to freshen and warm the curd, the whole is then mixed together and chopped with a chopping-knife as *fine as mince-meat;* the curd, after being sufficiently salted, is then put in a cloth in the hoop, the diameter of which is usually double that of the height,—some are made with staves, but the majority use a broad hoop bent to size,—the corner of the cloth drawn over the curd, and the follower placed on and put in the press, on which a light weight is allowed at first, and the whey drains gradually in the crease cut in the cheese board around and outside of the hoop on which it rests, into the basin placed under the press to receive it. The cheese is allowed to remain in press for two or three hours, when it is taken out and turned and left in press until next morning, when it is taken out, the wet cloth removed, and a dry one replaced. It is again turned in the evening, when a cloth of finer texture is used to make a smoother surface to the cheese, and subjected to a pressure on a cheese weighing, say 30 pounds, equal to 500 pounds weight, until next morning, when it is taken from the press and placed on a smoothly planed board, cut into squares a little larger than the diameter of the cheese, and placed on a shelf in the middle of the cheese room a convenient height to turn, which must be done daily for the first six or eight weeks, and rubbed over its entire surface with newly made butter without any salt in it. When taken from the press it is often found to have the edge raised in consequence of the follower not fitting closely to the sides of the hoop, which is pared off, and seared with a hot iron to make the surface smooth. After the cheese have become hard they are taken from the cheese-board and placed on the shelf, which should be hardwood and planed perfectly smooth; but great care should be taken to keep the flies out of the room, and if any of the cheeses are likely to crack, rub them with fresh butter and turn daily until they become perfectly dry and fit for market.

I am, &c.,

One who spent Twenty-five Years on the Farm.

Annapolis, Feb. 9, 1867.

WHITE BELGIAN CARROT.

To the Editor of the Jour. of Agriculture.

Mr. Editor,—This root is so eminently adapted to the wants, soil and climate of this province, that I venture to trespass a little on the columns of your Journal in its behalf.

In very many districts of this country our farmers will be found with abundance of hay during ordinary seasons, yet very short of oats or corn of any kind for their horses. Hence the heavy, dull eye, distended stomach and lagging pace, so common with us in horses shewing fair points, plenty of flesh, and evidently not at all overworked.

Now, a little change in the quality of the food given to these animals would greatly enhance their value, either on the road or in the field.

Diminish the bulk of their food, by substituting for one-fourth or one-third of the hay given, an equivalent, containing quite as much nutritive matter in much smaller space and in different proportions, and an improvement in the beauty of form and skin, evident to the most superficial observer, would, in a few days, be the result; while the impetus given to life and health, would manifest itself in any work to which they might be put.

To realize this improvement, and enhance the value of all such horses to their owners, let a bed, say of one-fourth of an acre, be prepared for the white Belgian, or long orange carrot, and in almost any season one hundred to one hundred and fifty bushels will be the yield, sufficient for one horse the year round, or two, with one feed oats each per day, in ordinary farm work, the hay saved amply paying cost of carrots, while the large and nutritious tops gathered in the autumn and fed to milch cows at a season when the pastures are fast falling off, will not only increase the yield of milk, but largely add to its richness in butter.

Horses are very fond of carrots: many a cross animal has been made comparatively kind to his owner by habitually giving him carrots in hand.

Select light, dry soil: work not less than ten to twelve inches deep. If soil is gravelly, carefully remove small stones; pulverize well; plough in well-rolled stable manure, adding, when practicable, a dressing of wood ashes; sow in drills one-third closer than mangolds or Swedes; throw ridges well up where soil is not deep. With these simple precautions, a surer crop is not committed to the soil in this country. The turnip fly passes over them; the cut-worm turns away from them; the May and June frosts produce no visible effect on them; their rapid descent in the soil enables them to resist any but severe droughts. A small bed, seven yards by nine, turned up by spade, on gravelly soil, dressed with stable manure and a little ashes, gave this year a return of five and one half bushels; had the soil been worked a little deeper, the yield would have been larger, as was evident from appearance and shape, when pulled in October.

Yours, &c.,

W. C.

[We are sorry that the publication of the above article has been delayed in consequence of its having fallen aside. The present is a very suitable time to call the attention of our farmers to the subject of Carrot Culture. So far as our own limited experience goes, there is no forage crop more profitable to the Nova Scotian farmer than the White Belgian Carrot. It is of easy culture; may be sown early, when the ground is too cold for other crops, so that it has a long season for growth, and it is not liable to the attacks of insects. It is relished by all kinds of stock, both in the raw and cooked state; and for table use, is preferred by many persons in Britain. As our author observes, horses soon become very fond of the carrot.—Ed.]

WHAT IS OUR DUTY TO THE FARMER?

To Professor Lawson,
Editor of Agricultural Journal.

Sir,—In reference to your notice in last month's number, I beg to occupy a portion of the space in your valuable journal, to point out to parties not engaged in improving the face of this earth on which we find ourselves, the importance of farming in the political economy of a State.

The manufacturer ministers to our wants, real and imaginary; he astonishes and delights us, with his ponderous machinery and with the endless variety of his designs, elaborated with all the skill that genius can suggest or science can define, conducing at once to our physical and intellectual elevation; yet, however great the claims of genius and science may be upon our respect and veneration,—however much we may glory in the triumph of mind over matter,—however immense the social structure which the intelligence, the science and the genius of successive generations have raised for the benefit of mankind, we must remember that the foundation of this grand edifice is, as it were, laid on an inverted pyramid, the apex of which is sustained on one little word—Bread! All flesh is grass! Our whole sustenance is derived from the bosom of our Mother Earth. The farmer, under Providence, gives us our daily bread. What, then, is our duty to the farmer? Plainly to endeavour to place within his reach all the aid that science can supply to his vocation. Without disparaging his experience, (the practical part of which is of great importance,) I will compare it with that of—say a physician. He is called in to a patient, his experience is first brought into play; by it he endeavours to form a correct diagnosis—in other words to determine what ails his patient; thus far the farmer is with him; he sees that his crop is sick, and his experience tells him what ails it; his specific is perhaps more care and more manure. So the physician, without science, might say more care and

a more congenial diet; but he does not rest here, he calls in science, and she supplies him generally with all the medicines that she has proved to be the antidotes to all the evils that affect his patient; here he has distanced the farmer. How has he done this?—by severe study he has mastered a scientific education. The analogy need not be carried farther, as in the one case the operations are chiefly mental, in the other chiefly manual,—and it is incompatible with the occupation of a practical farmer in general to possess the varied acquirements of the agricultural chemist. But I digress. "What, then, is our duty to the farmer?" (in this general question I will include the Agricultural Society in particular.) It is to call in the aid of the Agricultural Chemist and his handmaiden Botany. They will bring their beautiful and imperatively useful science into practical utility; they will introduce to the farmer the means of analyzing his soil, and enable him to ascertain its component parts, and its adaptability to this or that order of plants; in a word, they will determine their diagnosis of his sick land, and place their medicines within his reach.

I find, Mr. Editor, that I must pause here, lest the expansion of the subject as it unfolds itself to my view, may exhaust your valuable space and the patience of your readers. However, if you think that by following out the subject as it presents itself to my mind's eye, that it may be the means of exciting and eliciting more interest and sounder information from other sources, my end will be attained, and you will hear from me in your next. At present permit me to endorse your advice, to "pour the phosphates into the soil," and to inculcate to all parties the doctrine of taking care of their bones, in order to the rendition of the phosphates they contain to that soil which has been poverized by their abstraction.

Yours respectfully,
SUPER-PHOSPHATE.

ON THE CAUSE OF THE DEGENERACY OF STOCK, AND THE BEST MEANS OF IMPROVEMENT.

SECOND LETTER.

In my last I endeavored to point out, in as few words as possible, some of the causes of degeneracy in neat cattle, and sheep, more particularly; and now allow me to turn to the Horse, one of the most noble animals that have been given for the use of man. See him in his natural state, with that lofty and majestic head reared high, looking around where he has full liberty to show off, either in Arabia, on the Prairies of America, or even Sable Island; no wind-broken—no spavin, or diseased in any way; therefore I ask myself the question, what is the cause that our horses are just as they are? It is true that we may have about as many fine horses now as we had some 40 years ago, and I believe no more; therefore, what is the cause of all the large number that we now have to what we formerly had, in such a worn-out state by disease or otherwise, after importation. The fault must be ours; and I ask, where does it lie? It is not in breeding in and in too much, or too close; that is not the cause. It is not breeding from sound and good mares and imported horses of the first class, as some of them were, but I believe to originate from the inferior horse; because if you take a very fine mare that has raised stock from an inferior horse, she is done—she is tainted, as I said before, by that inferior animal, and therefore, as like begets like, you need not expect a good constitutional colt, let the horse that she goes to afterwards be ever so pure or noble. But let a first class horse go to a mare that has never raised a colt from any but first rate horses, and no mistake about the offspring; for like will then produce like. I could quote several authors to prove this, as well as the horses of our own country. I have known a mare that had 19 colts, and all sound and good horses, and I fully believe that it was much owing to the owner always getting her to the very best of horses, not minding the price; and until us farmers attend to this one and most important fact, gentlemen need not look for very fine horses.

