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SPECIAL NOTICE TO AGRICULTURAL SOCIETIES.

The year has well nigh reached its close, yet our list of Returns from Agricultural Societies is not by any means complete. Some of the Societies had so much extra work in connection with the Provincial Exhibition, that their ordinary business, collecting subscriptions, paying bills and preparing Reports, fell into abeyance for a month or two, other Societies again, in remote parts, have, in consequence of dull times, found some difficulty in completing their lists at the usual time. We trust that there will be no longer delay; every Society that has not already done so should immediately send in its attested Return, showing the number of members and amount actually paid by them into the funds during the year. Societies neglecting to do this will necessarily be excluded from participation in the Grant, as the money appropriated to the various Counties will be paid to their respective Societies in January.

It is likewise the duty of the officers of every Society to name a candidate to represent their District at the Board of Agriculture.

A NOVA SCOTIAN ABROAD.

We are sure that many of our readers will share in the gratification which we experienced while reading the communication in this number over the *nom de plume* of HALIFAXIAN, not only on account of the interesting and useful information which it gives respecting the present condition of Horticulture in Scotland, but likewise because of the earnest spirit of progress which it exhibits, and the desire expressed that Nova Scotia should, in some measure, follow the example of Old Scotland.

Our correspondent, with the modesty which so well becomes a young man, hides himself in the tropical forest which he so aptly describes, but it will do no harm if we inform our readers,

in a sort of half confidential way, that they are indebted for the communication to Mr. JAMES HUTTON, Jr., son of the worthy Superintendent of the Halifax Horticultural Gardens. As a boy he had excellent educational training at Truro under the Rev. Dr. Forrester, afterwards he acquired a knowledge of the practical part of his occupation in the Horticultural Gardens, and now he is spending a year or two in Scotland, perfecting, under the instruction of some of the best gardeners of Scotland, the training which was so well begun. Were his example more commonly followed by young men in other walks of life, as well as the one he has chosen, their efforts would do as much for the industrial progress of the Province as anything else we know of. There are fertile fields for intelligent labour in this Province, on the farm, in the mine, the workshop, and on the sea, and it is at once the duty and the interest of our young men to qualify themselves, in the highest possible degree, for their successful culture.

CHRISTMAS CHEER.

The citizens of Halifax do not entirely eschew good living at this season of the year. Such, at least, is likely to be the belief of the Goose and Turkey population of the Province, if any living witnesses have been left behind. It is not an uncommon custom in the cities of Great Britain for a number of gentlemen and dealers to form what is called a Christmas Club, the object of which is to organize a small Christmas Exhibition of Fat Cattle, Poultry, &c. The prizes are few but sufficiently large to bring forward what is wanted. The poultry may be exhibited alive or dressed ready for cooking. The result is that the very best animals are brought prominently before the public, the farmers are stimulated to improve their Christmas produce, and bring it into the city in a nice tidy condition, scare-crows entirely disappear from the market. Reader, if you are a *bon vivant*, talk over this matter at your New Year's dinner table, with a view to discover whether the practice might not be imported advantageously, like mistletoe and holly, into the city of Halifax.

THE PLOUGH IN THEORY AND PRACTICE.

Some have condemned the plow utterly, as an old and effete implement, as performing work the very opposite in character of that which is required, and have discarded it as much as possible from their practice. On the other hand, there are those who praise the plow as the perfection of an implement; that the work it does is not only precisely the kind of work which is wanted, but that it does that work in the best possible way. They look upon it, in fact, as the king of implements, and, as king, it will therefore never die. Much may be said on both sides, and we shrewdly suspect that in this, as in other much disputed questions, the truth lies in the happy line equidistant between the two extremes. Questionless, if we examine a plough in work, and know the work which it is designed to do, it is not possible to do ought else than admire, and admire greatly, the beautiful precision of its operation. In view, indeed, of this—and it is observable in an eminent degree of the fine implements of modern makers—we scarcely can wonder at the enthusiasm with which the plough is considered by many, and at their belief that it will never be supersed-

ed. But, on the other hand, we do find in practice the plough has defects also, which are inherent in it, and which, therefore, can never be remedied by any attempts at alteration in the plough itself. We know, moreover, that—despite the opinion that many have so persistently proclaimed, that there is no implement save the plow by which the soil can be prepared for the crops which it is to bear—that the soil is, nevertheless, in practice so prepared by implements other than the plough, and that examples of splendidly cultivated fields exist, which for years have not been touched by the plough.

The consequence is, that a vast amount of interest centres around the plough, making everything which ministers to a knowledge of its past history, present position, and future prospects, sought after with avidity and treasured up with care. Hence, we believe we shall be doing our readers a service—as we frankly confess we shall be doing ourselves a pleasure in performing it—if we take up the plough, as the subject of a series of papers to be regularly continued, considering it under the aspects named above. In so considering, it will be necessary to go back to some of the exhibitions of the past; and this retrospect, from what we know of it, will result, we venture to think, in much that is at once interesting and instructive. We propose to concern ourselves almost solely with the history of practical details and improvements on the plough, so that our readers can trace, if they please to do so, the steps—or some of them at least, and these the most important—by which the plough has reached the position which it now occupies.

It was from the Low Countries, or the Netherlands, that we obtained the plough possessed of all its modern features—namely, the sock or share, the coulter, and the mould-board. The plough was introduced from Flanders was for a long time known as the Rotherham or Dutch plough, and made its first habitat in Lincolnshire, to which it was introduced by the Dutch engineers, who at that period were largely employed in the drainage of these districts.

Possessing, then, all the features of the modern plough, all succeeding improvements made on it consisted merely in giving these features the highest development as regards position and form. This development went on very slowly till a Scotch mechanic, of the name of James Small, took the matter in hand, whose patient investigation made the plough the implement which we now see it, a thoroughly efficient one—the work of which could be depended upon as being likely to be done with precision. The use of cast-iron was greatly extended about the period at which Small com-

menced his investigation into the plough; and the use of this material enabled him to reproduce the most essential part of the plough—namely, the mould-board—so cheaply that it was not worth the while of any mechanic to copy it in wood, the material, as may be gathered from the name, in which up to this date the mould-board was made; hence the chances of change in the form decided by Small were lessened, and indeed so much obviated, that the form once introduced remained as the model for succeeding ploughs.

In tracing the practical development of the plough it will be well, at the outset, to describe very briefly the work which it has to perform. In doing this, we shall, of necessity, have to go over ground with which many, if not nearly all our readers are familiar; but those must overlook this, in consideration of the fact that what may be well known to them may be and is by no means well known, if known at all, to others; while even to those who are of the knowing class something may be said, if not directly yet of suggestive practical value, in thus running over the salient features of the work which a modern plough has to perform.

The first work which the plough does is to cut off, from the earth or soil a slice of a determinate form, generally rectangular, and the second is the turning over of this slice, in such a way that its position is inverted. The side which formed at the beginning of the process the upper surface or side, being the lowest or covered up side at the end of it. Strictly speaking these two operations, the cutting off the slice of soil and turning it over, are—at least after the plough has begun its work—done simultaneously.

In plowing there is a slice about 10 inches wide by 7 deep to be cut from the soil; the uncut earth, is called the land side. The part of the plough which is known as the "coulter" effects the severance of the slice at the land side, making a cut more or less vertical, while the "sock" or "share" effects the severance of the slice from the ground in a horizontal direction. This horizontal cut is not completely made, but a part of the slice is left uncut, so as to give a point of leverage, so to speak, to the "mould-board," the office of which is to turn over or invert the slice, as the plough moves along, the face or outer portion of the mould-board being made or formed with a varying curve (of which more hereafter), which curve gives the desired movement to the slice as it slides along and over the surface, till it is finally deposited, on its leaving the mould-board, at a determinate angle. The slice cut off from the fixed soil, vertically by the coulter, and horizontally by the share as it passes along the surface of the mould-

board, naturally assumes a variety of positions before it is finally placed. What was the upper side, with its covering of grass in the case of lea or of stubble, weeds, &c., in the case of corn crop land, is finally the lowest side, so that all the weeds &c., and grass are buried completely; while what was the under side, is finally the upper side, or that exposed—or partly exposed to the atmosphere. The form which the upper surface of the soil assumes when a number of such furrow slices are thus inverted is familiar to every one.

The angle at which the furrow slice is turned over, or rather at which it lies when finally deposited, is 45 degs., this angle bringing about a very beautiful result—namely, that the angular shoulders contain the greatest possible solid contents of earth, and expose the greatest possible extent of surface to the action of the atmosphere and its ameliorating effects in pulverising it and bringing it to what is called a fine state of "tilth."

From what we have thus given, we arrive at the definition of the operation of ploughing, which may be thus stated:—Ploughing is the cutting off a succession of slices from the soil, and laying these over at a determinate angle, generally 45 degs., thereby exposing the greatest possible extent of its surface to the atmosphere; at the same time, covering up the old or original surface, and exposing as new surfaces what were originally covered.

Although the form and adjustment relative to one another of the various parts of the plough, as the beam, handles, or stils, the coulter, the sock, or share, &c., demand the greatest exercise of skill and care on the part of agricultural mechanics, it is to the mould-board that the largest amount of attention has been given, as through the medium of this feature the ultimate form and position of the furrow slice is mainly determined; although we shall see as we proceed that by the mode of adjustment or "tempering," as it is technically called, of the coulter and the share, these parts of a plough also exercise a decided and a determinate influence on the ultimate form of a furrow slice. Indeed, it is questionable whether the coulter and the share are not the means by which alone the determinate form is given to the furrow slice, the mould-board merely acting as a more or less influencing medium upon it. Probably the more correct way to put the matter is to say, that all three parts—the coulter, share and mould-board not merely in the easy going, or otherwise, qualities of the plough, but in the way in which it acts upon the soil, either tending to break it up as it lays it over, or to maintain its form, that the mould-board, as above said, is the feature to which

agricultural mechanics have paid the greatest amount of attention. This part of a plough may be defined as "a twisted wedge," or as a "body combining in its conformation the principles of the wedge and the screw." But although the surface is twisted, and apparently to the eye uneven, nevertheless, if a rule is laid across it, it will lie flat on the surface. The presence of any protuberance, or, on the contrary, of a hollow on the surface of a mould-board, will bring about a loss of power in the action of the plough; hence the surface of the mould-board, no matter of what contour, must be absolutely uniform. The great point is to secure a perfect uniformity of pressure upon the slice both transversely and longitudinally, and to lessen the friction of the slice as it passes over the surface of the mould-board, or more correctly, as the mould-board passes from beneath the slice, by making, as above stated, the mould-board's surface absolutely uniform. In the passage of a plough through the soil, we find that the resistance given to the mould-board arises from—first, the mere weight of the soil pressing upon it; second, the friction of the soil upon the surface of the mould-board; and, third, the resistance which the soil offers to being twisted or torn from the fixed earth, or, in other words, its powers to resist torsion. Each of these resistances act in its special way, and is very much modified by peculiarities of soil. The mere length of the mould-board, with a determinate twist in its surface, influences very much its action, or rather its powers of resistance to the soil as it passes from under it; the more coincident with the line of draught of the plough the lines of the mould-board which dictate its contour are, and, by consequence, the longer the mould-board, the easier going will be the plough, and the more perfect and unbroken will be the furrow slice which it ultimately leaves. On the other hand, the less co-incident the "lines" of the mould-board are with the line of draught of the plough the greater will be the resistance to the plough's action, and the less perfect will be the form of the furrow slice left by it. Thus a short mould-board will tend to break up the furrow slice, a long one, other things being equal, will lay it over smooth and unbroken. Again the form of the contour of the mould-board's surface exercises an influence upon the form of the furrow slice laid over. If the mould-board's surface is "concave," the furrow slice will be rectangular—if "convex," it will be rhomboidal, or what is called "high-crested." As will be seen hereafter, this high-crested form is also influenced, and indeed can be made almost solely by the action of the coulter and the share adjusted in a peculiar way.—*The Farmer.*

TEA CULTIVATION IN INDIA.

