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AGRICULTURAL JOURNAL,

AND

TRANSACTIONS

OF THE

Lower Canada Agricultural Society.

Vol. 5.

MONTREAL: DECEMBER, 1852.

No. 12.

RAIL-ROADS.

We are quite delighted to see that the Legislature have provided for the construction of the Grand Trunk Rail-road, from one extremity of the Province to the other, and there is now no doubt that this great work will be accomplished before the expiration of many years. The credit of the Province is fully equal to any accommodation of capital she may require for this work, and though parties may object to incurring so large a liability, we do not believe that there is the slightest grounds to apprehend any evil consequences, but on the contrary, we may anticipate that it will be the means of rapidly advancing the improvement and prosperity of British North America. A Rail-road through a new country, is the cheapest road that can be made, considering the many advantages it has above all other roads, in the saving of time, which may be better applied in clearing and cultivating the land. It would be half a century at least, and perhaps longer, before any other road would be constructed along the proposed Grand Trunk Line, that would be of much use as an encouragement to settle the country. What would be the value of produce that had to be carted to market, upon a common country road, two or three hundred miles, or even one hundred miles? The loss of time and labour would be as much perhaps, as the whole would sell for. The money expended on the road in its construction will not remain buried there, but will nearly all go into circulation for Canadian products, and Canadian labour. England will assist, we have no doubt, and a few millions would be only a

trifle to that country, to construct a road that would be a permanent means of communication between her, and her noble possessions in North America. We observed by our papers come by the last mail, that the Bank Note circulation in that country is increased more than four millions of pounds sterling over what it was this time last year, and the bullion in the Bank of England, is augmented nearly seven millions sterling, within the same period, and who can conjecture what it may be increased this time next year. This immense augmentation of capital, will account in some degree for the great rise in the price of agricultural products lately, in the British Isles, and also for the flourishing state of trade. We want capital here, where there is such a vast extent of land uncultivated, and some settled, that is very defectively cultivated. The expenditure of a few millions of pounds currency, in the country, will give a new impetus to our agriculture, and be an inducement to farmers to raise larger crops, and better cattle, when there is a prospect of disposing of them at remunerating prices. We do not desire more convincing proofs of the progress of our country in improvement than by seeing Rail-roads in progress of construction. This will afford certain means of improving the land by opening up of the country, and giving a market for its produce. There is no danger of a country possessing a good climate, a fertile soil, an industrious and thriving population, and having ready access to a good market. With such advantages she must "go-a-head." We may not have all these advantages at this moment, but it is in our

power to acquire any of them which we have not. Our progress may not have been so rapid hitherto, as in the United States, but nevertheless, we have no cause for dissatisfaction at our present position, and we confidently hope Canada will now make ample amends for any time she may have lost, and we wish her *God speed*.

To the Editor of the Agricultural Journal.

SIR,—As it is my utmost desire to see the farmers in general improve in their system of rearing and feeding their young stock of swine and cattle, which I am sorry to say in this part are so miserably attended to, for instance, look in any of their fields as you travel past, and the first object that strikes your attention are a few half-starved calves, which are not larger than the day they were dropped; as also their pigs, for at every house, you see them more resembling a pigmy race of starved grey-hounds than that of pigs, and there is nothing that will repay the farmer at this present moment, or bring him quicker returns in cash, than feeding pork for the market; for instance, you see the usual practice in the country is to let the spring pigs run at large in a miserable field till the snow falls, with no other food but what they can find to graze off said field, and then they are left to sleep out, exposed to the cold winter's bleak winds, and without, most part of the time, any place to sleep but the manure heaps, and fed with such food as is convenient to the farmer, and in a very scanty proportion; and, if fed at all, it is only to keep them in existence till the second Autumn, when they are put up to fatten, and in the course of 60 or 90 days, are fed off and slaughtered, which, during this brief period, they gain about 50 per cent more of dressed weight than in the fifteen or eighteen months preceding, nor even then do they yield a greater weight than is attained by the same pigs, had they been well and reasonably fed from weaning to the age of seven to nine months, as innumerable instances could be adduced of pigs of that age dressing 200 lbs., and of improved breeds weighing up to 300 lbs.; but the pig that matures and is slaughtered at seven months, or even nine, has only a moderate capacity for eating, as during the early stages of his growth, his size, and the consequent inca-