Now for the remedy. And first, how are we to get clear of those Scrub Entires, for many are no better, they are in all our counties, which do all this harm? I am almost at a loss to know, because their low price is a great temptation to try them. Some will even boast that their horse has produced fine stock. True; but in all probability it was from a mare that had always produced from fine horses before; and therefore the cause is more from the good horse than the scrub or poor horse; for almost any horse, left Entire, and put in any kind of condition, looks wonderfully well in the season; but let a judge inspect him, and he would at once pronounce him no horse. Now, suppose the Central Board of Agriculture had a short bill passed through the Assembly, authorizing them to appoint Inspectors and Judges in each of the counties, say one or more, whose duty it would be to grant certificates or licenses to the owner of such horse that they should approve of in each county, or horses that persons would wish to travel or kept for that general purpose; and at the same time to have power to fine or prosecute any person or persons who should make any charge for any entire horse, without having such license as before mentioned. If this will not make the remedy, let some one person produce a better, for something should be done, and more especially now, as we have gone to no small expense in getting horses from England; and as we only have one now, which is Lassitude, and which cannot be excelled in this Province for breed, action and pattern, and a credit wherever he may go.

Now, as I have said so much about remedy, do not think that is all. Feed, stabling, and the learning of your horses, are all very essential. Our stabling should be made much more comfortable than it is. Our horses should not be allowed to freeze in winter, as many of them do now, and by that they overload their stomachs with too much hay and water, and then they turn out diseased or wind-broken. More care should be bestowed. They are a fine animal, but are badly abused; and as to learning and breaking in of the colts, Rarey gives us very good ideas, which could be easily attended to, not commencing too young, but young enough. Now, as I have said much on this fine animal, the horse, perhaps at some future day I may turn to the mule, which, I believe, would be a great benefit to our country, if he was well introduced from good breeding jacks, so that the mule should stand from 14 to 16 hands high, and in weight from 9 to 1100 lbs.

I remain, &c.,
A FARMER.

Colchester, March 6, 1867.

[We have a high opinion of the Mule, who is as much prized in other countries as he is despised in Nova Scotia. We shall, therefore, feel much indebted to our correspondent if he will bring before our readers the *good* qualities of the Mule; his *bad* ones are well enough known.—ED.]

WINTER IN DUTCHESS COUNTY.

In a letter from a correspondent at Beekman, Dutchess Co., New York, Feb'y 9, 1867, it is remarked:—"We have had deeper snow and more severe weather during January than has been known here for many years.

Stock has generally done well, and there is an increased interest in breeding. Short Horns, Alderneys, and Ayrshires, take the lead among cattle. Cotswold and Short Downs are the leading sheep, although other varieties are kept.

Grain and grass in this and the adjoining counties were light yields. Winter wheat and rye look promising."

THE "DRY EARTH CLOSET SYSTEM."

MR. EDITOR,—The *Colonist* being the only paper in the community I know of that seems to relish subjects of scientific enquiry, I have thought it probable that you would have no objection to a few remarks from one interested on a recent communication in your columns, from

Prof. Lawson, of Dalhousie College, in which he suggests a doubt as to the deodorizing power of "dry earth" upon animal and vegetable matter in a state of decomposition. The Professor appeals to certain eminent names for the affirmative side of the question—Liebig, Voelcker, and others, endorsed by experiments accounted conclusive both in England and India, but whether he himself considers these grounds conclusive, I should like to know. I am the more earnest about this matter, Sir, because I think that, in all enquiries touching a subject of such vital moment to society and the interests of all Hygiene, no opinions should be privately withheld under a bushel that can enlighten the public mind, and lay a lasting foundation for the reception of a momentous truth. It would have been just as well then for the Professor to have observed, that the experience of all ages, from Moses in the patriarchal time down to the present day, has ever shown as instinctive a knowledge of the deodorizing properties of earth to remove all putrescent offensiveness by burial, as a kindred instinct has taught alike that water quenches thirst.

In the later ages, when chemistry has supplanted alchemy, and scientific enquiry and progress have elevated reason above the glimmer of instinct, the questions are no longer all "abstract and mystery" as they once were. This one postulate in science, that "moisture" is essential to "fermentation" settles the whole matter. There can be no "fermentation" without "moisture;" and as "putrefaction" is a process of fermentation, without fermentation there can be no putrefaction. Consequently without moisture there can be no putrefaction. Dry earth then,—and the dryer the more absorbent,—arrests putrefaction by the withdrawal of moisture! Consequently no animal and vegetable matter can pass into a state of putrefaction, enveloped in dry earth. It is the property peculiar to clay, for instance—its astonishing tenacity of water that gives us the Pyrometer to test exalted temperature. As Providence, therefore, has given us water—a universal and priceless beverage—to quench our thirst, so with an equally provident and benign purpose, to preserve us from universal contagion, it has given us earth to enclose our dead, and the still deadlier elements of putrefactive death. Therefore, by all means, spread it far and wide, the fact of the inestimable value of kiln-dried earth for all purposes of anti-putrescent arrangments. Nothing could possibly be so conducive to the healthiness of the city as a decided advance in this direction; and if some enterprising public individual would only take the matter up, and contract with the city to remove all metropolitan offal, by the process in question, he should be permitted at once to do so, and every facility readily granted him by the authorities, backed moreover by a liberal subsidy. I would add, the community should feel themselves highly indebted to Mr. Young for initiating this subject in the way he has chosen.

This is a matter which, we doubt not, in the hands of men like Nash, Ackhurst, McCulloch, Jennings and others, with their financial skill, would speedily command the most unexceptional arrangement, if they should think proper to take it up. As to Ald. Nash—when I think of this man, who stepped on life's arena but yesterday, with nothing but his untiring energy for his fortune—who has raised up within a few years, you may say, half a city of walled structure around him, all his own!—I invariably revert to Burns—his imperishable epigram "the man's the man for a' that." Yes! and if I mistake not, it will not be long when these convictions are again exemplified in a new City Hall—Mr. Nash's portege—which he will erect without loss to the city—not only without expense, comparatively trifling, but with the more compensating gain of architectural beauty and accommodation, all a city's pride! A city too, just about starting, we believe, into European dimensions; but what in the name of cities, and all the Enochs, can architecture do without the genuis of "Finance?" Nash has it!

March 7, 1867. PROGRESS.

DEATH OF AN IMPORTED RAM.

New Annan, Jan. 16, 1867.

I am sorry to inform you that the ram purchased by our society at Richmond is dead. Cause not known; some say he was fed too much on oats. He was a noble animal, and gave general satisfaction. Most of the members took the use of him, so I think we will have a good sprinkling of his stock.

W. CREIGHTON.

REPLY TO "PROGRESS" ON THE DRY EARTH CLOSET SYSTEM.

In the note appended to Mr. YOUNG'S communication last month, I thought there was no room left for doubt as to my opinion. I repeat the following extracts from that note, which will be seen to form a direct reply to the question put by "Progress":—

"Further consideration and experiment HAVE SHEWN MOST CONCLUSIVELY that earth, if dry, is a most effectual deodorizer."

"The experiments and practical operations that have been carried out by a large number of persons in England and India, private gentlemen and public officials, LEAVE NO ROOM TO DOUBT that odours emanating from organic matter may be COMPLETELY removed or absorbed by enveloping such matter in dry earth."

"A dry closet system would afford the means of MOST EFFECTUALLY preserving our streets and dwellings from bad odours. The water of the harbour would be kept pure, there would be no putrid slime left on the shore by the receding tide, and lastly Halifax would cease to resemble Edinburgh in having a "Foul Burn" running through its suburbs."

G. L.

A HOT CHRISTMAS.

To northern minds "Christmas Eve" suggests clear frosty weather, with cold winds without and a bright blazing fire within. But it is not so all the world over. In a letter which we have from R. C. Stapley, Esq., dated "Newcastle, Jamaica, Christmas Eve, 1866," he observes:—"While you are no doubt freezing, it is unusually hot with us, even for the place, and we are obliged to keep out of the sun, as it is very powerful." To which we may reply, that the broiling heats and glaring suns of Christmas time do not cause us much inconvenience in these northern regions.

Reports of Agri. Societies.

HARDWOODLAND AGRICULTURAL SOCIETY.

FIRST ANNUAL REPORT—IMPROVEMENT OF CATTLE—MONTHLY DISCUSSIONS.

The officers and members of the Hardwoodland Agricultural Society, thankful for the assistance rendered by Government, through the kind agency of the Central Board of Agriculture, have much pleasure in making this their first report of the society. And although we have not much rapid progress to report for the first year, it is to be hoped we have laid a good, solid foundation for improvement in agricultural progress, which time and perseverance only can bring to perfection. As it was unanimously agreed that we should use our first efforts in the improvement of cattle and sheep, our Society directed the managers to purchase two bulls, of the most improved breeds; they accordingly purchased one, a very fine thorough-bred Durham; and as they could not obtain another so good, they were under the necessity of purchasing one of a worse description, although a very good animal. It was also agreed that each member should receive the service of one cow from each bull free; and it is confidently expected that such service will disseminate a considerable improvement in the stock of this locality, as they will all be preserved for keeping-stock. Our Society farther agreed that our thorough bred bull should be kept for next summer's use, and the worst sold, which was accordingly done, as will be seen in our receipts. We regret to

say that we have not yet been able to make any advance in the way of improvement of sheep, although such a fine opportunity offered last fall through the warm interest manifested by the Central Board in importing such a splendid lot of cattle and sheep from Canada, for the benefit of local societies. Our managers thought that as they were all highly fed for exhibition in Canada, they would likely fail on our treatment; and having but little funds at their disposal, thought it better to wait for a year or two, when they could get them cheaper, if they prove to be an improvement of the sheep in this country.