Calicut, December, 1868.

In submitting the following remarks on the Cultivation and Manufacture of Tea in British India, we have been actuated by a hope of supplying, in a practical form, some information on this subject which may not be altogether uninteresting to the general reader; while such as are stimulated by the gratification of a natural curiosity to acquire some knowledge of the modes of manipulating the fragrant leaf which "smokes as an infusion on our tables," may possibly find something which may edify as well as amuse.

The cultivation of the tea tree is carried on at the following different localities in India, namely: Assam, Cachar,* Chittagong, Kumaon and the upper provinces of Bengal, and Darjeeling.† In the Neilgherries or Blue Mountains, the China plant was, for a time, cultivated with some success in the Coonoor district, but the gardens have since been abandoned.

Travancore at the extreme south of the peninsula, also produces a fair quantity of tea, resembling some of the descriptions from Darjeeling.

Having now mentioned the principal localities where tea culture is pursued, we will next consider in what respect these places differ from each other as regards climate and soil; for on these two points, mainly depends the success of the tea planter.

It is generally allowed that Eastern Bengal alone possesses all the necessary conditions to the successful cultivation of tea, in a pecuniary point of view; both with respect to the price of labour and the cost of production.

The elevation of the Darjeeling station (7000 feet) seems to be too great for profitable planting. The frost kills the seedlings, and there is not a sufficiently rapid succession of leaf in the warm season to make the manufacture pay. That tea will grow and flourish, at almost the highest elevations, as far as size is concerned, is well known, for at Nainee Tal, 6000 feet above sea level, there are plants of an enormous size. They do not however flush often or abundantly.

The Parliamentary papers on tea cultivation for 1839, in reference to the condition in which the tea plant was first found, contain the following remarks:—"Thus the plant, "struggles for existence,"

*The tea plant was discovered growing wild in Cachar in the year 1835, when its cultivation was taken up by several enterprising persons, among whom were Mr. Williamson and Dr. Barry.

† In Darjeeling the first trial of the tea plant was made in 1841, with a few seeds grown in Kumaon from China stock. It was quite successful, as to its growth, and quality was approved by an Assam planter, who visited the place in 1846. The original plants have now assumed a gigantic size, one of them being fifty feet in circumference, and twenty feet high.

the delicate stem forces its way with difficulty through the dense brushwood, and rises a "tall and slender tree, varying from ten to twenty feet in height, and mostly under an inch in diameter, with its branches high up," and with large delicate leaves from four to nine inches long. So that these slender trees, as remarked by Mr. Bruce, when deprived of their support from the surrounding jingle,—which in some instances had been cut down,—seemed scarcely capable of sustaining their own weight. One of the largest trees Mr. Bruce found to be two cubits in circumference, and full forty cubits in height but he supposed that few attained that size.

The objections to Darjeeling apply, in a greater measure, to Kumaon the latitude being higher. The elevation of Dehra Dhoon is not great—some 2000 feet—and so far is unobjectionable, but it partakes of the general character of the North Western climate, and lacks the moist heat of Bengal. Kumaon and Oude, again, are too dry for tea; the rainy season not commencing in those districts till July.

The climate of Chittagong, in one respect, is inferior to that of its rivals, Assam and Cachar, in as much as the rain is at times too heavy, and is on this account not so favorable as the generally lighter falls of Assam and Cachar, but more especially of the former. The climate found the most suitable at Java for the cultivation of tea, is that of the mountainous regions situated at 3,500 to 4000 feet above the sea; where the air is so cool that Fahrenheit's thermometer at sun-rise indicates 58° in the morning; and 70° at two o'clock in the afternoon. On still higher elevations, even 5,000 feet and more, the tea will be highly flavored; but in lower districts the flavor deteriorates as the situation is low.

A good tea soil should combine the three qualities of lightness, friability and richness; enough sand should be in it to prevent its "caking" or "balling," and yet not enough to prevent the adhesion of its component parts when wetted.

Mr. Jacobson states that the tea plant requires a moist soil, but still one where water filters freely.* Mr. Bruce † also

* The same writer is of opinion that a "temperature" and moderately fertile soil is the best for tea. This he says may consist of a half or two thirds of a foot of rich decayed vegetable matter or humus (which he also terms *moer-aarde* (peat-earth?) with a substratum of a compact crown clay earth, which is sometimes termed mountain ground, not rich but by no means poor, and which is of an adhesive character without sticking, when rolled between the forefinger and thumb. Mr. Gordon, who seems an acute observer, and whose description of the tea plantations he saw at Amoy is exceedingly valuable, comes to the conclusion that the tea plant needs absolutely a free soil, not wet and not dry, but of a texture to retain moisture, and the best site is one not so low as that at which water is apt to spring from the sides of the hill, nor so high as to be exposed to the violence of stormy weather.

† The discoverer of the tea tree in Assam.

observes "that one thing is worth of notice, that all the Assam tea grows near water, of which it appears to be very fond, for wherever there is a small stream or jheel, tea is sure to be there."

The perfection of soil exists in the Himalayas. There is nothing in Assam, Cachar, or Chittagong to equal the richness and depth of the vegetable deposit which has resulted from the gradual decay of the vast jungles of oak and rhododendrons that grow in such dense profusion on the lower slopes of the Himalayan ranges.

To enter into a detailed examination of the numerous expedients adopted by tea planters in the endeavour to carry out some pet system of their own, for there can hardly be found two factories where the process of manufacture is the same, would much exceed the limits of a short essay like the present. We shall therefore mention a few particulars relative to the preparation of the soil, and mode of planting, and then proceed to describe the manner in which the leaf is prepared previous to its becoming the tea of commerce.

It will be advisable to name here, (for the benefit of those whose knowledge of tea is confined to the aroma and taste of the infusion in their tea-cups,) the three known varieties or species of the tea plant—they are: the 'Indigenous,' which is still met with in Cachar, and in the adjoining province of Assam; the China species, chiefly cultivated in Kumaon and the Kaugra valley; and the 'Hybrid,' which as its name indicates, combines the nature and qualities of the two first mentioned. The tea made from the indigenous shrub, speaking generally, is darker in the infusion it gives, much stronger, but not equal in delicacy of flavor to what is produced by the China plant. The hardihood of the two, again, is very different; the China shrub will stand great cold, (15 degrees below freezing will not injure it when it has once fairly taken root,) while the indigenous shrivels up at the least approach of frost.

When we compare the system of tea culture prevailing in China with that which is in vogue in British India, we find there is a wide difference between the two. In the former country each peasant or farmer grows a few shrubs on the land attached to his dwelling,—often in hedges between his fields,—commonly allotting such ground to their growth as is unproductive, hilly, or otherwise unprofitable; whereas in India the cultivation of tea is invariably undertaken on a large scale, the land and position carefully selected, and in many instances considerable science displayed in the management of the plantation. Still the probability is, that every province of the Celestial Empire, by means of its sheltered vallies is enabled to con-

tribute largely to its own domestic consumption; and thus possesses an advantage over Hindoostan, where the excessive heat of the climate and frequent long periods of drought, render the cultivation of tea a matter of great difficulty, save in certain districts which are well watered and at a considerable elevation above the plains.

From a prize essay on the cultivation and manufacture of tea in Cachar, in which the subject is most accurately described, (evidently from personal observation), we must beg leave to make some few quotations—and firstly: in regard to the preparation of the soil, the writer says that "the land should be hoed to a depth of 18 inches and a hole one foot deep and nine inches broad, should be dug for the reception of the transplant. The best mode of sowing the seeds he states, is by depositing a layer broadcast as close as the seeds will lie, and sprinkling them with soil to the depth of an inch, to be again succeeded by a layer of seed and an inch of soil." Then the surface should be lightly covered with mats, in order to prevent the seed from germinating too quickly, for the object is merely to swell the seed prior to permanently planting.

The time for forming nurseries is November, and they should be made on as level and low a site as possible; to be near water. The Hybrid and China seeds should be sown in rows four inches apart, but indigenous seeds should be sown five inches apart each way, to allow of their removal without injury to the roots. The best time for transplanting is that in which a drizzling rain is falling, or even a dull cloudy day with the prospect of rain. The pruning should be performed by trimming with the knife, (in preference to the shears, which unless used by those who thoroughly understand them, only break and jag the plant,) so as to give the lateral branches an upward tendency; all straggling branches should be closely trimmed, and a conical form given to the plant; the middle of the tree will then throw out a number of dark green succulent shoots, which should not be plucked until they are about nine inches high; if plucked before, there will be no young and green wood for the flushes of leaf to break out from. By pruning is here meant freeing the shrubs from dirt, dust and larvæ of insects, and dead leaves, in addition to cutting and heading back. The plucking season commences about the end of April, and continues till the end of October, during which time a series of flushes occurs at intervals of twelve or fifteen days, according to the state of the weather; and thus twelve crops of leaf may be gathered in one season. The plant should not be plucked before the third year, and then only very lightly,

as over plucking will render it weak and sickly.

The most advantageous method of plucking is to divide the coolies into three gangs, in number according to the flush to be gathered. The pekoe gang should be composed solely of women and children, as their hands being more delicate, are better adapted for nipping off the convoluted bud and its two expanded leaves, from which pekoe is made.* This gang should be followed by the "Souchong" pluckers, who gather the next two leaves, and then again succeeded by the coarse tea or Congou gatherers.† The object of this division of labour is to keep the leaves separate for the manufacture of each class of tea, when brought into the factory for manipulation. Another advantage gained by this careful classification of the raw leaf, is that it prevents the coarser and harder leaves from breaking the leaves of the finer teas during the process of rolling, and furthermore obviates the necessity of so much sifting as would be required if all the teas were manufactured together.

The gatherers carry a small basket in front of them, fastened round the body; thus they are enabled to gather the leaves with both hands, and to throw them quickly into the basket. They must not be kept long in the hand, nor in large parcels, lest they should heat and turn sour. After the fourth gathering the shrubs will once more exhibit an abundant display of foliage, but these leaves must be kept to restore the exhausted energy of the plant.

When a sufficient quantity of leaf has been collected by the pluckers, it is brought indoors and spread out on a table to the depth of five or six inches, covered over with a cloth, and sometimes on flat bamboo trays in the open air, to undergo what is called the "withering" process. During this stage the tea must be carefully examined from time to time by the manager of the plantation or some other competent person, and when the leaves have become soft and flaccid—the color having assumed a rich brown hue, and the general appearance being similar to the out-turn of the leaf after infusion—they may be taken up and rolled in the

* This is also practised in China; the superior kind of Souchong or Caper tea being nipped off by women, leaving no part of the stalk.

† It will be understood that all the various denominations of tea, known as Pekoe, Souchong, Congou, and so on, are derived from one and the same tree. The Pekoe leaf (or 'tip,' as it is sometimes called,) growing at the end of the stem—a few inches below this the Souchong leaf, constituting the second quality; and nearest to the brown wood of the stalk, the Congou leaf. The leaves of this latter tea, all consist as before observed, of the old and coarse leaves left on the shrubs after the gathering of the usual harvest. In China they are gathered by bending down the branches of the shrubs, stripping them in the rudest manner, by passing the hand along the branch, as described by Mr. Fortune, and sometimes with a bamboo knife held between the fore-finger and the thumb.

hand. In effecting this latter operation some skill is required to preserve the leaves in the form of a ball; and it is the proof of a good workman to keep the leaves well collected together under the hand, and not allow them to stray and spread themselves over the tray, for on this depends the leaves being well or badly twisted; and the viscous juices expressed in the process of rolling are sufficient to keep the leaves in the twisted form.

They are now roasted over a charcoal fire, made in a hole in the ground, over which is placed the *Hazar* (called in China a *Poey Long*), an instrument of rather curious construction, about two and a half feet in height and one and a half in diameter, open at both ends; formed of basket-work, and having a slight inclination from the ends to the centre or neck. In the inner part, a little above the centre, are placed two cross wires for the purpose of receiving the sieve (a shallow iron pan) which contains the tea, and which is placed about fourteen inches above the fire. A certain degree of watchfulness is requisite to see that none of the leaves accidentally fall through the interstices of the sieve, which would occasion smoke, and thereby injure the tea.