capacity of the digestive organs prevent the consumption of the same quantity which the larger animal requires, and his accumulating fat, his limited respiration, consequent upon the compression of his lungs, and his disposition to exercise, all conspire to keep the consumption of food within the smallest possible limits. The result, in the absence of any experiment, must be conjectural entirely; but I believe that experiments will show that of two thrifty pigs from the same litter, one of which is properly fed to his utmost capacity for seven months, and the other fed with precisely double the quantity of food for twenty-one months, the first will yield more carcass and of a better and more profitable quality than the latter, which has consumed 100 per cent. the most, the food being only one item in this calculation, as the oldest requires the most attention, is liable to more accidents and diseases, besides the loss of interest, as, generally speaking, the greater part of the pork that is so miserably fed, and has experienced such severe privations from what I call nothing but starvation and constant exposure to all seasons, is more or less affected with that disgusting disease called measles; and in my opinion, all such fed pork is anything but sovereign for humanity to feed on. Such, Mr. Editor, is the opinion and experience I have had, and have come to the conclusion, that by far the cheapest mode of wintering pigs, is in the pork barrel. Perhaps we can readily anticipate one objection the farmers may have of the before-mentioned practice, is the want of food at the season the pigs are farrowed, but I should say this can be easily obviated by reserving enough of the previous year's grain to keep the animal in a thriving state till the next crop matures sufficiently to feed. What I wish to prove, Mr. Editor, to the farmer is for his own benefit, and the saving of time and extra expense, for if every farmer kept one or a couple of good breeding sows over the winter to give them a good litter of early pigs, and those pigs treated as I have before described, they will find it a saving to their purses of at least fifty per cent. I speak, Mr. Editor, from experience, and not from the mere idle fancy of scribbling these few lines, for I have made the experiment myself. I have at the present moment, spring pigs weighing over 200 lbs., and when slaughtered in six weeks hence, trust they will dress 250 lbs. As the best means, I have come to the conclusion of in

keeping swine, is to feed them on a constant quiet feed, and before the cold weather sets in, to give them as much as they possibly can consume, for if fattened early in the season, they will consume less food to make an equal amount of flesh than in colder weather, and they will require less attention; and generally, early pork will command the highest price in market. I shall now give you the best and cheapest food I had found to make good pork. I mix up two-thirds of oats, and one-third of barley and buck wheat which I have ground very fine, of which I put one bushel of the said ground grain into a barrel which contains three bushels or a little more, and filling the barrel with boiled potatoes, having previously scalded the ground grain, and bringing the potatoes and ground grain all together, adding about one gill of salt to the whole, I then leave it till it gets sour, but not carried so far as to injure the food by putrefaction, and this process of feeding puts up pork as quick as any that can be found, the process in fermentation I have seen alluded to in several Agricultural Journals, but the precise point or time has not been satisfactorily determined by any of them. I often use in the place of potatoes boiled mangold wurtzel which the pigs eat voraciously, the roots for fattening animals cannot be too clear, they ought to be washed before fed, the animals ought to be kept dry and clean, and provided with a good warm shelter to which they can retire at pleasure, this will greatly hasten the fattening and economise the food, they must be fed three times a day very regular, and if any surplus remains, it must be removed at once; a little charcoal given them twice a week corrects any tendency to disorders. I have known some farmers who, when about to finish their pigs off, feed them a couple of weeks on hard corn; this, I find, is proper when slops and indifferent food has been given them, but when fattened on sound roots and meal, as I heretofore described, I consider it a wasteful practice, as the animal thus falls behind his accustomed growth, when pigs get dainty, I find a feed of raw grain given them for a change, immediately sharpens their appetite. I could comment on a still greater scale on the absurd way the generality of farmers keep their swine, but as I have given a few hints, and to the point I trust, I shall leave the remainder to themselves to solve. Perhaps some of your readers may ask what breed of swine I keep; I have kept a mixed