MONTHLY MEETINGS FOR DISCUSSION OF AGRICULTURAL TOPICS.

The most pleasing feature of our Society, is our monthly meetings, for the discussion of agricultural questions; and it is to be hoped that in the end it will prove not the least remunerative. Our discussion on the value of green crops as food for cattle, in comparison with hay, has induced almost all our members to give them a trial, and from want of skill and experience in cropping and after-culture, success did not crown all our labours. It is to be hoped that perseverance and experience will teach us that green crops can be grown advantageously and profitably, as food for cattle, instead of feeding altogether on hay through the winter.

The officers of the past year were unanimously re-elected again for the ensuing year, and the members remain the same as last year, with the exception of one leaving and two more new members joining; and as there is some hopes of more joining, it was agreed to leave the Society open to the first of March for any wishing to join.

Our accounts for the year are as follow:—

RECEIPTS.

To subscriptions from members,	$43.00
" order on treasurer of C. Board,	44.00
To sale of one bull,	33.00
Total,	120.00
	115.81½
Balance on hand,	$4.18½

DISBURSEMENTS.

By two bulls bought,	$80.00
Expense of keeping and attending same,	34.56½
By books and stationery,	1.25
Total,	$115.81½

I need scarcely add that, owing to the wetness of the past season, the hay and grain crops were partially injured, yet not much lost altogether; and the mildness of the fall has been the means of saving considerable feed; and there is not so much fear of a scarcity of feed in spring as was some time ago.

DONALD FERGUSON, jr., Pres'dt.
JAMES ORR FRASER, V. Pres'dt.
JAMES GRAHAM, Sec'y.

PARRSBORO' AGRICULTURAL SOCIETY.

The last annual meeting of the Society was held at Jonathan Vickery's (adjourned same day from Town Hall, Mill Village.) on Tuesday the 5th Decr., 1865. The previous year's report was then read and approved of. Letters were read from three persons, stating that they had withdrawn from the society.

The Committee met at Jonathan Vickery's, Mill Village, on Tuesday the 3d of April, 1866, at 1 o'clock, P. M., (adjourned from the Town Hall the same day). It was then *resolved*,—That John Blinkhorne, Esq., sell the society's two rams at Advocate Harbour, as soon after shearing as fair prices can be got for them. That Thomas Kirkpatrick, 1st, keep the society's Chester white boar, at 10s. per month through April till 15th May, and at 5s. per month afterwards till the first Tuesday in Novr. That Olney Lewis be paid 3s. 6d., a balance due him on the ram bought by him for the Halfway River section. That the society take twenty-one numbers of the *Journal of Agriculture for Nova Scotia*, to be sold to members at half price. That the society take ten numbers of the *Canada Farmer*, published in Toronto, to be sold to members at 2s. 6d. each. Bounties were established on compost, wheat, Swedish turnips, hay-seed, oatmeal, and sheds for saving manure under cover, for 1866.

The Committee met at Daniel York's, Mill Village, on Tuesday evening, the 6th November, 1866, (adjourned same day from the Town Hall,) when payments on crops of 1865, omitted, keeping Chester white boar, purchase of ram for Village section, bounties on crops and manure sheds, *Journals of Agriculture for Nova Scotia* for 1865, and oatmeal, were paid, to the amount of £56 17s., viz:—On wheat raised in 1866, £7; on Swedish turnips raised in 1866 £10 5s.; on compost made in 1866, £13 5s.; on hayseed saved in 1966, £4 10s.; manure sheds made in 1866, £2 10s.; 21 numbers of the *Journal of Agriculture for Nova Scotia* for 1865, £2 12s. 6d.; oatmeal made and to be made from oats raised in 1866, £9; keeping Chester white boar, £4 16s.; ram for Mill Village section, £2 10s; balance on ram bought last year for Halfway River section, 3s. 6d.; compost made in 1865, 10s.; Swedish turnips in 1865, 10s.

It was resolved that the society's Chester white boar be kept at Jesse W. Fullerton's, Esq., at 15s. per month till the 1st May, and at 5s. per month through the summer. He agrees to remove him to his place free of expense. It was resolved that each member putting one sow to the boar this season, pay 1s. 3d., and 2s. 6d. each for any more than one he may put to him; and that persons not members each pay 2s. 6d. in advance for each sow they may put to him. Nineteen sows were put to the Chester white boar last season, in each case except one without failure, and the improvement in the breed gives very general satisfaction. The pigs sold readily for 7s. 6d each at three weeks old, and at 10s. each four weeks old. Several persons yet owe the society for the boar's services last season.

It was resolved that the members in each section may each put three ewes to the ram in their section, free of charge; the persons keeping them in the respective sections to have the fleece, and the privilege of the ram's running in their flocks, as compensation for the keep and care of them.

Through the year the Treasurer has received £31 from members. Of this £29 7s. 6d. is subscriptions for 1866, and £1 12s. 6d. arrearages of subscriptions for years previous to 1866. He also received £24 10s. from the Central Board of Agriculture, assigned to the society out of the £60 Provincial money voted for the County of Cumberland for 1865. He also received £2 12s. 6d. from members for 21 numbers of the *Journal of Agriculture for Nova Scotia* for the years 1865 and 1866: 7s. 6d. remitted by Daniel Holmes for driving a bull calf from Minudie to his place, as the society presented him with the calf, and 2s. 6d. from E. Dewolf Ratchford, Esq., in advance for one number of the *Canada Farmer*, out of ten numbers ordered by the society, but not yet received. These sums, with the balance in hand from last year of £2 17s. 10½d., make the sum of the funds for this year to be £61 10s. 4½d. Out of this payments were made as before stated, on crops of 1865 omitted, keeping Chester white boar, purchase of ram for Mill Village section, bounties on crops and manure sheds for 1866, Journals of Agriculture for Nova Scotia for 1865, oatmeal, 1866, balance on ram for Halfway River section, 1865, to the amount of £56 17s.; postages, 1866, 2s. 5½d.; rooms to hold meetings of committee and society in, 1866, 7s. 6d.; services of Secretary and stationery used by him in 1866, 22s. 6d., were paid, leaving a balance in the Treasurer's hand at the close of the business for the year, of £3 0s. 11d.

Out of 139 members in 1865, three withdrew and one removed; fourteen having joined the society in 1866, 149 are liable to pay 5s. each in 1866. From these £29 7s. 6d. were received, leaving an arrearage of £7 17s. 6d. on the subscriptions of 1866.

Twenty-one numbers of the *Journal of Agriculture for Nova Scotia* have been received and sent to the different sections of the society. Our usual Provincial grant has not yet been received for the year 1866. It is expected that the *Ca-*

nada Farmer ordered for the society will commence coming at the first of the year. Both the rams in the lower sections are dead—having met with accidents—by which the society lose £3 10s., their first cost.

THE CROPS.

Our hay crop this year is light—in some places not more than one-third, in others not more than one-half the usual crop. On low lands there was a fair crop, but much of it is lost or damaged by freshets. Potatoes are a fair crop, slightly affected with blight. Wheat, wherever sown, did well. Swedish turnips, oats and buckwheat succeeded well. Apples were a light crop, about half that of 1864. Beets, carrots, parsnips and cabbages did well in gardens. None of these vegetables are cultivated here as a field crop. Cranberries were unusually plentiful. Strawberries were a fair crop; but raspberries, blueberries and gooseberries were a very light crop.

PRICES OF PRODUCE.

The price of farm produce is nearly as follows:—Hay, 50s. per ton; beef, 30s. per 100 lbs.; pork, 5d. per lb.; butter, 1s. per lb.; potatoes, 1s. 6d. per bushel; oats, 2s. per bushel; wheat, 10s. per bushel, geese, 1s. 3d. to 1s. 6d. each; cows, £4 to £6 each; working oxen, £15 to £20 per pair; lambs, 8s. to 10s. each; old ewes, 10s. to 15s. each; twilled homespun cloth for trousers, all wool, 4s. to 5s. per yard; twilled cotton and wool for trousers, 3s. to 4s. per yard; flannel cotton and wool, plain, 2s. 6d. per yard; flannel twilled, all wool for blankets, 4s. per yd.; raw hides, 3d. per lb.; wool, 1s. 6d. per lb.; eggs, 6d. per doz.; chickens, 1s. 3d. per pair.

By order of the Committee,

JOHN T. SMITH, *Sec'y.*

Parrsborough, Nov. 6, 1866.

BARRINGTON AGRICULTURAL SOCIETY.

The directors of the Barrington Agricultural Society for the past year beg to report, that in accordance with instructions received at the last annual meeting, a number of fruit trees were purchased of Mr. Shaw at Cornwallis, and a quantity of seeds of various kinds at Boston and Halifax; these were distributed equally among members previous to sowing time. The Goodrich potatoes could not be obtained, but a barrel of early Harrison and Sebec have been ordered and will be available for planting the ensuing spring.