The roaster all this time is constantly turning the leaves over, taking care that none of them lodge about the bottom of the *Kerrai*, for this being the part most heated, they soon begin to burn, and if not attended to, might communicate a smoky or burnt flavor to the tea.

The leaves are then sifted, and again undergo the process of drying, twisting, and turning as before; which is repeated once or twice more, until they become quite black, well twisted, and perfectly dry and crisp. In separating the different kinds of tea, sieves are used of various sizes, the numbers ranging from eight to twelve; number eight is employed for the finer sorts of Pekoe, the next in rotation is used in sifting the Souchong leaf, while for the coarser kinds of Congou and Bohea the higher numbers up to twelve are appropriated.

Much stress is laid, by experienced planters, on the importance of a final 'firing' before packing the tea for shipment, because, unless this be done, it frequently happens that the leaves will become mouldy and sometimes turn sour; the latter evil is the most to be dreaded, as it can never be entirely eradicated.

In the preceding remarks we have not alluded to the method of manufacture in the North West Provinces of India, because, in all essential points, it is identical with that of Assam and the Eastern portion of the Bengal Presidency. We cannot however refrain from mentioning the exquisite skill displayed in the manipulation of leaf cultivated in some of the

gardens in Kumaon and the Kangra Valley; though these teas, being mostly derived from China stock, are never likely to compete successfully with Assam teas in the English market. The flavor is extremely delicate, but of a peculiar character, significantly termed *malty* by the London brokers. In strength and astringency they cannot approach the Assam product.

The teas are packed in parcels or *breaks* of about 300 chests, each chest containing about 80 lbs. of tea. The quantity put into each chest is previously weighed, and the packing is performed by men with their bare feet.

A few words as to the different classes of tea prepared for market, (which, by the way, are not nearly so numerous in India as in China,) may not be out of place here. Beginning then with Pekoe, which consists of the unexpanded terminal leaf bud, in which state the convoluted part is covered with a white hair or down, whence its name, *Pe-hao* (white hair.) *Pac-ho*, or *Pekoe*, as corrupted by us, is derived. The white hairy appearance of the leaves found in this tea is termed *flower* by the dealers in England; which term, as well as that of *Fleur de The*, appears to have originated in a supposition, that these white downy leaves were the blossom of the tea.* The next in value is Pekoe Souchong, so called, because it contains a few Pekoe endo, which greatly improve the flavor of the tea, thereby enhancing its value. The third quality, namely, Souchong, being entirely free from the young leaves of the Pekoe gathering, yet consists of the earliest expanded leaf. The coarse leaves, which form the Congou, still retain a degree of strength and flavor, but far inferior to the unexpanded leaf-bud forming Pekoe.

We need only add, in conclusion, that, considering the rapid progress which has hitherto been made in Eastern Bengal, and with annually increasing exports, India possesses an undoubted power of competing with China in the European and American markets in the cultivation of tea. Moreover there is every probability of the present somewhat limited area being extended to other districts, where the culture of the tea tree has not as yet been attempted.

* Mr. Jacobson states that Pekoe tea requires much exposure to the sun previously to roasting; it should also be placed in close rooms, and not exposed to the air, but kept warm; because it is advisable to hasten and promote the *withering* of the leaves.

MR. MECHE ON GRASS LAND AND PERMANENT PASTURE.

[We commend the following suggestive article to the thoughtful consider-

ation of Nova Scotian farmers.—*Ed. J. of A.*]

Here is the grand field to which we must look for development and progress. One half of the kingdom is in permanent pasture. The last Board of Trade returns give 22,156,541 acres in 1867 against 21,174,797 in 1866, shewing an increase of 981,754 acres in grass land. These returns are exclusive of heath or mountain land. Our grass lands are now in the hands of Nature—they should, and I hope will, pass into the hands of man. We have heard too much lately about laying down lands to grass, and depending on foreign countries for corn. Judging from the latest statistics, that opinion appears to have been acted upon. I protest against this mistaken practice, as most injurious to the country at large. I shall shew you by a statement of facts that the grass land of this kingdom is a great national loss and mistake—that it is starving our people, and to advocate its extension is a cruel error. Not one loaf of bread for man is produced by more than one-half the land of this kingdom. What would have been our fate this year had all the kingdom been in grass? In lieu of a superabundant wheat crop, we should have had a famine. The 22,000,000 of acres of grass lands have, this unusually dry season, been almost unproductive, and caused a heavy loss to the occupiers and to the country at large, while our heavy wheat crop, with its unusual breadth and superior quality, is a blessing and a profit. We must, as a result of the season, have dear meat, at any rate for some time to come.

Laying down to grass means starving the people and depriving them of employment. It means stagnation in trade and manufactures, and a throwing out of employment a very large portion of our artisan population. Natural grass land employs little labor, capital or machinery, and produces little food for the people. The pastoral day has gone by: it cannot remain in the face of an overwhelming and industrial population, demanding food and employment.

Grass lands are coveted just because they require less capital and less skill, and therefore landowners find always plenty of tenants for the same. Landowners like them, because the buildings are few, primitive, and uncouth, repairs small, drainage seldom asked for, residences mean, and suited to uncapitalised tenants. There is not much trouble about this sort of landowning or farming. It is an unaltered state of nature—no change, no progress, and very little increase of rent as compared with arable land. All this is contrary to the general advance of the country in wealth, intelligence and population, and totally unworthy of the British people.

We must infer from the increase of grass land that there exists an opinion that it does not pay to convert it into corn land. The proofs, however, are all the other way, as I purpose presently to shew. In pluvial districts and suitable soils, especially where irrigated, there may be some excuse found for grass lands, but in our dry cereal districts permanent grass is a mistake—nationally, almost a crime. An experience of twenty-five years enables me to speak practically on this matter, for out of 170 acres I have only 14 acres in permanent pasture as a run for my stock; and instead of robbing and starving it, I never allow any animals to feed upon it without giving them cake, corn, &c., as supplemental food. For all that, its produce this dry season is at a minimum of value, while my 73 acres of wheat yield 6 qrs. of corn and 2 tons of straw per acre, the latter available as food for stock, representing together a value of £20 per acre.

But let me proceed to show you how little our grass land produces compared with our arable land, and then you will at once perceive how great is the national loss it causes.

Our 11,431,440 acres in corn crops produce, on an average, an annual sum of about £83,000,000, besides straw.—What do our 22,156,541 acres of permanent pasture produce?—according to my rough or approximate estimate only about £50,000,000, or about 43s. per acre; while our 11,431,440 acres in corn produce £8 per acre, besides about £2 worth of straw. We can thus understand why the gross produce of the kingdom is only £3 15s. per acre, and its capital between £4 and £5 per acre; and we can imagine how wretchedly robbed and starved must be the bulk of the grass land of the kingdom.

Grass lands, instead of being well fed with manure, are too often used as milch cows for the arable land. But poor, wretched, exhausted pastures not only keep every one at low water-mark, but the labourer on such lands should be of the Malthusian or Millite school, and not marry; for how can an increasing population find food or employment on a never-changing and non-improving soil and crop? It is this unfortunate fixity and stagnation that beget a bad name for our western and grass land districts, and furnish Canon Girdlestone and others with the means to attack agriculture.—Grass land, looked at from every side, presents weak points, and is no longer consonant with our tripled population and the progressive spirit of the age.

To shew how little labour is employed on permanent pasture, a friend, who was steward over a large grass estate in Northamptonshire, assured me that the shepherding was only 1s. 6d. per acre,

the attendance on cattle proportionate; one-third of the grass being mowed for hay would require more labor, but the average would probably be under 5s. per acre; on arable farms it would be from 20s. to 40s per acre. On my farm it is 50s. per acre.

In confirmation of my censure of grass lands let me refer you to the late Mr. John Morton's report on the condition of the Whitfield Example Farm before and after its improvement (see "Morton on Soils," p. 248):—

"*Before improvement.*—Total acreage 232, of which 164 were pasture, 68 arable. Tenant's capital, £726, or £3 per acre. Annual produce, £463, or £2 per acre. Labour employed, 8s. 7d per acre: rent and taxes, 22s. per acre.

"*After breaking-up.*—Landlord's improvements on the farm by drainage, new roads, new buildings, &c., £15 per acre, or £3500. Increased rent, £170 per annum; tenant's capital, £16 per acre; increased produce, £2904."

Mr. Morton estimated the value of the whole produce of the farm in its improved condition at four times that of the produce of the farm for the last twenty-one years. Mr. Morton made these remarks:—

"Houses and buildings very limited, and in a very bad state of repair.—Forest-like appearance presented by pasture land. Immense number of trees crowded together in the hedgerows, injuring the pasture, destroying the fences, preventing the drainage, and shading the grass, thus making it unpalatable."

These remarks would apply now to immense tracts of land, undrained and unimproved. At vol. ix., p. 54, of the Royal Agricultural Society's *Journal*, the late Mr. Woodward, a wealthy and successful farmer, whom I knew, gives an account of the advantages he derived from breaking up poor worn-out pasture land. Mr. Woodward, in 1844, pared, dug, levelled, and drained 20 acres, at a cost of £7 10s. per acre. The first year it produced 42 bushels of wheat per acre—sold for 14 guineas. The second year 50 bushels of wheat per acre; the third year 48 bushels per acre—all without manure; the fourth year, with 2½ cwt. of guano per acre, it promised to be a large crop. This poor grass land was only worth 25s. per acre before improvement. By this operation Mr. Woodward was enabled, besides other advantages, to give employment to forty labourers for nearly three months in the dead of winter. At that period a great many laborers were out of employ. This was also the case hereabout when I carried out my drainage, digging, and other improvements, wages being then only 8s. per week, with a considerable over-supply. I dug with forks much of my land at 2d. per rod, or

£1 6s. 8d per acre. It would cost 50 per cent. more now.

In my own case, after draining a piece of wretched pasture, I pared and burned it, and for the last twenty-four years it has yielded abundant crops of wheat, mangolds, beans, clover, &c.

I could greatly multiply these instances of the individual and national advantages of passing from a pastoral to a mixed arable husbandry, but it is unnecessary, for it is so obvious that none can doubt it who read Mr. John C. Morton's elaborate prize essay "On Increasing our Supplies of Animal Food," vol. x, p. 341, Royal Agricultural Society's Journal.—*Agricultural Gazette.*

CONDITION OF THE CROPS THROUGHOUT THE UNITED STATES IN OCTOBER, 1868.

WHEAT.—The full promise of the early summer has not been realized in the wheat harvest. The increase of area over that of last year, in its effect upon the aggregate production, is nearly neutralized by a small diminution in some of the principal wheat-growing States, in the yield per acre; so that the increase in the total quantity, as shown by our October returns, is scarcely more than three per cent., and that is obtained mainly from the Pacific coast.

The progress of wheat culture westward is somewhat remarkable, and its history is not altogether unlike that of cotton, in its occupancy of new lands, and their desertion after a few years' use, not indeed to grow up in sedge or forest, but to be laid down in grass or employed in a more varied range of production. Not only does it go with population westward, but its movement is in an accelerating ratio, yielding results in bushels to each inhabitant surprising to eastern farmers. Thus has the territory between the Mississippi river and the Pacific ocean, which in 1859 yielded about 25,000,000 of bushels, harvested about 65,000,000; while the country east of the Mississippi, with its accession of population and wide distribution of agricultural implements, has made no increase, as a whole, a few of the western States barely making up the deficiency suffered in Virginia and Kentucky. It is a remarkable fact that a region which nine years ago produced only one-seventh of the wheat in the country, now supplies nearly one-third of it. A similar progress in another decade will carry the centre of wheat production beyond the Mississippi, and were it possible for the Pacific coast again to quadruple its yield, that distant wheat field will give a larger product than the aggregate production of the United States in 1850. Well may the East imagine the supply of bread-

stuff's decreasing, and naturally enough the west may deem their harvests golden; but when twenty more years shall pass and the virgin soils of California shall be despoiled of their fatness, and their yield shall be reduced to ten or twelve bushels per acre, where will the spoiler go for new wheat fields to ruin?