breed of Berkshires and Yorkshire Whites up to the present, but I now have a pair of spring pigs of the Norfolkshire White, of which I intend to breed purely, from their being a superior pig in every way from all the varieties I have as yet known or seen, which I procured from one of our most indefatigable, and I may add, scientific as well as practical farmers of Quebec, Captain W. Rhodes, who imported the said breed, regardless of cost, and who is doing a great deal towards the improvement of stock in this country by his importations of superior animals, for from such a zealous farmer, the farming community at large will derive a benefit in a few years, which no praises can too much applaud, leaving it to your approbation, Mr. Editor, should you deem these few hints I give the farmer worth giving insertion by the instance of your magical types.

I shall conclude,

Yours, very respectfully,

CHARLES HUGHES.

Nicolet, 3rd November, 1852.

From Count Rumfords' Essays.

ON CHIMNEY FIRE PLACES, WITH PROPOSALS FOR IMPROVING THEM, TO SAVE FUEL; TO RENDER DWELLING HOUSES MORE COMFORTABLE AND SALUBRIOUS; AND EFFECTUALLY TO PREVENT CHIMNIES FROM SMOKING.

The plague of a smoking chimney is proverbial; but there are many other very good effects in open fire places, as they are now commonly constructed in this country, and indeed throughout Europe, which being less obvious, are seldom attended to; and there are some of them very fatal in their consequences to health; and, I am persuaded, cost the lives of thousands every year on this Island.

Those cold and chilling drafts of air on one side of the body, while the other side is scorched by a chimney fire, which every one who reads this must often have felt, cannot but be highly detrimental to health.

Strongly impressed as my mind is with the importance of this subject, it is not possible for me to remain silent. The subject is too nearly connected with many of the most essential enjoyments of life not to be highly interesting to all those who feel pleasure in promoting or in contemplating the comfort and happiness of mankind,—but without suffering myself to be deterred either by the fear of being thought to give to the subject a degree of importance to which it is not entitled; or by the apprehension of being tiresome to my readers by the prolixity of my

descriptions:—I shall proceed to investigate the subject, in all its parts and details, and with the utmost care and attention, and first with regard to the smoking chimnies.

There are various causes by which chimnies may be prevented from carrying smoke; but there are none that may not easily be discovered, and completely removed; this will, doubtless, be considered as a bold assertion, but I trust I shall be able to make it appear in a manner perfectly satisfactory to my readers, and I have not ventured to give this opinion but upon good and sufficient grounds.

Those who will take the trouble to consider the nature and properties of elastic fluids of air, smoke and vapor; and to examine the laws of their motions, and necessary consequences of their being rarified by heat, will perceive that it would be as much a miracle if smoke should not rise in a chimney, (all hindrances to its ascent being removed,) as that water should refuse to run in a cyphon, or to descend in a river.

The whole mystery, therefore, of curing smoking chimnies is comprised in this simple direction, *find out and remove those local hindrances which forcibly prevent the smoke from following its natural tendency to go up the chimney*, or rather to speak more accurately, which prevents its being forced up the chimney by the pressure of the heavier air of the room, although the causes by which the ascent of smoke in a chimney may be obstructed, are various, yet that cause which will not commonly, and I may say almost universally, be found to operate, is one which it is always very easy to discover, and as easy to remove; the bad construction of the chimney in the neighbourhood of the fireplace.

In the course of all my experience and practice in curing smoking chimnies, and I certainly have not had less than five hundred under my hands, and among them many which were thought to be quite incurable. I have never been obliged, except in one single instance, to have recourse to other method of cure than merely reducing the fire-place and the throat of the Chimney, or that part of it which lies immediately above the fire-place, to a proper form and to just dimensions:

That my principles for constructing Fire-places are equally applicable to those which are designed for burning coal, as to those in which wood is burned, has lately been abundantly proved by experiments made here in London; for of above a hundred and fifty Fire-places which have been altered in this City under my direction, within these last two months, there is not one which has not answered perfectly well. And by several experiments, which have been made with great care, and with the assistance of thermometers, it has been demonstrated, that the saving of fuel arising from these improvements of Fire-places amounts in all cases to

more than *half*, and in many cases to more than *two-thirds* of the quantity formerly consumed.