A ram and ewe of the Cotswold breed have been purchased of Mr. Decie at Wilmot, and to avoid additional expense to the society have been sold with the restrictions that they are to be kept in good condition, under the supervision of the directors for four years.

A boar and sow were obtained from Prince Edward Island and sold under similar instructions, the purchaser being to keep the boar for nine months and the sow for eighteen months for breeding.

It was deemed advisable that the contemplated agricultural show should not be held the past autumn, as it was supposed the funds could be more judiciously expended in the purchase of stock and seeds. It is however recommended that arrangements be made for holding a show next autumn, and that suitable premiums be awarded to deserving exhibitors.

During the present year sixty names have been enrolled as members of the society, the subscriptions have been paid to the Treasurer, the requisite documents forwarded to the Central Board, and it is believed the order for drawing the government money will soon be received.

The Treasurer submits his accounts as follows:—

Cash on hand from last year	$155.00
Received from subscriptions of members for 1866	60.00
Received from sale of ram and ewe	3.00
" " pigs	1.50
	$209.51
To paid 100 fruit trees	$31.15
" Seeds	38.16
" Papers	1.50
" Cotswold ram and ewe	30.00
" Freight and feed	7.70
" Boar and sow	8.00
" Freight and feed	3.20
" Sec'ys. fees, postage and stationery	5.59
" Cash in hand	84.21
	$209.51

The directors have labored under considerable difficulty in obtaining requisite information and making suitable purchases; they have done however what they deemed for the best interests of the society and the promotion of agriculture in the community, and now respectfully submit this summary of their proceedings.

A. C. A. DOANE, *Pres.*

R. H. CROWELL, *Sec'y.*

The annual meeting of the Barrington Agricultural Society was held in the Court House, Barrington, Dec. 4th, 1866. The report was read and adopted. Election of officers and directors then took place, viz.:—*Pres.*, A. C. A. Doane; *Vice Pres.*, O. W. Homer; *Sec.*, R. H. Crowell; *Treas.*, F. W. Homer; *Directors*, I. L. Crowell, A. Watson, E. Atwood, J. Coffin, J. K. Knowles.

MERIGOMISH AGRICULTURAL SOCIETY.

Cr.

By balance in hand per last report	$24.57
" Amount of subscription for 1866	41.00
" Amount realized for wool	4.25
" Sale of provincial sheep	31.00
" " 12 rams imported from P.E.I.	80.00
By Sale of 4 pigs imported from P.E.I.	11.25
" Provincial grant for 1866	52.00
Total	$244.07

Dr.

To paid for 12 rams imported from P.E.I.	$100.87½
" " 4 pigs " "	10.00
" " expenses on the above stock	19.87½
" " keeping sheep	13.22½
" " eight copies of Journals	8.00
" " stationery and postage	0.85
" " one Alderney bull	76.11
" " keeping bull	5.00
Total	$233.93
Balance in hand Dec. 5th, 1866	$10.14

The committee would also beg leave to state that the potatoes, wheat and barley received for trial have done exceedingly well, the potatoes especially.

They would also beg leave to state that the wheat crop is in general a failure. But an abundance of oats. Hay was an abundant crop but considerably damaged from excessive rains. Potatoes below the average.

The following are the officers for the ensuing year:—*Pres.*, Robert Brown; *Vice Pres.*, Mitchell Copeland; *Sec. and Treas.*, J. S. Copeland; *Directors.* James Roy, James Grant, David Mitchell, William Dunn, John J. Copeland.

D. MITCHELL, *Sec.*

NORTH SYDNEY AGRICULTURAL SOCIETY.

DISAPPOINTMENT ON ACCOUNT OF STOCK PURCHASES.

Annual Report of the officers and directors of the North Sydney Agricultural Society, submitted at the meeting held in the Temperance Hall at North Sydney, on the 4th day of December, 1866.

The society having unanimously agreed that its funds for the year now ending should be conferred exclusively on the improvement of live stock, the efforts of its officers were directed to that object, and the result of those efforts is not at all so satisfactory as they could wish; and they are now convinced that unless an agent is sent by the society to purchase animals at the best markets, no dependance can be placed on parties at a distance forwarding such animals as the society may require.

Dr.

To paid two bulls, including cost and expenses	$67.00
To paid 6 ewes and 3 ram lambs imported from Nova Scotia, including expenses	67.00
To paid John McLean for a ram 4 years old	14.75
" two pairs young Berkshire pigs	36.75
" Alex. Musgrove for keeping a bull	10.00
" Alex. Moore for coll. subscriptions	3.00
	$199.05

Cr.

By cash on hand from 1865	$72.00
" paid the Treasurer by Secretary	18.00
" received from 41 members	41.00
" " for a bull sold	11.50
" nett proceeds sale of lambs	34.20
" received from implements on hand since 1865	66.84
" due by William Gray	5.90
" " widow Johnston	2.00

By cash due by William Hagerty	0.62½
" " Alexander Moore	80.00
" received for service of bull	2.00
	$254.97½
Balance in favour of Society	$55.92½

General remarks on the Crops in the township of North Sydney for 1866.

Wheat.—Very sparingly sown, most of our farmers giving up its cultivation from past failures. yet it succeeded well in most localities where it was raised in 1866.

Oats.—A fair crop, but rather light in the straw.

Barley.—A fair crop, but not raised to any extent.

Buckwheat.—A fine crop, and more attention paid to its cultivation within the last few years than formerly.

Potatoes.—Generally an excellent crop and of the finest quality, especially the black sort, all other kinds having suffered from the rot.

Turnips.—A good crop, but not raised to any extent but by few farmers.

Cabbages.—A good crop, and far more extensively raised for the last few years than formerly.

Hay.—A fair crop, rather above an ordinary average, but sustained some damage by wet weather.

STEWIACKE AGRICULTURAL SOCIETY.

Upper Stewiacke, Jan. 25, 1867.

Sir,—I have to report for the information of the Board of Agriculture that the annual meeting of our society was held in the Town House, on the first Tuesday of December, when the following officers were appointed for the ensuing year:—*Pres.*, Hugh Dunlap, Esq.; *Vice-Pres.*, William Bently; *Sec'y*, James S. Tupper; *Treas.*, David McG. Johnson; *Directors*, Eddy Tupper, Saml. Johnson, Robt. Gammel, Matthew D. Newcomb, Chas. Creelman.

The following are the receipts and disbursements for the present year:—

RECEIPTS.

Balance on hand from last year	$103.44
Members' fees	40.00
Provincial Grant	53.00
One Bull sold	23.00
	$216.44

EXPENSES.

Interest on money borrowed	$1.30
Wintering two bulls	44.00
One bushel of Flax Seed	6.25
Thirteen copies of *Jour. of Agriculture*	6.50
Two Cotswold Rams	81.00
Expenses in purchasing do	8.37
Two Boar pigs	22.00
Keeping Bulls in summer	9.45
Other expenses	5.33
	$184.40
Balance in hand	32.00

Concerning the crops in this locality, I may state that the hay was above an average one, but, owing to the wet weather, large quantities of our hay were very much injured. There was a large quantity not mowed at all—supposed to be about 800 tons—the most of it being wild hay on the low meadows; but, on the whole, there has been as much secured as last year.

Oats are an average crop; barley and buckwheat have yielded very well; wheat very little sown, and very poor in quality; potatoes generally light; turnips, carrots, and other roots, are below an average crop.

The yearling Ram that we purchased at the government sale is a fine animal, and we expect a change for the better in this branch of industry.

James S. Tupper, *Sec'y.*

OFFICERS OF W. CORNWALLIS AGRICULTURAL SOCIETY.

Dear Sir,—In sending in our annual report, I omitted to give the names of the officers of our society for the present year, which are as follows:

President, Geo. W. Kinsman; *Vice P.*, Andrew Chipman; *Sec'y*, Elias Calkins; *Treas.*, Wellington Clark; *Directors*, Jno. Hall, Chas. Parker, Jas. E. Ilsley, Saml. White, Joseph Kinsman.

This Society has now fifty-four members, and an increase is expected. After settling the business of the society, according to the report already sent in, and making provision for keeping their stock for the winter, the meeting adjourned until the second Tuesday in March.

Elias Calkin, *Sec'y.*

MAXWELTON AGRICULTURAL SOCIETY.

The Maxwelton Agricultural Society met in accordance with the Act, on the first Tuesday of December, 1866, when the following report was read and adopted:—

The office-bearers and directors of the Maxwelton Agricultural Society, in bringing the business of the society to a close for the present year, beg leave to report as follows, viz:—That in May last it was agreed that another bull was required by the members of the society, and hearing that a superior bull was for sale at Cape George, James Patton was appointed to proceed thither, and purchase said bull, provided he was satisfied that he would be a suitable animal for the society,—which he did, and purchased said bull at a cost of $18. The society being desirous of improving their stock of pigs, we directed the Secretary to correspond with parties in P. E. Island, in order to procure two superior boars; but he received no answer, consequently none were procured.

The Secretary informed us that he had received 15 bushels of the Gooderich potatoes, sent to him by the member of the Central Board in Pictou, which were divided among five members of the society, in quantities of three bushels each, to be planted by them, and a report given in of the results at the close of the season—which was done, and they report as follows: that each 3 bushels produced on an average 45 bushels, and very few affected with rot, being more productive and less affected by rot than other varieties planted in the same fields at the same time, and under the same circumstances.