The averages for October appear to show a decrease in production in Maine, New Hampshire, Massachusetts, Connecticut, New Jersey, North Carolina, South Carolina, Georgia, Alabama, and Texas, the latter having only half a crop. The other States indicate an increase, in most of those east of the Mississippi very slight; in Minnesota, 13 per cent.; in Iowa, 6; in Missouri, 8; in Nebraska, 13; in Kansas, 23; and in California, 25 per cent.

Many places in different parts of the country, especially in Maryland and Wisconsin, report a disappointment in the yield of grain in threshing. The disappointment, however, is sometimes in the other direction, as in the following case:

Erie county, Ohio.—From extended observations, after threshing of wheat had been more general, I have made in this return the average higher, as I am borne out in the larger estimates, and the quality of the wheat is better than last year.

The following items illustrate the tenor of many reports in favored districts:

Brown county, Minnesota.—Threshing commenced three weeks ago; wheat will average 26 bushels to the acre. This is above the average for the last five years. The grain was all put in the stack in good order and the quality is good.

Winneshiek county, Iowa.—Wheat will average full 23 bushels in this county, some as high as 35 to 38, and but a few go under 20.

Bates county, Missouri.—There never was a better crop of wheat harvested in our country. Some fields went as high as 35 bushels per acre, and one 37, and this in a region where it was said wheat could not be grown profitably until the Yankee invaded the country.

McCracken county, Kentucky.—Our crops will probably average one-fourth better than usual.

Coryell county, Texas.—The grasshoppers made their appearance yesterday, in vast numbers, and if they continue with us as long as they did last fall, there will be another entire failure of wheat. The prospect was never more favorable for wheat sowing than now, if it were not for the grasshoppers.

OATS.—This crop is light in the eastern, middle, and southern Atlantic States; is not a full average in Michigan, Wisconsin, and Iowa; in the other States the product is above the average, the largest increase being 21 per cent. in Nebraska. In Wisconsin the deficiency is

9 per cent. Our Green county correspondent says; "The oat crop of this vicinity has been considered almost a certainty, but owing to very hot weather just as the oats were beginning to fill, the crop was materially injured. Fields that bid fair from 40 to 75 bushels per acre, when harvested, actually produced from 20 to 30. From many inquiries, I have heard of but one field producing over 30 bushels per acre. As a whole, the crop has been quite as large as that of last year."

RYE, in most of the States, is marked by figures very similar to those which show the relative products of oats.

BARLEY.—The barley crop is somewhat deficient in Ohio, Indiana, Illinois, Wisconsin, and in most of the Atlantic States. It will scarcely make so large an aggregate in bushels as last year.

CORN.—Considerable injury from frost is reported in northern Indiana, Illinois, Iowa, and more northern latitudes. In some portions of Iowa an estimate of two-fifths of soft corn is made. From southern Indiana, southern Ohio, West Virginia, and Pennsylvania, come complaints of immaturity in consequence of wet weather, and few accounts of injury from drought are received. No general or very severe droughts have been reported. The high temperature of July was favorable to the growth of corn, but the unusual coolness of the later summer gave a sudden and injurious check at the critical period of earing, resulting in late ripening, smut, and other evidences of abnormal conditions. Yet the acreage is undeniably large in most of the States, and nowhere is there very serious failure. The total product will be, therefore, not what was hoped in the early season, or what is needed for a country with a rapidly increasing population, but a somewhat larger quantity than last year, which was a season peculiarly adverse to corn production. A good crop should exceed one thousand millions of bushels. Last year's production was little more than three-fourths of that quantity, and the present, though not yet fully harvested, and the material for a final estimate returned, does not promise to reach that figure by 10 or 15 per cent.

COTTON.—The area in cotton is somewhat less than last year; its culture has been better; the preparation for planting more complete; and labor more regular and reliable, as a general rule. Early the season the promise was fine; serious losses have of late been incurred, however, principally from depredations of the cotton caterpillar, or army worm, which have proved more general and severe in Georgia than elsewhere, very troublesome in portions of Alabama and Mississippi, and somewhat prevalent in the Carolinas and in Arkansas. Heavy rains in Tennessee and the south-west have caused

anxiety, but done less damage than was expected. Our returns indicate a smaller crop, possibly by 15 or 20 per cent., than last year; but the complete estimate will not be made till the crop is gathered.

It is the aim of the statistician to give the exact truth, nothing to extenuate, and nothing to depreciate. Some farmers would conceal the actual facts of the harvest, with the expectation of better prices as a result of the deception. The hope is fallacious; the fraud will always be discovered. On the other hand, there are always buyers who will give publicity to extravagant estimates to depreciate prices and magnify a scarcity, after having purchased heavily, to give an unnatural stimulus to the market. Honesty is decidedly the best policy, for farmers as well as others. In these estimates, while a doubt exists, it may be proper to give producers the benefit of it, and make the figures somewhat smaller rather than larger than the probable result. Acting on this principle, the cotton estimate for 1866 was placed at 1,835,000 bales, and that of 1867 at 2,340,000 bales, while the actual shipments of the cotton for those years reached very nearly 2,000,000 and 2,500,000 bales respectively. Could every pound have been counted in advance, no fairer statement could have issued from this department.

PEAS AND BEANS will be nearly an average crop.

BUCKWHEAT is very generally deficient; Connecticut, New Jersey, Minnesota, California, and some of the southern States, furnish favorable exceptions.

SORGHUM has been more successful than last year. Illinois and Wisconsin are not quite up to last year's production. Both buckwheat and sorghum were injured by early frosts in high latitudes.

POTATOES.—In southern New England, New Jersey, Delaware, the Gulf States and California, potatoes are reported a full average crop, with a deficiency of 10 per cent. in New York and Pennsylvania, from 3 to 7 per cent. in the southern Atlantic States and Tennessee, 20 in Illinois, 10 in Iowa, 11 in Indiana, 15 in Ohio, 16 in Michigan, and a greater or less reduction in other western States.

SUGAR-CANE.—Returns from Louisiana indicate an increase of 42 per cent. over last year.

OLD WHEAT.—The amount of old wheat on hand is somewhat less than usual throughout the country with the exception of the cotton States, which have a higher average than last year. This remark will not apply to Texas, where the granaries are uniformly empty. The quantity left over in Wisconsin, is relatively somewhat lower than in the neighboring States.

FATTENING CATTLE.—The stock of

beeves in preparation for market is larger than last year west and south of New Jersey, except in Indiana and Illinois, which States constitute an important beef-producing section. The deficiency in Illinois is placed at 2 per cent.; in Indiana 5 per cent. The condition of fattening cattle is almost universally superior, giving promise of better and larger meat supplies than usual.—*Commissioner's Report.*

Communications.

To the Editor of the Journal of Agriculture.

DALKEITH, SEPT., 1868.

Mr. Editor.—Having heard of the fame of the shows held in connection with "The Glasgow and West of Scotland Horticultural Society," I determined forthwith to go and see for myself.—Starting the evening previous to the show, I proceeded as far as Falkirk, where I stopped over night. Up bright and early next morning, I paid a hurried visit to Mayfield, where sub-tropical gardening is carried on to some extent. There you see musas, dracaenas, caladiums, yuccas, tree ferns, palms, &c., growing side by side, and so luxuriant that one would almost fancy himself a denizen of some tropical forest. From the nature of the climate around Mayfield, they have resorted to the plan of planting the ribbon borders, &c., with foliage plants; in fact the striking feature about the place is the total absence of flowering plants. And I must say there is nothing lost by their omission. For what can be more gorgeous (when the flowers are picked off) than Mrs Pollock or cloths of gold geraniums; or what more graceful than that lovely grass *Dactylis glomerata variegata*.—or if plants for edgings are required, what can be neater than *Cerastium tomentosum* or *Arabis lucida variegata*, or that curious little plant called *Althernanthera spathulata*.—and, for a groundwork what can beat *Gnaphalium lanatum* or the hardy *Ajuga reptans rubra*. I would recommend the adoption of this style of gardening to those, who, in consequence of wet weather and other causes, cannot get flowering plants to succeed. As for the sub-tropicals I do not think they would suit Nova Scotia, as the winters are so long and severe—which would cause a great deal of extra trouble and expense in storing them. But I think something might be done in the way of bringing into cultivation some of the more ornamental and curious of our native plants—for example, what could look better for a back row to a ribbon border than that king of all ferns, *Osmunda regalis*—and if novelty in the way of edging is wanted, lay hold of *Sarracenia purpurea*. Of course due care would need to be taken in the selection of such plants that

they are taken from places well exposed to the sun, &c.

Among the many ornamental trees and shrubs at Mayfield I was much taken with a maple called *Acer negundo variegata*, which, with its pretty variegated leaves, had a very pleasing effect. It might prove very ornamental in Nova Scotia if grafted or budded on the common maple.

Having bid Mr. Sorely, the kind and intelligent gardener at Mayfield, good-bye, we went our way to the station—which we reach in time for the first train for Glasgow—which place we reach after a very pleasant ride extending over an hour and a half. After seeing the "lions" in and around Glasgow, we found our way to the City Buildings, where the show was held. The scenery on entering the room was both pleasing and effective, the decorations being in good taste, the plants well arranged, and last, though not least, the room (which was four times the size of Temperance Hall,) was well filled with the beauty and fashion of the west. The first table on the right, and running the whole length of the room, was filled with tri-color, bronze, gold and silver-leaved geraniums. Truly, a great advance has been made in the cultivation of this favourite plant since flower of the day was sent out some eighteen years ago. The table on the left, and at the other side of the room, was filled thus,—at the back with large and well bloomed plants, of petunias trained on circular frames—next, stove plants, orchids, green house plants, &c.—and, in front, with cut bloom in the shape of dahlias, hollyhocks, which were very good notwithstanding the dry weather. In the centre of the room, and at right angles with the side tables, were six tables, the first of which was filled with floral designs and devices; the one that took first prize was a model of a viaduct, over 7000 everlasting flowers were consumed in its construction—it was a fine specimen of modelling and decoration. The remaining five tables were filled with stove and green-house plants, among which there were fine examples of horticultural skill. In the gallery was a table filled with cut flowers, most of which were made into bouquets, very neatly arranged,—but the most of the hand bouquets were far too large; how any lady could manage to engineer one through a ball room puzzled me. In an adjoining room a good display of fruit was made, the prizes offered for grapes being well and closely contested. As for apples and pears, I did not see anything to come up to that produced by the Nova Scotian fruit-growers, in fact at all the shows I have seen here this season, the apples exhibited were very inferior. And as an International Fruit Show is announced to be held at Edinburgh next year, when prizes will be offered to the

extent of £600 stg., I hope your fruit-growers will send something that will be a credit to Nova Scotia. The only thing I fear if will be held rather early in the season, but I will only be too glad to give any further information if required. In the room along with the fruit was a large lot of cut flowers, such as asters, stocks, verbenas, roses, &c., and the competition in the various classes was very sharp. The show of vegetables was very fine, the leeks being something more than extra.

A band of music added to the attractions of the show, and as the day was fine the show was well patronized, and must have been a complete success both in a horticultural and financial point of view. I hope and trust the day is not far distant when Nova Scotia will be able to boast of at least one horticultural show in the season that would be a credit to the province and remunerative to those who take it in hand. And there can be no doubt such shows can be made to pay under proper management; only enlist the aid and sympathies of the public, and the show will become a fixed fact.

Yours, &c.,

HALIGONIAN.

Reports of Agri. Societies

CHESTER AGRICULTURAL SOC'Y.

The annual meeting of Chester Agricultural Society was held on Dec'r. 7th, 1868, as per due notice, when the officers of the ensuing year were chosen as follows: *Pres.*, Edward Heckman; *Vice Pres.*, Charles Lordly; *Sec'y.*, H. B. Mitchell; *Treas.*, Joseph Beyanson; *Directors*, John Church, David Hume, Samuel Isoner, Patrick Corney, and Christopher Boylen.