Now as the alterations in Fire-places, which are necessary, may be made at very trifling expense, as any kind of grasse or stone may be made use of, and as no iron work, but merely a few bricks and some mortar, or a few small pieces of fire stone are required; the improvement in question is very important when considered merely with a view to economy; but it should be remembered that not only a great saving is made of fuel by the alterations proposed but that rooms are made much more comfortable and more salubrious; that they may be more equally warmed, and more easily kept at any required temperature; that all draughts of cold air from the doors and windows towards the Fire-place, which are so fatal to delicate constitutions, will be completely prevented.

Before I proceed to give directions for the construction of Fire-places, it will be proper to examine more carefully the Fire-places now in common use, to point their faults and to establish the principles upon which Fire-places ought to be constructed.

The great fault of all open Fire-places or Chimnies for burning wood or coals, in an open fire, now in common use is, that they are much too large; or rather it is *the throat of the chimney* or the lower part of its open canal in the neighbourhood of the mantle, and immediately over the fire, which is too large.

As the immoderate size of the throats of chimneys is the great fault of their construction, it is this fault which ought always to be first attended to, in the very attempt which is made to improve them; for however perfect the construction of the fire-place may be in other respects, if the opening left for the passage of the smoke is larger than is necessary for that purpose, nothing can prevent the warm air of the room from escaping through it; and whenever this happens, there is not only an unnecessary loss of heat, but the warm air which leaves the room to go up the chimney being replaced by cold air from without, the drafts of cold air so often mentioned cannot fail to be produced in the room, to the great annoyance of those who inhabit it. But although both of these evils may be effectually remedied by reducing the throat of the chimney to a proper size, yet in doing this several precautions will be necessary. And first of all, the throat of the chimney should be in its proper place; that is to say, in that place in which it ought to be, in order that the ascent of the smoke may be most facilitated; for every means which can be employed for facilitating the ascent of the smoke in the chimney must naturally tend to prevent the chimney from smoking; now as the smoke and hot vapor which issue from a fire naturally tend upwards, the proper place for the throat of the chimney is evidently perpendicularly *over the fire*.

But there is another circumstance to be attended to in determining the proper place for the throat of the chimney, and that is to ascertain its distance from the fire, and how far above the burning fuel it ought to be placed. In determining this point, there are many things to be considered, and several advantages and disadvantages to be weighed and balanced.

HINTS ON DAIRYING.

The dairy, though in many districts it forms but a small proportion of the farmers' receipts and expenditure, and is, therefore, thought of comparatively little consequence, when compared with sheep and corn, yet is more interesting than almost any other, on account of the variety of local methods of management, and the different ways in which its produce is disposed of.

A concise *comparative* view of the various systems and methods of proceeding may, if not very interesting in itself, be the means of leading some to consider whether their own methods could not be improved, for, although there is nothing in which locality appears to have so great influence in perpetuating methods as in dairying, yet there is no reason why methods practised in one county should not be successfully introduced into others. Why cheese, of the character and equal to Stilton, should not be made only in Huntingdonshire—why Cheshire and Gloucestershire produce quite dissimilar kinds—why "clouted" cream should be peculiar to Devonshire, or why Dorsetshire should be more famous for its butter than other districts equally adapted, in a natural point of view, are some of the questions which puzzle us.

In like manner the variety of breeds of dairy cattle raises the idea whether a judicious crossing might not be employed to rear kinds superior to any now in existence. The Jersey, commonly called the Alderney, famous for the richness of their milk and cream, yet give but very little of it, even in proportion to their small size, and are therefore, kept in no regular *dairy* district, except by gentlemen, out of their native islands. Indeed, it may be doubted whether this imputed richness of produce is not entirely caused by the first-rate soil and good feeding of parsnips and other roots in their native localities, for brought to England and kept in a common manner, they show no superiority over the home breeds in quality of produce, and we have no experience either in Jersey or anywhere else, as to their applicability to districts where cheese is the main produce.