It was also agreed to sell at public auction, to the highest bidder, two of the most inferior rams brought from P. E. Island last fall; as but few attended the sale, they realized only $3.70. It was agreed to expend the sum of $60 in purchasing one or more of the rams imported by Professor Lawson from Canada, and Jas. W. Patton was appointed to attend the sale of stock at Richmond on Nov. 2; which he did, and purchased one ram at a cost of $45, the funds at our disposal not permitting him to purchase another.

In accordance with arrangements made with John McDonald in the spring of 1864, that by his keeping the bull purchased that spring one winter, and keeping and attending him two summers for the members of the society, the bull should become his property at the expiration of that time, the bull was accordingly delivered to him and became his property. The bull purchased by the society at Cape George last spring, was also sold for the sum of $20.

The society now own the following stock: 11 rams, purchased in P. E Island October, 1865, some of them very superior; one Leicester Canadian ram, purchased in Pictou last fall, costing $22; and one Cotswold Canadian ram, purchased at Richmond for $45.

The society having disposed of both their bulls, and as it is expected there will be a large increase in the number of members for the ensuing year, they contemplate purchasing two bulls next spring for the use of members.

The following office-bearers were elected for the ensuing year, viz:—*President*, John Thompson; *Vice P.*, John Copeland; *Sec'y*, Jas. W. Patton; *Treasurer*, David Patterson, Esq.; *Directors*, James Patton, John McDonald, Don. McKenzie, John Fraser, Geo. McDonald.

The following accounts were presented to the society, examined by a committee, and reported correct:—

EXPENDITURE.

To amount paid for bull at Cape George	$18.00
" Expense in purchasing do	2.53
" keeping and attendance during summer	12.00
" Cotswold ram, $45; expenses in purchasing, $12.75	57.75
" Wintering Canadian ram	1.50
" Keeping do. for the season	2.50
" House rent, $1; Jas. McKay, $1, doing business for society	2.00
" Agricultural Journals	5.00
" Contingent expenses	2.00
Amount expended	$103.28

Cr.

1865.		
By balance on hand	$23.03	
1866.		
By subscriptions of members	40.09	
" Provincial Grant	52.00	
" proceeds of sale of two P. E. Island rams	3.70	
" proceeds of sale of bull, due 3 months hence	20.00	
		138 73
Balance in hand 4th Dec. 1866		$34.45

JOHN THOMPSON, *Pres.*
JAS. W. PATTON, *Sec'y.*

DARTMOUTH AGRICULTURAL SOCIETY.

Halifax, N.S., Dec. 5, 1866.

At a meeting of the Dartmouth Agricultural Society held this evening, at the residence of Mr. A. Khun,—Present, A. Khun, *Vice-Pres.*, in the chair; T. Short, *Sec'y*; A. Tulloch, *Treas.*; C. Lamont, Jno. Morash, Thos. Morash, E. Crosse, D. Donovan, R. Settle, Senr.; J. Settle, Gordon Khun, A. Giles, R. Humphrey, R. Settle, Junr.; Jno. Gaston.

Minutes of last meeting (30th March) read and confirmed.

The following list of prizes were announced:—

Wheat, 1st prize, Mr. Gaston	£0	12	6
do. 2nd " A. Tulloch	0	7	6
Black Oats, 1st prize, Mr. Gaston	0	7	6
do. 2nd " A. Tulloch	0	5	0
White Oats, 1st prize, Mr. Gaston	0	7	6
do. 2nd " A. Tulloch	0	5	0
Parsnips, 1st prize, R. Settle	0	5	0
do. 2nd " T. Rose	0	3	9
Beets, 1st prize, A. Tulloch	0	5	0
do. 2nd " A. Khun	0	3	9
Carrots, 1st prize, H. Giles	0	5	0
do. 2nd " R. Settle	0	3	9
Cabbage, 1st prize, E. Crosse	0	5	0
(No second prize.)			
Butter, 1st prize, R. Humphrey	0	12	6
do. 2nd " G. Khun	0	7	6
Turnip Seed, 1st prize, A. Giles	0	10	0
do. 2nd " A. Khun	0	7	6
Cloth, cotton and wool, 1st prize, R. Settle	0	15	0
(No second prize.)			
Turnips, 1st prize, J. Morash	0	12	6
do. 2nd " A. Khun	0	7	6
M. Wurtzel, 1st prize, E. Crosse	0	12	6
do. 2nd " J. Donovan	0	7	6
Potatoes, 1st prize, E. Crosse	0	12	6
do. 2nd " A. Tulloch	0	7	6
Drainage, Jno. Settle, 21 rods at 7d	0	12	6
do. R. Settle, 42 "	1	4	6
do. D. Donovan, 18 "	0	10	6
do. T. Morash, 20 "	0	11	8
Cloth, plain, 1st prize, A. Khun	0	15	0
do. 2nd " R. Settle	0	12	6
Barley, 1st prize, A. Khun	0	12	6
do. 2nd " Mr. Gaston	0	7	6
	£14	5	2

TREASURER'S REPORT.

Balance on hand Dec. 5, 1866	£1	19	8
Rec'd by subscription	9	5	0
Provincial Grant	10	10	0
	£21	14	8
Paid prizes	£14	15	2
Balance on hand	6	19	6
	£21	14	8

This report examined, found correct and unanimously approved of.

The following officers were elected by acclamation:—*Pres.*, M. Tobin; *Vice-Pres.*, A. Khun; *Sec'y*, T. Short; *Treas.*, A. Tulloch; *Directors*, A. Tobin, John Bissett, Peter Farquharson, P. McNab, John Morash.

Meeting then adjourned, to meet at A. Khun's, on the 19th April, 1867.

T. SHORT, *Sec'y.*

SHUBENACADIE AGRICULTURAL SOCIETY.

The Auditing Committee's report, viz:

1st. We find the Treasurer had in his hands at commencement of year	£48	17	7½
To amount paid by Secretary for subs.	12	0	0
	£60	17	7½
2nd. We find the Treasurer has paid to the managing Com. £59 11 4			
By amount not collectable of old account	1 3 3½		
	60	17	7½
Further, having examined the managing committee's accounts, we find that they have purchased 1 boar at cost of	£4	2	6
3 Canadian sheep and 2 Canadian bull calves, which cost in all	75	0	0
Costs attending purchase, bringing home and feed of them, with the other stock on hand up to date	19	0	0
	£98	2	6
2nd. We find they have received from Treasurer	£59	14	4
To sale of pig	2	16	0
" amount per boar service	0	17	0
" interest on money	1	7	6
	64	15	4
Due the Committee	£33	7	2
Further, we find the society owns two rams and one ewe that came from England, purchased last fall, cost	£46	0	0
Two rams and one ewe that came from Canada, which cost	32	10	0
One Durham bull calf and one Devon bull calf, which came from Canada, cost	42	10	0
	£121	1	1
Amount due committee	33	7	2
Society is worth	£87	12	[illegible]

All which is respectfully submitted.

COLONEL LAURIE,
WM. BLAKE,
PETER ETTER.

We are making every effort our limited means will admit of to improve our stock of every kind, and at the same time we are paying as much attention to all the improvements in farming that our means, &c., will admit of. As respects the crops of the past season, Hay was rather more than an average one, but somewhat injured in getting up on account of the wet weather, and a considerable quantity altogether lost that grew on low lands that were subject to overflow. Very little Wheat sown, but what was sown early did well. Oats and Barley an average crop. Potatoes a poor crop but good quality.

DAVID MOORE, *Sec'y.*

December 4th, 1866.

STIRLING AGRICULTURAL SOC'Y.

The report of the Stirling Agricultural Society may be summed up as follows: Our Society met on the day required by law; but some of the officers being absent, they agreed to adjourn until the 18th Dec., when the officers and directors gave in their report of the proceedings of the Society during the year. The same having been approved of by the the meeting, they proceeded to the election of office-bearers for the ensuing year:—

President, William Geddes; *Vice President*, David Wilson; *Treasurer*, William Byers; *Secretary*, Wm. Creighton; *Directors*, Alex. Munro, Andrew Warwick, John Johnston, Alex. Swan, David Chalmers.

The Society, last May, imported from P. E. Island, a bull, of the Durham breed, a good animal, which has given general satisfaction. One of the rams belonging to the Society having been injured, they purchased two rams this summer, to supply the wants of the eight sections into which the Society is divided.

The ram purchased in P. E. Island has made considerable improvement, but has not given general satisfaction.

The ram purchased by this Society at Richmond has been located in a suitable place, the members having the privilege of sending two ewes each. He is considered a superior animal, and the members have made it a point to improve their privileges.

The Society, at their semi-annual meeting, agreed to have no exhibition this year, having come to the conclusion that it would be more advantageous to the Society to lay out their funds in the purchase of improved stock than it would be to expend them on prizes.

Our members are becoming alive to the necessity of improving their stock, and are taking more interest in the prosperity of our Society than usual.

The whole amount of receipts for the year has been—

Amount from last year,	$48.62	
Provincial grant,	56.90	
Members' subscriptions,	51.00	
Ram sold,	3.50	
Service of bull,	0.50	
Due from members,	1.50	$161.11

EXPENDITURE.