As the year has been so dull, financially, and it being almost impossible to collect subscriptions, the Society has been dormant all the season and no stock kept on hand, consequently no report of proceedings can be made; but we have appointed another meeting for the 23rd of January, 1869, and in the interim an endeavour will be made to establish a branch society in New Ross, an agricultural settlement some twenty miles distant inland, after which I trust to be able to furnish you with financial statement and a short report. Having the balance of our last year's grant on hand, with the hope of securing that of the present year, we will be in a better position to start ahead again. We propose now, instead of the Society owning and keeping bulls, which absorbs nearly all its funds, to pay a certain sum towards the keep of bulls of approved breed in each of our several districts. Our Cotswold rams have doubled the size of the lambs where they have been kept, but our farmers generally will not be induced to reap the full benefits.

No spirit, no enterprise among them, with few exceptions.

H. B. MITCHELL, *Sec'y.*

[A lamentable state of affairs, which we hope is only temporary. We always thought that Chester was rather a spirited place.—*Ed. J. of A.*]

ST. ANN'S AGRICULTURAL SOC'Y.

The St. Ann's Agricultural Society met in annual meeting on the 1st December, Luther McLeod, Esq., President, in the chair. The officers for last year continued in office during the ensuing year. The Treasurer's account examined and found correct. In May \$160 were disposed of in purchasing wheat, timothy seed, clover seed, and some agricultural implements, for the use of the Society. These articles were distributed for less than cost. The amount of money in Treasurer's hands at present is \$32; also bills due to the Society to the amount of \$160. It was resolved to use all the funds of the Society next spring in importing improved seeds.

Respecting the state of the crops, it is now so generally known that it is unnecessary to make any remarks about it. The hay was a good average. In this locality the different grain crops filled well, though not very heavy in the straw; by the continuance of wet weather at the time of housing it was more or less damaged. Potatoes a better average than was known here for the last twenty years.

LUTHER MCLEOD, *Pres.*

J. MORRISON, *Sec'y.*

[The only means we have of obtaining reliable information respecting crops in the various Counties, is through the Reports of Societies. They cannot, therefore, be too full or too carefully prepared.—*Ed. J. of A.*]

PARADISE AGRICULTURAL SOC'Y.

The annual meeting of the Paradise Agricultural Society was held at A. Bent's Hall, Paradise, on Tuesday, the first day of December, 1868, in accordance with the law. The President in the chair. The minutes of the previous meeting were read and approved.

After some miscellaneous business it was moved by Avar Longley, Esq., seconded by Samuel Balcom, Esq., that we proceed to the election of officers for the ensuing year, when the following were balloted for and duly elected:—*Pres.*, Israel Longley; *Vice Pres.*, Isaac Longley; *Sec'y.*, William Leonard; *Treas.*, Stewart Leonard; *Directors*, W. R. Dodge, John Longley, Benjamin Leonard, Robert Marshall, Alfred Vidito. Moved

to adjourn to meet at this Hall on the first Tuesday of April next.

W. E. STARRATT, *Sec'y.*

YARMOUTH COUNTY AGRICULTURAL SOCIETY.

Quarterly meeting. A large attendance. The Vice-President in the chair. Minutes of last meeting read and approved. The published report of the exhibition referred to. The premiums awarded at the Exhibition, amounting to \$204, were distributed as far as possible.

Mr. James D. Archibald so far overcame his natural bashfulness and diffidence in public as to address the meeting at some length, making some interesting comments upon the exhibition, its tendency to promote improvement, &c.

It was asked if the premiums were not to be awarded to exhibitors for articles of their own growth, or production, or three months possession, to which an affirmative reply was given; it was then asked of the exhibitor, to whom the premium for the largest collection of potatoes was awarded, if all the varieties were of his own growing, and upon his admission that three of the varieties were borrowed, the collection thereby reduced to nine varieties, it was voted that the premium be shared with Mr. Archibald, who also exhibited nine varieties.

Some expression as to the value of the seed procured in the spring having been solicited, a discussion followed on the cultivation and crop of the Goodrich potato. The general opinion seemed favourable to the variety,—the yield had been large and with a few exceptions but little affected with disease. Some who had grown them thought them superior in quality to any other variety, while others considered them inferior to Jackson's,—soil and culture affecting the quality of this as of other varieties.

The season having been unfavorable for grain, neither wheat nor barley, except in a few instances, has yielded a fair crop. Wheat has been generally abandoned in the County, owing to its uncertainty,—it might do well one year, or two years, or three, and fail the next ten, whereas barley and oats were always sure crops; for this reason, and as prices here have ruled of late years, they may fairly be preferred to wheat, even when the supply of bread is the sole object.

Mr. Archibald stated that his barley had been quite equal to any crop he had ever raised in Colchester County, where they prided themselves upon their barley. His experience was, that to get a good crop of barley, it must be sown very early, the first thing in the spring. A young member asked if oats should not be sown first—he had always heard, oats first then barley. The Custos suggested that it would be well for him to sow his wild

oats as early as possible, but the cultivated variety might follow barley. Plowing and thorough preparation of the ground in the fall was also recommended not only for barley, but as far as practicable for other crops.

Mr. Enos K. Rogers made some remarks upon the curing of hay. Had out fifty tons this season, a great proportion of it during bad weather,—had used lime, one peck to the ton, when it was necessary, owing to unfavorable weather to store hay too green, the lime absorbed the moisture. He believed also that hay could be perfectly cured in foggy weather, in meadow and in cock, and be much better food for stock than if spread out and turned and exposed to the scorching heat of the sun until all the sweet juice were thoroughly dried up and evaporated. It is well known that herbs are perfectly and thoroughly cured in the shade, and spoiled in the sun: clovers and grasses make the best food when cured as herbs are cured.

CHARLES E. BROWN, *Sec'y.*

Annual meeting. Vice President in the chair. The report of Managing Committee received as follows:—

The Managing Committee of the County Agricultural Society herewith submit the Treasurer's account from the organization of the Society, showing receipts from all sources \$824.99, expenditures, \$714.29, balance, cash on hand, \$110.70. The expenditures for seed are merely nominal, the money being mostly returned, the account herewith submitted showing a loss of less than two per cent; so of fruits, trees, books, agricultural papers, &c. Whatever members are willing to pay cost for, will be procured at the lowest rates and supplied to them, it is only necessary to vote them. With stock, the apparent loss seems large, but if the increased value on all the improved stock is taken into account, it will be seen that the loss is only temporary, and that the ultimate gain may largely exceed that resulting from any other investment.

In reference to the stock already bought, the Devon stock has improved immensely under good care and feeding, the bull being fully entitled to the first prize at the exhibition. The Durham bull, 'Western Prince,' although received in very poor condition, has recovered in a great degree, and it is believed that his stock will justify the propriety of purchasing him.

At the quarterly meeting in February next, the amount of funds on hand will determine what appropriations for stock, seed, &c., will be expedient for the coming year. An annual exhibition will probably be most useful in maintaining an interest in, and ensuring the success of the Society.

The increasing attendance at the quar-

terly meetings, the enlarged list of members and amount subscribed for the current year, with the public attendance at, and the success of the exhibition, encourage the belief that the Society, having got fairly started, will continue to advance from year to year, until its influence extends to every part of the County.

The Committee would urge upon each member the duty of making it a point to attend regularly and punctually at all the meetings, the interest of which chiefly depends upon the number present. Measures of importance are sometimes adopted which would be modified and amended on discussion and consideration.

The Committee would also urge the necessity of liberality in subscribing towards the funds of the Society: with small means but little can be effected. It is believed that the members of the Society, living in town, will increase their subscriptions largely, if the members in the country show a proportionate liberality.

ENOS K. ROGERS,
WILLIAM BURRILL,
STEPHEN CHURCHILL,
DENNIS C. WESTON,
CHARLES E. BROWN.

Treasurer's account and report adopted. A subscription list for 1869 was signed by those present with two exceptions. The following were elected officers for the ensuing year:—*Pres.*, William Burrill; *Vice Pres.*, Frank Killam; *Sec'y. and Treas.*, Charles E. Brown; *Managing Committee*, Stephen Churchill, John Holmes, Enos K. Rogers, Richard N. Crosby, John Carr.

CHARLES E. BROWN, *Sec'y.*

PARRSBORO' AGRICULTURAL SOCIETY.

The last annual meeting of the Parrsboro' Agricultural Society was held at Daniel York's, Mill Village, on Tuesday, the 3rd of December, 1867. The previous year's report was read and approved of. All the officers were reelected to serve in 1868. Letters were read from four persons stating that they had withdrawn from the Society. The Hon. Richard McHessey was nominated to serve as a member of the Central Board of Agriculture.

The Committee met at Daniel York's, Mill Village, on Tuesday, the 7th April, 1868. It was then resolved that Randolph Morris, Esq., be allowed 20s. per month during the winter months ending 31st May, for keeping the Chester white boar, and 5s. per month during the five summer months while he keeps him, his old debt of £4 3s. 9d. to be deducted from the amount; that bounties be paid this year on wheat, compost, Swedish turnips, and oatmeal, viz., on wheat 5s. for 10 bushels, on compost 5s. for 20

loads, on Swedish turnips 2s. 6d. for 50 bushels and 5s. for 100 bushels, on oatmeal 1s. 3d. for 100 lbs., 2s. 6d. for 200 lbs., 3s. 9d. for 300 lbs., and 5s. for 400 lbs.; that any of the principal officers may purchase a bull to improve the breed of cattle at the Provincial Exhibition to be held at Halifax in October next, or elsewhere, the price not to exceed £10, and that such bull, if bought, must be sold at auction, the purchaser binding himself to keep him at least two years as a breeder in Parrsboro' or Upper Maecan; that the Society take 21 numbers of the *Journal of Agriculture* for 1868, to be sold to members at half price; that claims for bounties to the amount of £1 10s., omitted in the accounts of the previous year, be allowed.

The Committee met at Daniel York's, Mill Village, on Tuesday, 3rd of November, 1868, when payments on wheat raised in 1868, £10; on Swedish turnips raised in 1868, £7 5s.; on compost made in 1868, £15 15s.; on grafted apple trees set out in 1866 and 1867, £4 5s.; keeping Chester white boar, £6 7s. 6d.; removing Chester white boar from Halfway River to Advocate Harbor, £1; £5 voted by the Society 7th November, 1867, to aid the funds of the Provincial Agricultural Exhibition held in Halifax in October, 1868; £2 12s. 6d. for 21 numbers of the *Journal of Agriculture* for 1867; £1 10s. bounties omitted in 1867, to the amount of £54 15s., were paid. It was resolved that the Society's room at Diligent River be transferred to James Wosson's, Two Islands, to be kept by him there this season in the usual way; that the Society take 11 numbers of the *Journal of Agriculture* for 1869, one number to be sent to each officer, gratis. Bounties due on oatmeal will be paid and brought to account in April next.

Through the year the Treasurer has received £28 16s. 3d. from members, £27 5s. of which are subscriptions due for 1868, and £1 11s. 3d. subscriptions due for years previous to 1868. He also received £18 from the Central Board of Agriculture, assigned to the Society out of the £60 Provincial money voted for the County of Cumberland for 1867. He also received £2 on sale of the Society's Chester white boar, and 7s. 6d. for his services in 1868; 10s. for *Canada Farmers* sold to members at half price in 1868, and £1 1s. 3d. for *Journals of Agriculture* sold to members in 1868 at half price, and £4 5s. contributed by members—at 1s. 3d. each—to make up a donation of £5 from their private funds to the funds of the Provincial Agricultural Exhibition held in Halifax in October, 1868. These sums, with the balance in hand from last year of £9 9s. 1½d. make the sum of the funds for this year to be £64 19s. 9½d. Out of this, pay-

ments were made, as before stated, on wheat and Swedish turnips raised in 1868, composed made in 1868, on grafted apple trees set on in 1866 and 1867. Keeping and removing Chester white boar, money voted from the funds of the Society in aid of the funds of the Provincial Agricultural Exhibition held in Halifax in October, 1868: *Journals of Agriculture* for 1867; bounties on crops raised in 1867 (omitted), to the amount of £54 15s.; postages, 2s.; rooms to hold meetings of Society in 1868. 7s. 6d.; services of Secretary, and stationery used by him in 1868, £1 2s. 6d. were paid, leaving a balance in the Treasurer's hands, at the close of the business for this year, of £8 12s. 9½d.