The Ayrshire is a favourite Scotch breed, well adapted for this purpose, as is proved by the quality of the Dunlop cheese. The little Kerry (Ireland) cows seem principally suitable to the poor man, who feeds his cows chiefly on the roadside, and consumes all its produce in his own

family. The Suffolk polled cows are noted for their large quantity of milk, their hardihood, and being good milkers in a greater per centage than any other breed. That the Suffolk cheese is inferior is merely the result of skimming off all the cream to supply the main object—butter. The breeds of the great cheese producing counties, Cheshire, Gloucestershire, and Derbyshire, appear to be principally short-horns, or varieties thereof, so that the connection existing between the breeds of cows, and the quality or kind of produce seems not very clear, as short-horn cattle form the great majority in London, where the object is plenty of milk; in Dorchestershire, where it is butter; and in Gloucestershire, where it is cheese.

The locality and the food most easily attainable, or more peculiar to it, appear to have far more effect than the breed.

The luxuriant, though coarse herbage, of the fens appears more suitable for the production of the oleaceous or buttery portion than of the casein or curdy. Thus compare the rich soft Stilton and Collenham cheese with the hard and compact Cheshire and Gloucestershire, which are principally produced on clay soils.

The food given also affects the quantity and quality of the produce in a most material degree; and here too comparative experiments are wanting to enable us to decide *accurately* what food would increase the individual per centage of milk, butter and cheese.

Chemists can give us analysis of the constituents, both of milk and of the food of cattle, and assist in some measure; yet practice alone can enable us to form a definite opinion as to the advantage or disadvantage of various modes of feeding. We know that the London cowkeepers increase the supply of milk by giving distillers' wash and grains, not being able to use the *black cow* (pump) direct, on account of the retail buyers being also the milkers. That beans and other food containing much gluten are favourable to the production of caseine, and that probably oilcake would increase the per centage of butter, yet we still want accurate comparative experiments to enable us to judge finally and decisively.

Another important point is the flavour given by various herbs, and the measures by which we could add this if agreeable, or remove it, if the opposite. Now mountain herbage is said to greatly improve the flavour of meat raised on it, as well as the taste of milk and its produce; on the other hand, the cabbage and turnip, especially when decaying, affect the milk, cream, and butter, of the cows fed upon them. The perfect removal of this latter flavour is yet unknown. Scalding the cream, by immersing the vessel containing it in boiling water, or adding minute quantities of carbonate of soda (which, as an alkali, corrects or neutralizes the sour acid which gives the flavour), nitre or chloride of lime, all have a temporary good effect; but then, in this butter, if kept a short time, the taint seems to

work as a leaven, and the disagreeable flavour again obtains the predominance.

Experiments have proved, however, that the most rancid salt butter can by melting, frequent washing, and the copious use of soda, be made comparatively fresh and sweet; and soda is also useful in summer, for a small portion added to milk keeps it fresh much longer, either for the purpose of consumption, or for removing the cream, and as caseine is only formed when the milk becomes sour, the admixture of soda renders the butter made from this cream much more pure.

In local customs, the different methods of managing the cows, of preparing for sale, and disposing of the produce, are worthy of remark.

Thus, the Dorset farmer lets his cows at so much per head per annum, to a dairyman, who prepares and sells the product. The London cowkeeper, sells the produce of his at so much a gallon, to retailers, who milk the cows themselves, and take care to milk clean; as the last milk is the richest. The Cambridgeshire market-woman buys the butter in the rough of various farmers, and mixes and works it up herself, just as the American cheese maker sends round a waggon for sackfuls of curds to the surrounding farmers; this fact accounts for the peculiarities in American cheese.

To proceed with English modes of management.