Agricultural Journal,	$4.50	
Bull and freight of do.,	59.85	
Keep of bull,	29.55	
Two rams,	9.00	
Boar, and carriage of do.,	20.00	
Deduction of clover seed,	19.60	
Expenses of ram, (Richmond),	10.20	
Secretary's salary, postage, &c.,	7.17	
Loss on articles (not sold),	3.89	$154.62
Balance,		$6.50

WM. P. GEDDES, *President*
WM. CREIGHTON, *Secretary.*

New Annan, Dec. 23, 1866.

BOULARDERIE AGRICULTURAL SOCIETY.

CROPS—REPLY TO MR. CAMPBELL'S COMMENTS ON THE POTATOES AND PIGS OF CAPE BRETON.

Little Bras d'Or, 15th Dec., 1866.

SIR,—I have to inform you that the Boularderie Agricultural Society held their annual meeting on the first Tuesday in Dec., when the directors read the enclosed report, and the former officers and directors were re-installed in office with the exception of the Vice President; the names are as follows:—*Pres.*, Hugh McKinnon; *Vice Pres.*, Angus McKinnon; *Sec.*, Murdoch McDonald; *Treas.*, Donald McLean; *Directors*, Henry McKinnon, Thomas Campbell, John Ross, Jas. Dunlap, John Fleming.

In reference to our crops I may briefly observe that in consequence of cold and wet weather in the earlier part of the season, our hay and grain are no more than average crop.

But as for our potatoes, we never had a larger crop nor of better quality; and any person in search of a good potato, unless he will get it in Cape Breton this season, he will run a good chance of finishing his career in this world without the pleasure of seeing one; even when the blight and rot were most prominent there were several localities in Cape Breton that were not much affected with it. During those years, potatoes could be had at St. Ann's, North Shore, Asby Bay, and particularly Bay St. Lawrence, as good as ever graced the dinner table, notwithstanding Mr. D. Campbell's assertion to the contrary.

I think our pigs will compete favorably with the same breed any where else. I have known several which weighed 400 pounds at eighteen months old, and by proper care and maintenance the number would not be "few and far between." There was one killed recently in one of our rural settlements which brought the owner thirteen pounds eighteen shillings and nine pence, and only twenty-six months old.

M. McDONALD, *Sec.**

*We are quite sure Mr. Campbell did not mean to depreciate anything he saw in Cape Breton, which he has elsewhere described as a noble Island, much less to give offence to the people whose hospitalities he enjoyed. Had he visited any other part of the Province, his views, would, no doubt, have been expressed in a similar free and easy way. He may have seen Cape Breton through a Scotch mist, just as many Nova Scotians see Canada through a Bay of Fundy fog; but better acquaintance will bring a better understanding. Taking all this into account, we have omitted from Mr. McDonald's letter a few comments that are not suited to our columns. We give merely his statements of fact.—ED.

DIRECTORS' REPORT.

We have to report that we have imported six ram lambs and three ewe lambs, of the Cotswold breed, from H. E. Dec'e, Esq., Annapolis; and likewise an Ayrshire bull, bought at the government sale. Both lambs and bull were sold by auction to the members of the Society.

FINANCIAL ACCOUNT.

On Treasurer's hands since 1865, ...	$184.31
Subscriptions of 1866,.....	57.00
Lambs sold for.....	24.50
Bull,.....	170.00
	$365.81

EXPENDED.

9 lambs, at 15.00.....	$135.00
Expenses to N. Sydney,.....	55.44
Bull,.....	135.00
Expenses,.....	9.42
Seeds imported for Society,..... ..	16.35
Secretary, for salary, stationery & postage,	6.80
	$357.97
On Treasurer's hands, ...	7.84

HUGH McKINNON, *President.*

NORTH-EAST MARGAREE AGRICULTURAL SOCIETY.

County Invernes, Dec. 4, 1866.

The Secretary stated, that this day is appointed by law for the election of office-bearers for the Society, when the following members were made choice of:—

President, Thos. Ethridge; *Vice P.*, Donald McDonald, Esq.; *Sec'y*, Jno. Munro; *Treas.*, Joseph Ingraham; *Directors*, Ebenezer Leadbetter, Malcolm McLeod, Esq., James Ross, James Philips, Donald Ethridge.

In presenting this report for the past year, the officers and directors of the North-East Margaree Agricultural Society have to regret the little that has been done, in comparison to what might have been done, had larger means been placed at their disposal; but in this part of the County of Inverness, where almost every resident is engaged in agricultural pursuits, and where it might reasonably be supposed that some interest would be shown in its improvement, there has been found some difficulty in obtaining the requisite number of subscribers to entitle the society to their portion of the Provincial Grant for the present year. Let us hope that in future each individual member will use his utmost exertions among his friends and neighbors, that we may yet have to boast of being, if not the best, at least one of the best Agricultural Societies in the Province; and that the farms of its members may be examples of skilful farming, and their improved stock excite to emulation those who have hitherto thought but little of the advantages of Agricultural Societies. No better investment can possibly be made of the people's money, than that part which is appropriated to branch societies for the encouragement of agriculture; nor can a dollar a year be more profitably spent than in investing it to the same purpose.

A desire was expressed by the members of the society, that the funds in hand should be expended in the purchase of stock, doing away, by public sale, with such as were purchased or imported two years ago from Prince Edward Island. An opportunity had been afforded in the month of November last to procure the services of a member of the society going to Halifax, who was requested to attend the public sale at Richmond on the 2nd November, of the valuable stock imported from Canada. He fulfilled his mission by purchasing for the society a Durham bull, being lot No. 2, "Yeoman"; a Cotswold ram, and two Leicester rams. These animals safely arrived in Margaree, and although expensive, with costs and charges, being of the *pure breed*, the members of the society anticipate favorable results. Such a stock has never appeared in the county before.

The society take the liberty of referring the Honorable Board at Halifax to the prices of the stock, in the general account herewith sent.

STATE OF THE CROPS, 1866.

Wheat—A good crop in most localities, but very sparingly sown, our farmers having generally discontinued its cultivation within the last few years, by reason of repeated failures from the weevil and other causes.

Oats—From the season having been unusually wet, oats ran much into straw, and did not fill well; still an average crop.

Barley—A full average crop.

Hay—A good crop, above the ordinary average; but from the wet season was in many instances heated in a dangerous state.

ROOT CROPS.—*Potatoes*—A very ordinary crop. They suffered from an overwet season, and the blight took them earlier than usual.

Turnips—A fair crop, but not raised to any extent by our farmers, many of whom raise none at all,—a sad neglect, and for which it is hard to allege a reason. In no part of the world is such a crop more required, with our long cold winters while the cattle are kept on dry food for upwards of six months in the year. The truth is, our farmers are not as yet fully aware of the great benefit the cultivation of that valuable root would be to them. Their cows would reward them with more milk, which is of itself of no small value in the winter season, and their manure heap would be doubled in bulk and value by a feed of turnips being given to their cattle every day.

Beets, Carrots and *Mangel Wurtzel* are not raised to any extent by any of our farmers, except in small patches in our gardens.

Cabbages are sparingly paid attention to.

ACCOUNT CURRENT

Cr.

By balance in Treasurer's hands per acct. rendered, 1865.....			$156.58
Leicester Ram, to John G. Croudis,.....			3.20
"	"	Donald Ross	4.00
"	"	J. T. Philips	3.30
"	"	John McLeod	4.10
"	"	Ken. McKay	3.00
"	"	William Coady	2.20
"	"	J. T. Philips	1.70
"	"	Moses McDaniel	3.70
"	"	John McLeod.....	3.10
Bull, sold to Daniel Philips			28.30
"	"	M. McLeod, £8 2s. less 6s.6d.	31.20
By cash from J. G. Croudis, bal. on pig.			3.50
" amount of subscriptions for year 1866,			45.00
" sum received from Dr. Lawson to account of this year's bounty.....			60.00
			$352.88

Dr.

To paid Reuben Philips, for charge of bull for one year	$20.00
" M. McLeod, charge of another,	19.60
" Secretary, salary for one year..	8.00
" Postage for one year	0.75
To Bull, lot No. 2 "Yeoman," purchased at the Richmond sale, from Canada,	110.00
" Cotswold Ram, do. do.	36.00
" Leicester Ram, do. do.	51.00
" " " do. do.	48,90
" Paid Thomas Croudis, defraying his expenses, trucking cattle from depot, stabling, freight from Halifax, &c. per his account	35.29
Balance in Treasurer's hands	24.24
	$352.88

THOMAS ETHRIDGE, *Pres.*
JOHN MUNRO, *Secretary.*

AMHERST AGRICULTURAL SOCIETY.

December 4th, 1866.

Your Board of Officers beg leave to report as follows, viz.:

That in accordance with a resolution passed at the last annual meeting, desiring an Agricultural Show to be held during the next autumn, your Board made out and published, on the 30th July last, a Prize List, offering to the members of the Society, for competition, the sum of $110.00 in premiums.

The Exhibition was held on the 23rd of October last, and notwithstanding the very unfavorable state of the weather, there was a large display of stock, manufactured articles, and horticultural products. The improvement upon the last year's show was very apparent. There was an entry of 340 articles against 266 of the previous year, and the increased entry was fully equalled by the advanced quality of the articles and things exhibited.