Out of 152 members in 1867, 4 withdrew, 2 died, and 1 removed. Four having joined the Society in 1868, 149 are liable to pay 5s. each in 1868. From these £27 15s. was received, leaving an average of £9 10s. at the subscriptions of 1868.

Twenty-one numbers of the *Journal of Agriculture*, and ten numbers of the *Canada Farmer* have been received, and read in the different Sections of the Society through the year.

Our usual Provincial grant has not yet been received for the year 1868

Our hay crop this year was good, and harvested in good condition. Potatoes are a fair crop with little rot or blight, although in most places the tops were killed early with blight. This disease did not seem to descend to the root, as in former years. On many farms the potatoes attained a large growth; both early and late planted potatoes did well—Wheat was very generally sown; farmers were encouraged to try it by the good crop of the previous year, but it ripened badly on many farms, owing, probably, to being sown late and to wet weather late in the season. It is not more than half a crop. It was not injured much by rust or weevil. Oats and buckwheat were good crops. Peas, barley and rye not much sown. Turnips and other vegetables succeeded well. Apples were a light crop. Cranberries and strawberries were never more plentiful, but all the other wild fruits were very scarce.

JOHN T. SMITH, *Sec'y.*

MERIGOMISH AGRICULTURAL SOCIETY.

We herewith forward you a report of the proceedings of the Merigomish Agricultural Society for the year 1868.

To meet the wants of this Society we obtained 4 bags of wheat from Halifax, being the amount of our grant for 1868, with the sum voted to the Provincial Exhibition, being, in all, \$40. We also imported 6 sheep from P. E. Island, 3

one year old rams, and 3 one year old ewes. The ewes were sold to members of the Society on arrival, and the rams given to parties to keep for the use of the Society until the beginning of the New Year, and then to be sold, the parties to receive two dollars for keeping them, and each member to get six sheep to one ram, free of charge.

We have also to inform you of the financial affairs of the Society, which are as follows:—

Cash rec'd from members as subscriptions	\$41.00
" for wheat.....	29.90
" for bags.....	1.33
" for sheep.....	8.60
	\$80.83
Cash paid for bal. against Soc'y in last year	\$5.50
" " 3 copies of <i>Journal</i>	4.00
" " expenses on wheat.....	2.14
" " sheep imported.....	60.00
" " expenses of sheep.....	4.00
" " postage and stationery.....	86
	\$76.50
Cash on hand.....	\$4.32
Debts due the Society.....	3.75

This Society at present consists of 41 members. All have paid their subscriptions for the present year.

Respecting the crops:—Upland hay a good crop, and housed in good order; wheat and barley above the average crop, and oats about the usual; the root crops, in general, very good; the fruit crops a failure. Our stock has improved very much from breeds imported, especially our sheep and pigs; some of our one year old sheep have cut as much as 14 lbs. of wool this year. Our white Chester pigs imported from Yarmouth have given good satisfaction; the offspring at seven and eight months old weigh, on an average, from 210 to 220 lbs.

The officers for the ensuing year are as follows:—*Pres.*, James Ray; *Vice Pres.*, Robert S. Copeland, jr.; *Sec'y and Treas.*, John S. Copeland; *Directors*, Edward Finlayson, Wm. Olding, Duncan McIntosh, William B. Stewart, John Forbes. *JAMES MITCHELL, Pres.*
JOHN S. COPELAND, Sec'y.

THE CROPS IN MIDDLE RIVER, VICTORIA, C. B.

I am happy to inform you that notwithstanding the drought of July and August, which greatly retarded the growth of hay and oats, particularly on sandy soils, the harvest promises to be far above the average of last year. The quantities of wheat sown has turned out a fair average crop. The blight in the potatoes has but slightly appeared, and not until the middle of September, so that I may safely say the potato crop have not been so promising for twenty years. Grain sowed on loamy soil has yielded well in quantity and quality, so that I

may say, without exaggeration, that the yield this year will be fifty per cent. over that of last year.

J. McLENNAN.

UPPER LONDONDERRY AGRICULTURAL SOCIETY.

The annual meeting of the Upper Londonderry Agricultural Society was held in Folly Village on the 8th December. The Treasurer submitted his report, which was examined and found correct.

1868.	Cr.	
By balance on hand.....		\$12.84
" subscriptions.....		24.00
" Provincial grant.....		21.00
" stock sold.....		16.00
		\$73.84
1868.	Dr.	
To purchasing bull.....		\$6.00
" expense on do.....		4.00
" purchasing oats.....		24.00
" purchasing potatoes.....		20.25
" service of Secretary.....		11.00
		\$65.25
Balance on hand.....		\$15.59

The Society proceeded to elect officers for the ensuing year, as follows:—*Pres.*, James Campbell; *Vice Pres.*, Henry Uquhart; *Treas.*, Thomas Pawikne; *Sec'y*, D. F. Layton; *Directors*, F. M. Pearson, James Fleming, John E. Faulkner, John Johnson, Charles Finton.

Report of crops in Upper Londonderry, 1868:—Hay, extra good; wheat, fair crop; oats, average; barley, light; buckwheat, good; potatoes, average; turnips, good; carrots, good; Indian corn, good; beans, squashes, pumpkins, &c., a fair yield.

JAMES CAMPBELL, *Pres.*
D. F. LAYTON, *Sec'y.*

UNION AGRICULTURAL SOCIETY OF EAST CORNWALLIS.

The officers of this Society, in making their report for the annual meeting of December 1st, 1868, are pleased to state that the affairs of this Society are in a prosperous condition. Many persons that heretofore stand aloof from the Society are now seeing the improvement made in stock by members, and are asking admittance. As all our available means have been required to pay off the old debts, except the nett earnings of the bull "Sir William" since last April, there is not yet enough in funds to make any more purchases of stock at present.

The fine bull owned by this Society was sent to the Provincial Exhibition held in October last, and took the first prize awarded to thorough-bred Durhams. The stock bred from this bull is showing superior qualities.

For the crops in this section of the County this year, we have to report that our principal cultivated crop, the potato, has fallen far below the average. Hay is above the aver-

age, and has been secured, for the most part, in good order. There was more wheat sown this season than usual, but it has been nearly destroyed in these parts by the weevil. Oats, barley, rye, Indian corn, and buckwheat, are an average crop. The very wet season injured most of the crops to some extent.

This Society now numbers fifty members who have paid up their dues.

The following are the officers elected for the ensuing year:—*Pres.*, L. D. V. Chipman; *Vice Pres.*, Edwin Chase; *Sec'y and Treas.*, D. B. Newcomb; *Directors*, A. G. Mursters, John W. Margeson, John T. Newcomb, G. S. Lockwood, and Jonathan Rand.

The financial state of the Society is thus reported:—

RECEIPTS.	
Members' subscriptions, at \$1.00 each.....	\$50 00
Earnings of bull	150 00
Premium on ditto at Exhibition in Halifax. . .	25 00
Provincial grant (not known).....	—
	\$225 01

EXPENDITURE.	
Keep of bull, to L. Eaton, Esq.....	\$81 25
Incidental expenses	15 00
Secretary and Treasurer's salary (voted).....	12 00
Available funds.....	116 75
	\$225 00

J. T. NEWCOMB, *Pres.*
D. B. NEWCOMB, *Sec. & Treas.*

NORTH-EAST MARGAREE AGRICULTURAL SOCIETY.

The annual meeting of the North-East Margaree Agricultural Society, Co. of Inverness, was held on Tuesday, 1st December, 1868. Present: the office-bearers, Directors, and several subscribers.

Thereafter the Secretary stated that this is the day appointed by law for the election of officers, when the following members were chosen:—*Pres.*, Thos. Ethridge; *Vice Pres.*, Donald Ethridge; *Sec'y*, John Munro; *Treas.*, Joseph A. Ingraham; *Directors*, George Ingraham, David Ross, Mark Ingraham, Moses Murphy, James Joseph Ross.

Thereafter the Secretary also stated that from the poverty of this district, by the failure of crops, nearly one-third of the usual members have failed to pay up their annual subscriptions for the present year. That in May last seed oats were purchased in Prince Edward Island and conveyed to this harbour, with the remaining available funds, and distributed amongst the subscribers. Time was allowed to pay the price of the oats, but, with few exceptions, the respective prices are still outstanding. From this unforeseen circumstance the Society is unable to send a certified list of paid subscribers to the extent required by law.

The Society now place themselves on the bounty of the Board of Agriculture, to take the case of this Society into consideration, and that relief may be given to whatever extent the Board may see proper, from the inability already stated, deducting from any allowance the sum of eight dollars, which was subscribed and payable this year for support of the late Exhibition at Halifax. In short, the Durham bull and rams purchased at the Richmond sale in 1866, exhausted the funds for their support, which was not anticipated at the time of purchase. Two of the rams

being a Coatswold and Leicester, have both died during the year. The bull "Yoman" is in good condition at present, although expensive, and will ultimately turn out useful for improvement in stock.—yet these purchases have been greatly the means of draining the Society of funds.

State of crops for the year 1868:—

Hay.—This crop turned out above the ordinary average.

Oats.—An average crop.

Barley.—A full average crop

Wheat.—A good crop in most localities, but sparingly sowed.

Potatoes.—A good crop; improving in the cultivation.

Beets, Carrots and Mangel Wurzel not raised to any extent.

Turnips.—Farmers are improving in raising this crop. This year has exceeded former years.

THOS. ETHRIDGE, *Pres.*
JOHN MUNRO, *Sec'y.*

BREAD AND YEAST.—The bitter flavour which is too apt to prevail in bread made from home-brewed ale (or indeed from purchased table beer) yeast, can be effectually obviated by washing the ferment repeatedly with pure, very cold water, suffering the yeast to subside, and then pouring off the water after every subsidence till the washings cease to bring away the bitter flavor. After which the yeast is to be strained through a quantity of good wheat bran, such as a farmer obtains when he sends his own grist to the mill. This medium does not only correct the alkaloid bitter of the ferment, but adds fresh fermentive principle to it.—*Agricultural Gazette.*

HOW TO DRAW BLOOD.—The operation of bleeding is generally performed in the horse and ox by opening the jugular vein, which runs along the hollow in the neck, above the windpipe; either steam or lancet may be used. Sheep are bled by opening with a lancet the vein in the inner canthus of the eye, about two inches from the corner of the orbit. The vein inside the knee, or inside the thigh, may be punctured instead. Pigs may be bled in the two last-named places, or by puncturing the roof of the mouth a short distance behind the corner teeth. The pulse may be felt in the horse at the edge of the lower jaw, where the sub-maxillary artery crosses the bone—in the ox, by placing the finger between the dew-claws of the forelegs—in sheep, pigs, and small animals of any kind, by placing the hand firmly over the region of the heart, immediately behind the elbow on the left side.—*Ibid.*

The staple productions of the Island of Jersey is early potatoes. The land is manured to an extraordinary degree with seaweed, stable manure, and Peruvian guano, to force the potatoes forward. They are sent to the London market early, and thereby fetch so great a price that an acre of early potatoes is valued at one hundred and sixty pounds.

The old German adage had it, "No cattle, no manure; no manure, no crops." The farmer's first necessity was manure; and when followed as economically as the German did by soiling his animals, the amount of fertilizing matter returned to the soil is abundant.

Miscellaneous.

HORTICULTURAL MATTERS AT THE PENNSYLVANIA STATE FAIR AT HARRISBURG.