But notwithstanding the decided success of the Show, your Board do not consider the full end of the Amherst Agricultural Society is attained in distributing the year's revenue in premiums. They recognize the great object and aim of the Society to be the improvement of our present stocks and breeds, by the introduction of the most profitable imported animals that can be secured. In accordance with this view, your Board, hearing of an importation and sale of stock to be made by the Central Board of Agriculture, on the 30th of May last, authorized the Hon. Mr. McFarlane to act as their agent in purchasing a good Durham bull, or, if that could not be had, an Ayrshire bull, limiting the purchase money to $140, and $120 for the bull, respectively. Owing to the want of means of transit, that importation was never made.

At the recent sale of imported stock at Richmond, the Vice President and Treasurer expected to be present, and were authorized to make purchases for the Society; but they failing to go, Hon. Mr. McFarlane was again requested to purchase a Durham and Aryshire bull for the Society. Owing to the sharp competition, neither of these bulls was bought. Had they been secured, they would have been sold to members, under the restrictions of the Central Board.

In their attempts to bring in improved stock, your Board deeply regret to say they have been unsuccessful.

The Returns were duly certified, and sent to the Secretary of Central Board, as required by law.

The Board is happy to be able to report a larger membership to the Society this year than in any previous year, there being 62 members.

The receipts of the Society are as follow:—

Bal. cash on hand 5th Dec. last,	$36.31
Cash from Receiver General,	60.00
Subscriptions to Society,	63.00
	$159.31

The following sums have been paid for premiums, viz.:—

HORSES.

Brood Mare, with best Colt,	Joseph Coates,	$3.00
" " 2nd "	Wm. Embree,	2.00
" " 3rd "	Sidney Coates,	1.00
Best Carriage Horse,	F. W. Bent,	2.90
2nd " "	C. J. Stewart,	7.00
Best Draft Horse,	Cyrus Black,	2.00
2nd " "	F. R. Black,	1.00
Best Two-year old Colt,	Michael O'Brien,	1.50
Best One-year old "	Josiah Black,	1.50
		$15.00

HORNED CATTLE AND SHEEP.

Best pair Oxen,	Joseph Coates,	3.00
2nd "	do. do.,	2.00
3rd "	Not drawn.	
Best pair 3-year old Steers,	Wm. Embree,	2.00
2nd " " "	Jos. Coates,	2.50
3rd " " "	Toney Bent,	1.00
Best pair 2-year old Steers,	T. Keiller,	2.00
3nd " " "	Nich. Keiver,	1.50
3rd " " "	Jos. Cootes,	1.00
Best pair 1-year old Steers,	Toney Bent,	1.50
2nd " " "	Cyrus Black,	1.00
3rd " " "	Not drawn.	
Best pair Steer Calves,	Thampson Keiller,	1.25
2nd " "	Nicholas Keiver,	1.00
Best Heifer Calf,	Josiah Black,	75
2nd " "	Daniel Freeman,	50
Best Cow,	Toney Bent,	2.00
2nd "	J. W. Smith,	1.50
3rd "	T. B. Church,	1.00
Best Two-year old Heifer,	C. J. Stewart,	1.50
2nd " " "	Geo. E. Church,	1.00
Best One-year old "	Daniel Gourlay,	1.25
2nd " "	Geo. E. Church,	75
Best Bull,	J. W. Smith,	3.06
2nd "	George Black,	2.00
3rd "	Thompson Keiller,	1.00
Best Bull Calf,	Thomas Bacon,	2.00
2nd " "	John Davis,	1.50
Best Ram,	Edward Bent,	1.50
2nd "	Joseph Coates,	1.00
Best Ram Lamb,	Joseph Coates,	1.25
2nd " "	Samuel Freeman,	1.09
Best Ewe Lamb,	W. A. Black,	1.25
2nd " "	George Trenholm,	2.00
Best two Ewes,	James Smith.	2.06
2nd " "	Moses Lowe,	1.00
Best firkin Butter,	Toney Bent,	3.00
2nd " "	George Trenholm,	2.00
Best tub "	Toney Bent,	1.25
2nd " "	George Trenholm,	1.00
Best Cheese,	Toney Bent,	1.00
2nd "	Daniel Freeman,	75
3rd "	James E. Page,	75

CEREALS.

Best bushel Wheat,	T. R. Black,	1.00
2nd " "	George Black,	50
Best " Oats,	James M. Layton,	75
2nd " "	T. R. Black,	50
Best " Barley,	T. R. Black,	75
2nd " "	T. R. Black,	50
Best " Buckwheat,	S. L. Lusby,	75
2nd " "	T. R. Black,	50
Best ½ bus. Timothy Seed,	Jas. M. Layton,	2.00
2nd " "	Sam. Harrison,	1.00

VEGETABLES AND FRUIT.

Best Table Potatoes,	James Harrison,	75
2nd " "	Sam'l. Harrison,	50
Best dozen Turnips,	J. Hiram Black,	50
2nd " "	J. Hiram Black,	40
Best " Beets,	J. Hiram Black,	50
2nd " "	Daniel Freeman,	40
Best " Field Carrots,	Thos. R. Black,	50
Best " Garden "	J. Hiram Black,	40
Best " Parsnips,	James E. Page,	50
2nd " "	J. Hiram Black,	40
Best " Onions,	James Harrison,	50
3nd " "	James Harrison,	40
Best Pumpkin,	J. H. Black,	50
2nd "	J. H. Black,	40
Best half dozen Cabbage,	C. E. Ratchford,	30
2nd " "	J. H. Black,	25
Best " Ears Corn,	J. H. Black,	50
2nd " "	Thos. R. Black,	25
Best peck Beans,	Thos. R. Black,	50
2nd " "	Samuel Harrison,	25
Best " Peas,	James Harrison,	50
2nd " "	Samuel Harrison,	25
Best half bush Apples,	Samuel Harrison,	1.09
2nd " "	Samuel Harrison,	50

MANUFACTURES.

Best 2¼ yds. Wool Cloth,	Joseph Chapman,	2.00
2nd " "	Jas. M. Layton,	2.50
Best 2½ yds. Wool Flannel,	Jos. Chapman,	9.00
2nd " "	Jos. Chapman,	75
Best pr. Knit Wool Socks,	Jos. Chapman,	75
2nd " "	Jos. Chapman,	50
Best pair Double Mittens,	Jos. Chapman,	50
2nd " " "	Thomas Bacon,	25
Best 5 yards Yarn Carpet,	Joseph Coates,	1.50
2nd " " "	Nicholas Keiver,	1.00
Best 5 yards Rag Carpet,	Jos. Chapman,	1.50
5nd " " "	Geo. Trenholm,	1.00
Best Rag Hearth Rug,	Joseph Chapman,	1.00
2nd " " "	George Bacon,	50
		$105.95
Expenses,		14-85
		$120.80
Receipts of Society for last year,	$159.31	
Annual Grant for 1866,	53.00	
		212.31
Remaining in hands of Treasurer,		$91.51

R. B. DICKEY, *President.*
J. HIRAM BLACK, *Secretary.*
Amherst, Dec. 28, 1866.

FRUIT GROWERS' ASSOCIATION.

NOVA SCOTIAN POMOLOGY.—At the annual meeting of the Fruit Growers' Association, a communication was read from Dr. Forrester of Truro, relative to publishing a work on the fruit growing capabilities of Nova Scotia.

CHALLENGE SILVER MEDAL.—This Medal is to become the property of the person taking it three times, *not necessarily* consecutive. Dr. Hamilton, DeLancy Harris and

Richard Starr having each taken it once, are to have the benefit of these successes in the final competition.

OFFICE BEARERS.—*President*—C. C. HAMILTON, M.D. and M.P.P.

Vice Presidents:—For Kings Co.—Richard Starr, Esq.; *Annapolis Co.*—Thomas W. Chesley, Esq.; *Hants Co.*—J. Brown, Esq., Falmouth; *Halifax Co.*—G. A. S. Creichton, Esq.; *Colchester Co.*—Rev. A Forrester; *Sec. and Treas.*—J. R. Hea, D.C.L.; *Auditor*, George V. Rand, Esq.

Council for Halifax Co.—Professor Lawson, Herbert Harris, A. J Ritchie, Esq.; *Hants Co*—A. J. Rickards, Esq.; *Annapolis Co.*—James E. Fellows. Oliver Foster, DeLancy Harris; *Kings Co.*—D. R. Eaton, J. G. Byrne, Robert W. Starr, Leander Rand, Isaac Shaw, Andrew H. Johnston.

AN APPLE FREAK.—"On a tree bearing Pound Sweet Apples growing in the garden of C. C. Hamilton, M.D., in Cornwallis, three apples formed and grew on a small twig the size of a goose quill and eight inches long. Two of these apples had all the characteristics of the Pound Sweet, in colour, size, shape, and other peculiarities; while the middle one was smaller, perfectly russeted, and different in shape, more ribbed at the blossom end, and having a shorter stem. The twig with its three apples was exhibited at Somerset, and recently the fruit was tested by the Council of the Fruit Growers' Association, when it was found that the apples differed also in their qualities. The two apples appearing to be Pound Sweets had all their true characteristics, whereas the middle one which was russeted was smaller, less fine in flesh, with a finer oily grain, inclined to wilt, and with a yellow cast of flesh. When tasted, the flavor seemed somewhat different, being by some considered slightly acid.

Nothing was done to bring about this singular phenomenon; and the fact of the three apples growing upon the same twig, and differing as they did, was not known to the proprietor until about the first of October.

It is for fruit growers to speculate upon this subject, and assign if they can. the true cause of this singular "apple freak;" there is not a tree bearing russeted apple within ten rods of where these apples grew."

ANNUAL EXHIBITION.—The Annual Exhibition will be held at Somerset in October, as already announced in the *Journal of Agriculture*.

NOVA SCOTIAN DOG, PIGEON AND POULTRY CLUB.

PATRON.

Sir W. F. WILLIAMS, of Kars, Bart, &c.

COMMITTEE.

Capt. L'Estrange, R. A., *President*.

J. Matthew Jones, Esq., *V. President*.

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J. Hunter Duvar, *Hon. Secretary*.

Martin G. Black, *Treasurer*.

HONORARY MEMBER.

R. W. Boyle, Esq., Dublin.

RULES.

1.—That this Society be called the "NOVA SCOTIAN DOG, PIGEON AND POULTRY CLUB," its objects being the improvement and exhibition of the breeds of dogs, poultry, and other domestic animals.

2.—That an annual subscription of One Dollar, payable on admission, constitute membership.

3.—Ladies are invited to join as members.

4.—That at least one annual Exhibition be held, in the month of June, at which shall be given such prizes as the Committee shall be in a position to offer.

5.—A general meeting of members shall be held twice a year, for the transaction of business.

6.—That this Club be guided by the Rules and Regulations of the "British National Poultry Club."

7.—The Shows of the Club will be open to competitors from all parts of the Province.

8.—That the government of the Society be vested in a Committee, to be elected annually at a general meeting of the members.

It is intended to offer prizes, (subject to future arrangement as to conditions and amount,) at the Exhibition in June, for the best Dogs of the following breeds:

Land Spaniels,
Water Spaniels,
Newfoundland, (rough and smooth haired,)
Pointers,
Setters,
Sheep and Cattle Dogs,
Terriers, English and Scotch,
Hounds,
House Dogs,
Lapdogs, in their varieties,

POULTRY.—For the best coop, containing one male and one female, in the classes of

Game, Dorking,
Spanish, Cochin,
Brahmas, Hamburgs,
Polands,
Bantams, and other varieties,
Geese,
Ducks, of varieties,
Turkeys,
Ornamental Poultry generally.
PIGEONS.
CAGE BIRDS.

Also for such birds or other domestic animals as may be distinguished by their rarity, beauty, or usefulness.

Mr. Boyle, a gentleman of high celebrity as a fancier and successful exhibitor. has kindly offered to act as purchaser in Britain, and the Committee have placed a sum of money at his disposal for the importation of birds and eggs.

A few eggs of choice broods may be now had at the rate of one dollar a dozen, on application to the Secretary—the proceeds to be given in prizes.

For any further information connected with the Club, apply to the Secretary or any member of the Committee, if by letter, post paid.

Miscellaneous.

PEAT IN MICHIGAN.

The Detroit *Free Press* has an interesting article upon this subject. The peat is found in dry bogs, of which there are several hundred in the State. The supply is believed to be practically inexhaustible. It is also of a very fine quality. Professor Douglass, of the State University, after a careful analysis, places proportion of ash and sooty matter at only three and two-tenths per cent. It is generally known that peat is the vegetable soil of swamps, made up of matted roots, leaves and stems of plants. To obtain it, the surface, containing the living plants and roots, is taken off; the peat is cut by a peculiarly shaped spade into oblong blocks, which are thoroughly dried in the sun; it is then powerfully compressed by hydraulic machines, until its size and weight are reduced nearly two-thirds; next it is ground to powder, and dried in cylinders which revolve in a heated chamber; finally, at a temperature of one hundred and eighty degrees, it is caked by a powerful pressure, and is ready for market. Some of the Michigan farmers use it in preference to wood; its superior cheapness commends it to many others. The *Press* says that it has found a ready sale in Boston and elsewhere. Several peat companies have been formed and machines invented during the last six months. Peat also gives forty per cent. of illuminating gas, at the rate of about fourteen thousand feet per ton. The best coal does not equal this. The *Press* thinks it will become very popular for parlour use, as it can be burned in an open grate, and would be far more cheerful than the dull air-tight stove.

A VEGETARIAN FESTIVAL.

A rather remarkable festival was held at Blennerhasset, Cumberland, on Christmas day, upon the farm of Mr. William Lawson, son of Sir Wilfred Lawson, of Brayton. The farm is conducted on the co-operative principle, a tithe of the profits being divided among the workers, and Mr. William Lawson and his servants are vegetarians. All the people of the district who chose to write beforehand for free tickets or to pay 4d. on Christmas day were invited. Musicians were re-

quested to take their instruments with them, and it was added, "those who like may bring their own spoons." About one thousand people attended. The farm buildings were decorated, and in the large rooms singing and dancing and lecturing on phrenology, co-operation, vegetarianism, and physiology, went forward at intervals during the day.

At noon a meal of grain, fruit and vegetables was given, which rather surprised some of the beef-eating peasantry who had assembled to take part in the festival. There were raw turnips, boiled cabbages, boiled wheat, boiled barley, shelled peas, (half a ton of each of these three last named); oatmeal gruel, with chopped carrots, turnips and cabbage in it; boiled horse beans, boiled potatoes; salads, made of chopped carrots, turnips, cabbages, parsley, &c., over which was poured linseed boiled to a jelly. As there were no condiments of any kind, either upon the extraordinary messes or the table, and all being cold except the potatoes, it may be imagined that the guests did not sit down with much relish to their vegetarian fare. Each one had an apple and a biscuit presented on rising from the table.

In the course of the afternoon Mr. Lawson's two steam engines, called by him "Cain" and "Abel," set off with steam up and whistles screaming to lead a procession over the farm, but they did not get very far, and the procession was rather a straggling one. Good order was maintained all day, the farm servants of the establishment acting as officers, and Mr. W. Lawson himself performing the duty of special constable—a fact which was announced by placards posted up on the farm buildings, bearing the words—"William Lawson, sworn constable."—*Agricultural Gazette.*

PUBLICATIONS RECEIVED.

The American Agriculturist. O. Judd and Co., 41 Park Row, New York.—March. An excellent number with splendid illustrations.

Canada Farmer. G. Brown, Toronto. March. There is a good article on breeding of salmon in addition to the usual agricultural matter.

The Abstainer, P. Monaghan, Halifax.

Colonial Farmer, Lugrin, Fredericton.

Gardener's Monthly. Meehan, Philadelphia. February.

Journal of Education of Nova Scotia. February.

Trade Seed List. Haage & Schmidt, Erfurt, Prussia.

Report of Superintendent of Education of Lower Canada for 1865.

Edinburgh Botanical Society's Proceedings, February, 1867, in the *Scottish Farmer.*

The American Naturalist.—We have received a prospectus of this publication, which is to be devoted to the exposition of scientific topics in a free and familiar manner, without those technicalities which often render the mass of such reading tedious and difficult. It will contain papers on topics of a general and special nature relating to Natural History, illustrated with appropriate wood engravings, and occasional lithographic plates. These papers will be mainly original, but compilations and translations of papers from other sources will be introduced when deemed of sufficient interest.

Accounts of excursions and expeditions made for scientific purposes, with descriptions of the various objects of interest discovered.

Explanations of the principles of the structure, development and classification of animals and plants, both living and fossil, and notices of recent discoveries in Geology and Archæology.

Accounts of the Scientific museums in various parts of the world.

Directions for collecting, preparing and arranging collections, including descriptions of the latest methods of mounting and preparing specimens; reviews, &c.

TERMS:—Subscription for one copy per year, $3.00.

ALPHEUS S. AACKARD, Jr.,
Essex Institute, Salem, Mass.

AGRICULTURAL AND GARDEN SEEDS.—Mr. J. Outram, Jr., of the Emigration Office, Bedford Row, has made an importation of Farm and Garden Seeds. He has sent us his list, which shows a judicious selection.

Mr. Saunders, of Argyle Street, opposite Messrs. Northup's store, has likewise imported largely, and from his experience in Jersey, is well qualified for the business.

SNOW ON LOCHNAGAR.—Last summer the Scotch mountains seem to have retained their snow wreaths longer than usual. Prof. Balfour and his party, visited Lochnagar in August, and found patches of snow several hundred feet in extent and ten feet in thickness.

LONG LOOKED-FOR COME AT LAST.—The Edinburgh Chamber of Agriculture has organized a subscription to present a testimonial to the Rev. Patrick Bell, Carmylie, Perthshire, the inventor (in 1826) of the Reaping Machine.

CARE OF MANURE.—A discussion at the London Club last month brings out the important fact that exposed dung heaps lose value not by evaporation, but only by the washing of rains.

AGRICULTURAL SURVEY.—It is proposed to enter upon a national agricultural survey.

BOTANIC GARDEN AT INVERNESS.—A Botanic Garden of hardy plants has been established at Inverness.

TO CORRESPONDENTS.

Literary Communications are to be addressed to Dr. Lawson, Secretary of the Board of Agriculture, Dalhousie College, Halifax. All lists of subscribers and remittances of subscriptions are to be sent to Messrs. A. & W. McKinlay, Publishers, Granville Street, Halifax.

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