As a general rule, one does, not expect to find much in the way of Horticulture at an Agricultural State Fair, for although the schedule presents some very tempting offers—in the shape of premiums—it is well understood among gardeners and nurserymen, that the men appointed to serve on the committees know little or nothing of fruits or flowers, beyond the mere fact of their looking nice or tasting well. And the result is just as might be expected, the sensible gardener knowing this, keeps aloft from such like places, while the poor grower with inferior stock steps in and carries off the prize.

So that, after all, the premiums awarded are not surely a fair index of the merits of the article exhibited. But as the officers of the Pennsylvania Horticultural Society neglected to notify its members of their intention to give an Autumnal Exhibition, I thought it just possible, that the gardeners of Harrisburg, might be out in force. So with thousands of others, I wended my way along the banks of the Susquehanna to the great State Fair of Pennsylvania. Nor was I disappointed, for the display of fruits and flowers was very creditable to the city of Harrisburg.

That which above all things, distinguished the fruit department, was the table of foreign grapes, exhibited by F. O'Keefe, gardner to J. D. Cameron; there were some ninety bunches in all, consisting chiefly of Black Hamburg. Those grown in the cold grapery were very finely colored. One peculiarity in this collection was the great numbers of double bunches, the Black Hamburg, White Frontignac, White Nice, Muscat of Alexandria, Gros Colman and Muscat of Hamburg, had each one or more double bunches.

Mr. O'Keefe exhibited a specimen of grape training in the shape of a piece of one year old cane, about ten feet long and three quarters of an inch in diameter, with twenty large bunches of Black Hamburgs hanging on it, five of which were double. The vine from which this cane was cut, had in all some sixty bunches of grapes on the present season. The Gros Colman in this collection was very large and fine, also the Muscat of Alexandria; it is seldom one sees such large bunches of this grape on account of its habit of setting badly. The committee awarded a premium of five dollars to this table for the best collection, this fact alone will give you an insight as to the competency of the committee in such matters.

The next great feature of this department was the table of preserved fruit in glass jars, exhibited by Mr. J. Atherley, agent for Mr. Rowley, 509 Market St., Philada. Next to growing a fine fruit is the pleasure we derive in being able to preserve it. Mr. Atherley seems to possess that secret to perfection. I observed a jar of Duchesse Pears in this collection, preserved whole; until now I had supposed it next to impossible to preserve fruit without paining them; this jar of Duchesse would indicate that the problem is solved. A dish of fruit marked "Pound Pears," were very fine. This I should hardly consider a proper name for a Pear seeing as we have many varieties of Pear that will weigh one pound or more.

W. Hummel had fine Louise Bonne de Jersey Pears, marked as weighing, one eleven oz., one nine oz., and three eight ounces each.

The display of Apples by the Lycoming County Agricultural Society was very fine, but as these were not the production of any one individual, it was hardly the thing to allow them to compete.

Mr J. Kepple of Harrisburg, exhibited a table of native grapes embracing some sixteen varieties. Roger's Hybrid, No. 19, and No. 34, were particularly fine. The Catawbas in his collection were the finest I have ever seen, so fine indeed that a dish of the celebrated "Iona" appeared quite common placed alongside of them. In this lot I noticed the Maxatawney and Rebecca, neither of them anything extra. A dish of Allen's Hybrid, a white grape, was very beautiful, resembling more a Chasselas de Fontainebleau than a native. I afterwards learned that this grape, with several other varieties in this collection, were not grown by the exhibitor. It is the rule in most Societies, to demand that the articles should be *grown* by the exhibitor, which seems but fair.

Thos. Oliver, gardener to Gen. Cameron, exhibited six bunches of foreign grapes marked Black Prolitic, quite small in bunch and berry, but jet black in color; one bunch of White Buel, Muscat, Tottenham Park, Gros Gromier du Cantel, identical with Gros Colman, as exhibited by Mr. O'Keefe; a bunch of Black Haniburg and one other variety.

The Pumpkins in this department were quite a feature, the largest I noticed was marked one hundred and forty pounds. The potato growers were out in force. "Early Rose" by Geo. M. Rupp, Cumberland Co., looked very promising. Of all the potatoes shown, including some twenty kinds, the "White Mercer" was pronounced the finest and fairest potato exhibited. From this department I made my way to the floral tent, and what your

correspondent there saw and heard will be given in my next.

[Our correspondents criticisms are *just*, but not tinged with that *mercy* which he would have if he had had our experience in "getting up" fairs. No one knows how hard it is, to get the "good judges" our correspondent would like to see; but those who have tried Executive Committees have to do the best they can. If good exhibitors stay away because of probable slights, good judges stay away for similar reasons. We never knew a judge, however impartial and competent, who was not abused. In the present case, we have no doubt the officers did the best they could to get the best judges, and that the judges did the best they honestly could. If we were exhibitors under such circumstances, hurt though we might be by the judgment, we should construe it charitably, and say nothing. Fairs are not so much for personal interest as for public information, and he who contributes to them should feel that in all probability his aid, useful as it is to the general good, may possibly be at some sacrifice to himself.

With regard to the Pennsylvania Horticultural Society, there have been annual exhibitions in September every year for over a quarter of a century. The day was fixed a year ago, and printed on the schedules, which have laid on the societies tables every monthly meeting night since then. It is hard to understand what other notification would be necessary. Perhaps the "officers of the Society" might in their turn complain that "members" took so little interest in the Society, as never to honor it with their presence, even to know what is going on.

We do not offer these suggestions because we think our friend's strictures are not just, but because our experience in such cases, makes us feel a very large charity for all faults and short-comings. These fairs and exhibitions are of immense value to the community. Those who give their time as officers, judges, exhibitors and so on, are amongst the best of public benefactors; and many a time when we feel like scolding at their blundering, the glory of their deeds, seems to plead with us to be as merciful as possible.—Ed. *Gardener's Monthly*.

[We reprint the above, because we think it will do good to a number of persons to lay to heart the wholesome sentiments. A public exhibition is, more than anything else, a spontaneous effort of the people; every man, woman and child is expected to play his or her part; all have to join hands to form one united circle, and if cupidity or sourness of temper or any other unworthy spring of action gives rise

to kicking, it greatly mars the profitable enjoyment of an Exhibition.

We were not without kicking horses at the recent Great Exhibition at Halifax; but we would remind some of these gentlemen, whether they be of the press, or the turf, or the workshop, or the barn yard, that a horse that stopped to kick never yet won the Derby.—Ed. J. of A.]

AGRICULTURAL NEWS OF THE SEASON IN SCOTLAND.

(From the Farmer.)

Farmers, as well as others, have been so busy electioneering of late that agricultural reports have been temporarily suspended. The weather has been calm and dry, with occasionally a touch of frost. For all kinds of seasonable farm labour it could not be better. The termination of the excitement regarding the elections will have a good effect on trade, and we have seen further evidence of a firmer feeling in wool, leading to higher prices.

The agricultural implement makers will be well represented in the new Parliament, Mr. James Howard, the Messrs. Samuelsons, father and son, and Mr. Bentall, being all returned.

Mr. P. McLagan and Mr. William McCombie, both "farmers' members," have been successful candidates for seats in Parliament. Mr. McLagan has proved himself such a useful member, on agricultural questions, that his defeat would have been a great loss to the agricultural interest. The defeat of Sir William Stirling Maxwell, however, is a decided loss, while that of Mr. Milner Gibson, the knight of the obstructive metropolitan narrow-bone and cleaver interest in the late Parliament, is a gain.

The Edinburgh Christmas Club have held their usual Christmas Exhibition of Cattle and Poultry.

The exhibition of fat cattle and other stock, under the auspices of the Northern Counties Fat Show Club, was fixed for 4th December at Inverness. Last year the show was a complete success, when promoted chiefly by private individuals, and the success ought to be still greater now that the exhibition takes place under the auspices of an association. The following special prizes are offered: Messrs. Macdonnell & Co., Tartan Warehouse, for the best fat Highland ox of any age, £5 5s.; the Inverness fashers, for the best fat short-horn ox, £5 5s.; Inverness hotel-keepers, for the best fat polled ox, £5 5s.; Messrs. R. Carruthers and Son, for the best fat ox, £5 5s. In addition to these prizes, £36 has been contributed

as subscriptions or donations to the Club, including £10 from Lord Lovat, £5 from Colonel Fraser-Tytler of Aldourie, and from Mr. White of Monar.

The first report of the commissioners appointed to inquire into the employment of children, young persons, and women in agriculture was published on Monday morning. The chief commissioners were Mr. Hugh Seymour Tremenheere and Mr. Edward Carleton Tuffnell. They stated that the evidence already collected by the assistant-commissioners, and their reports upon it, materially advance towards a solution of the question submitted for inquiry; but any attempt to draw conclusions from them would be premature. They therefore content themselves with drawing attention to the principal points in the documents prepared by the assistant-commissioners, and they promise their final report before Parliament in the course of the next session.

The only "squib" in reference to the return of Mr. McCombie of Tillyfour, as the representative of West Aberdeenshire, was one which simply contained an extract from Scripture—not, however, from any of the canonical books. The quotation was as follows:—"How can he get wisdom that holdeth the plough, and that glorieth in the goad; that driveth oxen, and is occupied in their labours, and whose talk is of bullocks? He giveth his mind to make furrows; and is diligent to give the kine fodder. He shall not be sought for in public counsel, nor sit high in the congregation; he shall not sit in the judge's seat, nor understand the sentence of judgment; he cannot declare justice and judgment, and shall not be found where parables are spoken."—(Eccles. xxxviii. 25-33.) The placard containing this quotation was speedily answered by a handbill bearing the following passages, "not from the Apocrypha:—"Seest thou a man diligent in his business? He shall stand before kings; he shall not stand before mean men."—(Prov. xxii. 29.)—"Blessed shall be the fruit of thy cattle. The Lord shall cause thine enemies that rise up against thee to be smitten before thy face; they shall come out against thee one way, and shall flee before thee seven ways."—Deut. xxviii. 7.)

[We think that the good people of Aberdeen might find more appropriate occasions for ventilating their biblical knowledge.—Ed. J. of A.]

The wheat harvest in America is stated not to be so good as was expected.

CHARACTERISTICS OF THE DIFFERENT BREEDS OF CATTLE.

(From the American Stock Journal.)

The breed to which the most attention is at present directed is the family of

Short-Horns, known as Durhams. These are generally of a roan or spotted red and white color, although sometimes of a pure white or a deep red. They are well shaped and contain great weight of carcass in the smallest dimensions. Durham cattle make superior oxen and are the most profitable for beef, but in milking qualities they are believed by some to be inferior to some other breeds, but this is not admitted by all. A cross of the native with the Durham will produce good results. The English have generally excelled in these animals, but of late American cattle have been purchased by English breeders, to improve their herds. There are at present quite a number of breeders of Durhams in this country.

Alderneys. This stock of cattle is a variety of purely dairy stock, and originated in the channel islands. They are not large. They yield but little milk, but that is extremely rich, some extra fine cows making fifteen to twenty pounds of butter per week. Quite a number of importations have been made, and they are pretty well scattered over the eastern and middle states, where they are held in high estimation for their valuable dairy qualities. In England they are kept by fanciers more for ornament than use. The breed is of French origin.

Ayrshires. This breed is supposed by some to be a cross of the Durham and Alderney; it takes its name from the county of Ayr in Scotland. It is extensively raised in England and probably ranks next to the Durham in numbers in the United States. They are favorites with some first class dairymen from the quantity and quality of milk and the readiness with which they fatten after having served their purpose in the dairy. They are short horns of mingled white and red color.

Herefords. These cattle are not first rate milkers, but are more profitable for beef than some others. They are not generally bred in this country, other stocks doing as well. They have long horns, and are of a red color, varying from dark to pale or nearly yellow, and mostly marked with white bellies.

Galloways. A hornless breed and like the Herefords better for butchering than dairy purposes. They have straight backs, and sides round like a barrel, capable of sustaining great weight of meat. The color is generally black, occasionally spotted with white or dark brindled.

Devons. This breed is not of large size, but is well proportioned. They yield a medium quantity of milk of superior quality, and by some are esteemed the best breed for the dairy. They fatten well, having the desired streaks of fat and lean, and a fine flavored beef is obtained from the carcass. This breed has been

greatly improved within the last few years, and the cattle are noted for their docility either as dairy cattle or oxen.

TREATMENT OF HORSES WHEN HEATED.

(From the American Stock Journal.)

Men and horses are the only animals that sweat. So say the medical men, whose business it is to investigate the wonderful living mechanism of both. The ox cools off by accelerated respiration; if heated in the farrow, he partially opens his mouth, drops his tongue, and by rapid respiration, or short breathing, throws off the excess of heat which has accumulated in the system. "Old Dog Tray" that runs panting by the side of the carriage through the intense heat of a July sun, dashes into the cold spring with impunity, and returns refreshed, having no perspiration to check, when men or horses, submerged in a like manner, would suddenly check perspiration, and if they survived the shock, it would be but to die with acute or chronic inflammation. In violent motion, the respiration of both men and horses is increased, but not sufficiently so as to carry off the heat that is generated; they perspire through the skin, the pores of which become opened or enlarged, and it is while in this condition that both are exceedingly liable to be injured, and when great care is necessary to preserve the health of either.

We saw a noble looking animal the other day standing by the road side of a public inn, (the owner evidently one of "my friends"—within talking politics with mine Hest—"or some other man") wet with perspiration, dotted with foam, and apparently highly heated. There he stood unchecked by rein or halter, faithfully waiting his master's return. The day was cold; the wind blowing a gale from the northern hills! Impatiently he pawed the frozen ground, champed the bit, and wildly flung his head from side to side while his lips were contracted and nostrils collapsed, giving him a fierce and unnatural appearance. No blanket covered his wet and heated body, the cold wind was fast cooling him off, causing his moist long hair to stand on end like that of the porcupine. He was evidently suffering severely. And this is no uncommon sight. So little is still known of the physiology and functions of the horse, that the man who would refuse an extravagant price for a favorite animal, suffers him to stand in the condition which I have described. If the horse escapes an attack of colic or inflammation in some shape, it will be his good fortune, and not from any wisdom or humanity on the part of his owner.

Even in mild weather, though it may

be summer. men or horses should not remain quiet in a cold draft, when heated and wet with perspiration. Millions of the colds complained of, would be prevented, by observing this simple rule, and thousands of valuable lives preserved which are now annually extinguished.

But if you, who value the noble animal which you control, when you "rein up" for business or pleasure, let the "mantle of charity" come over your steed in the shape of a good warm blanket. Depend upon it, you will find it cheaper than physic, travelling on foot, or drawing your cart yourself.

AGRICULTURAL LEGISLATION IN ONTARIO.

It is refreshing to see the readiness with which the Provincial Legislature of Ontario is going into measures calculated to develop the resources and promote the internal industry of the country. The *Canada Farmer* states, that in addition to the Free Grant Question, there are other most important measures bearing on agriculture and the rural interests of the Province. In the mining interest very material changes are proposed, especially the abolishing of all royalties and taxes on minerals. A Homestead Exemption Law is also under discussion, which has for its object the exemption of homesteads, to the value of \$1,000, for sale or execution for debt. These bills are not yet in a forward state, but by our next issue we hope to be able to report fully and favourably on these important matters. An Act will probably be passed to prevent the setting out of fires during the dry period of the year. Modifications are also contemplated in the sheep and dog law, and a few slight changes in the game law.

MORE LABOR WANTED ON THE FARM.

A thriving farmer to whom we put the question, What item of expenditure pays best in your operations? answered "Labor." He had then in the field six men and kept them constantly at work for nine months in the year. He had but sixty acres of land, yet the gross products were about fifteen thousand dollars a year. A single item in this year's crop was 6,000 bushels of seed potatoes. His rough farm was rapidly rounding into form under his plastic touch. Old stone walls had been removed, and the small fields opened into large ones. Rocks had been blasted and sunk, and the rough places made smooth. The wet places had been made dry by deep drains. He subsoiled, and guarded every crop against draught. He kept at work upon improvements, and made the crops pay for

and working an acre of land, than we do them. He said he regretted nothing so much as that he had not employed more help. This clear-headed farmer is unquestionably right. Nothing pays so well as labor, even at the present high prices. Almost all farm products have advanced more than labor in the last eight years. And if this were not so, we think in the single item of improved implements the farmer has an advantage that more than balances the increased price of labor. He can make hay cheaper with these tools to-day than he could ten years ago without them, though he pays a third more for labor. Yet many of our farmers doubt this, and continue to apply the labor of one man to a hundred acres, and call it economy. We have no doubt it is the most expensive mode of applying labor. Almost every thing can be made cheaper on a large scale than on a small one. The publisher makes very little on a thousand copies of a work; on a hundred thousand he would make a small fortune. It will not pay to build a factory and use power looms to make cloth for the use of one family; to clothe the people of a State it is a very good business. Most farms have every requisite but labor to grow four or five times their present amount of crops. They have land enough, and often all the materials for making manure. They lack the men to haul the sea-weed, the muck, or the marl, to burn the lime, and to handle the compost. For lack of labor three-fourths of their capital lies idle, or pays them barely two per cent per annum. One great advantage of plenty of labor upon the farm is the ability to do every thing at the fitting time. Nearly half the expense of handling muck is saved if it is dug out in a time of drought. Three-fourths of the labor of tillage is saved if the men are put into the field as soon as the weeds are in sight. Every crop is followed up with timely care, and is raised at the least cost. There are improvements that almost every farmer has upon his mind that never get done for the want of labor. He knows that underdraining is paid for by the extra crops of two good years, leaving the land more than doubled in value for a lifetime. He never finds time to do it. He knows that manures pay well, yet he never makes half the amount he could use to advantage. We need to do business on a larger scale to make farming pay better. We must have faith in our calling, and invest capital as liberally as the merchant or manufacturer does in his. There is much less risk in our business. We can afford to make our ventures larger. As a matter of fact the farmers who make the most money in this country are those who employ the most help, and most wisely direct it. In England they will often

spend more capital and labor in manuring in its purchase with the expense of manuring and working added. At this season, when we sum up results and forecast the future, let us plan to use more labor.—*American Agriculturist*.

LITERATURE.

It is of the greatest importance that Agricultural Societies in the country should make efficient arrangements for circulating among their members some of the best Agricultural periodicals. This is the season for renewing subscriptions by those who have been in the habit of taking papers, and of commencing to take by those who have not hitherto.

Most of the proprietors furnish their journals to Societies at reduced rates, when a considerable number of copies are taken.

The *American Agriculturist* is far before all competitors on this Continent as regards the amount and character of its reading and beauty of illustration. For a year's subscription of a dollar and a half (greenbacks) it furnishes monthly about 36 large quarto pages, elegantly printed, of the most useful information that can be carried into a farm household; and the wood-cuts, profuse in number, are equal to those of any illustrated journal in Europe. It is published by Orange Judd & Co., 41 Park Row, New York.

The *Canada Farmer* is likewise a periodical of great value to our farmers; and now that our trade and interests in the Western Provinces are increasing, it is needful that we should look over our neighbours' fences. The Bee-keeping and Entomological articles are especially valuable, and the Editor keeps his readers well posted with the movements of live stock, both at exhibition and market, spirited pictures of the leading animals being given from time to time. The *Canada Farmer* is published by George Brown, Toronto, at one dollar per annum.

The *American Stock Journal*, published by Messrs. Boyer & Co., of Gum Tree, Chester County, N. Y., is always a welcome visitor, and we occasionally transfer to our columns one of its most useful articles on the management of live stock.

The *Gardener's Monthly*, edited by

Thomas Meehan, Philadelphia, (\$2 per annum.) is entirely devoted to the garden. All the latest information is given respecting new vegetables, new fruits, new flowers, and new fancies in cultivation. Its articles are well and carefully written, and the advice given is thoroughly honest. The southern sky under which the *Monthly* is edited is rather too clear and sunny for all the hints to be followed by us.—yet he must needs be a poor gardener who cannot glean two dollars worth out of the *Monthly* in a year.

The *Monthly Reports* of the Department of Agriculture, Washington, we usually receive through the kindness of Mr. Selden and Mr. Monaghan. The new Commissioner is maintaining their useful character.

NEWSPAPER DIRECTORY.—George P. Rowell & Co., the New York Advertising Agents, are about issuing a complete American Newspaper Directory. It is a compilation much needed, since nothing of the kind having any claims to completeness has ever been published.—Messrs. Rowell & Co. have spared no pains or expense to make the forthcoming work complete. We understand the book will be a handsome octavo volume of about three hundred pages, bound in dark cloth, and sold for five dollars per copy.—As the publishers are Advertising Agents, their issuing a work containing so much information, usually jealously guarded by those in that business, shows that they are confident of their ability to be of service to advertisers, or they would not so readily place in their hands the means of enabling every one to communicate direct with publishers, if they so desire.

THE AMERICAN PROTECTION POLICY.—Horace Greeley purposes to write, during the year 1869, an elementary work on Political Economy, wherein the policy of protection to home industry will be explained and vindicated. This work will first be given to the public through successive issues of the *New York Tribune*, and will appear in all its editions—Daily, \$10; Semi-weekly, \$4; Weekly, \$2 per annum.

FLYING STRAWS.

The season has so far been comparatively mild, with enough snow for sleighing in the interior of the Province.—The White Striped Borer is abundant at Kingston, Ontario, and very destructive to apple trees.—A Mill Pond on the

Sackville River, which was run dry the other day, was found to have become completely filled up with saw dust. How can we expect salmon in Bedford Basin or trout in the river?—The *Toronto Globe* is to have an Agricultural Department.—Up to 19th December there was not more than three inches of frost in the ground, and only a few inches of snow.—The "Early Rose" potato is said to be the belle of the season, producing in the States 300 or 400 bushels to the acre with very little manure.—The average yield of wheat over England is 27 bushels per acre; the average consumption 160 millions of bushels.—The second volume of the "Jersey Herd Book" has just been published by John Brooks, Princeton, Mass.—The Early Rose potato is selling at \$1 per pound weight, or \$5 per peck.—Mr. Samuel Thorne, the celebrated breeder of New York State, has sold his entire flock of Southdown Sheep to Mr. Adin Thayer, Jr., Hoosick Falls, N. Y.—The Yarmouth County Society has at length discovered the proper season for a young man to sow his wild oats: see Report.—The Chief Inspector of Sheep of the Colony of Victoria reports favourably of the efficacy of carbolic acid in the cure of "foot rot": the sheep are made to walk through a shallow trough containing a greasy mixture, with which the acid has been incorporated.—Merino Sheep are going out, in the States, and the Potato fever is coming in.—To cure a kicking horse, tie up some prickly bushes a short way behind him in the stable, so that his feet will be pricked every time he kicks.—The Royal Horticultural Society offers prizes for *useful* and *noxious* fungi.—A great Poultry Show, "the finest in America," was held at Philadelphia during Christmas week.—The "Clinton" is said to be the hardiest of Grape Vines, standing the coldest weather, in the most exposed situations, without any covering.—The Cherry crop was almost a failure in the Atlantic States.—Professor Gamgee proposes to cure beef by means of sulphurous acid gas.—Salisfy should be kept in the ground all winter, like parsnips.—At the close of the season the Geraniums and other bedding plants of the London parks and public gardens were distributed freely among the working classes.—Hop-growing has been overdone out West, and hops are a brewers' drug in the market.—Hawking is being revived in Scotland.—California is likely to become the greatest raisin-producing country in the world; Malaga grapes are grown for this

purpose.—C. E. Brown, Esq., Yarmouth is acting as agent for the *American Agriculturist*, and Agricultural Societies may obtain their copies through him.—In reference to the defeat of Canadian apples at the recent Halifax Exhibition, the editor of the *Canada Farmer* seeks consolation under the reflection: "We do not know how far our Canadian apples were duly represented."

Communications for the Editor, Exchanges, &c., may be addressed to Professor LAWSON, Dalhousie College, Halifax, N. S.

ADVERTISEMENTS!

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JAMES STANFORD.

Halifax, N.S., June, 1868.

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