In the cheese districts, the cheese is first made, and an inferior butter obtained from the cream which has escaped with the whey. In butter districts, the cream is skimmed off the milk, and an inferior cheese made of the remainder. In Ireland, however, all the milk is churned, which probably increases the quantity and deteriorates the quality of butter, by incorporating some of the caseine in with it. Thus Irish butter sells lower than Dorset and other English, and the butter milk, being sour, has little money value, and is generally given by gentlemen to the poor, and by farmers to the pigs. This system seems to have no advantage, except that there is less cleanliness required from, and less trouble given to, the dairywoman. But then, both skim-milk cheese (a more useful article of food to the poor man than the richer or more expensive kinds) and the puddings, and other dishes, for which skim-milk is so suitable, are all sacrificed to the "noggin o' buttermilk."

The Devonshire method of scalding the milk produces a peculiar thick cream, 'clouted,' and might easily be practised in other counties: the butter is, however, thought by some to be more intermixed with caseine, and to have a rather cheesy taste.

Zinc pans having a double bottom, the lower compartment of which was filled with boiling water, and having a large skimmer to raise all the cream from the milk at once, were used some years back to produce this clouted cream, but as the oxide of zinc speedily formed on them, and was dissolved by the acid of the milk, they were

thought unwholesome and generally discontinued. Some other metal might have been tried, although one reason for preferring zinc was that a galvanic action was supposed to be set up which more thoroughly separated the cream.

To measure the proportionate quantity of cream produced by different cows, or by the same cow, on different kinds of food, or at different times, graduated glass tubes are employed, which being filled to a certain height, and placed at rest, when the cream rises to the top its proportion is easily estimated.

A lactometer is also sometimes employed to test the quality of the milk and find out whether watered or not. This is a float, weighed with shot, with a graduated rod attached. The float or rather bulb, sinks to a greater or less depth, according to the density of the fluid. If much water is added, the fluid is less dense, and the case is reversed if the cream (the lightest part of the milk) is removed.

As to the other modern inventions for dairying purposes, the glass milk pans appear a great improvement over lead, slate, wood, or earthenware; the syphons for removing the milk from the cream, seems calculated to increase instead of lessen trouble. The milking syphon or tube, is ingenious and may be useful; two of them are inserted a short way up two of the teats, while the milker milks two others, and the milk runs from the cow through the tubes into the pail—a kind of dish cover, with a rim turned up, containing water; this dish cover, being covered with porous cloth, which draws up the water, by capillary attraction, and cools whatever is underneath by its evaporation, is an ingenious invention, and useful in keeping butter hard in summer.

The American and Drummond's churn are great improvements over the common box and plunge churns. In the American the beaters are made hollow, so as to drive the air through the cream; and in Drummond's, two perforated pistons, working alternately up and down, in a very rapid manner, pump a quantity of the external air through the cream. An improvement on the barrel churn is an external case, which may be filled with hot or cold water, according to the season, but to gain all the advantages of this, the churn itself must be made of metal, as a better conductor of both heat and cold. The box churn is particularly suited for very small dairies; the plunge for places where the butter is churned from unskimmed milk; and the barrel churn for general purposes.

Another curious point in the dairy system is the diversity of measure. Pots and lumps are of all sizes, and even in one small district liquid and linear measure are used as well as that of weight. Thus in Cambridgeshire, butter, for the advantage of the college purveyors, is sold by the yard, which weighs one pound; and a short distance off (in Norfolk), it is sold sometimes by the pint, and occasionally, as in other places, by the pound.

ON THE SHORT-HORN COW.

THIS cow and heifer should present a somewhat different form from that of the bull, being more feminine and less robust in the development of the joints and muscles. In the females of all animals there is a greater tendency to deposit fatty matter between the muscles and also more immediately under the skin—this gives a greater roundness and compactness of form. The pelvis and hind quarters should be more fully developed than in the point called the stiffe joint, should be more out to allow room for the development of the fœtus. The cow unlike the bull, should stand rather higher behind than before; and should also present a more rounded and broader appearance, particularly behind the chest than the bull. It is important to observe the cow is properly formed here, as there is no other animal with the exception perhaps of the human species, with which there are more casualties during the progress of gestation and parturition; abortion being the most common, and the most serious of all the accidents that animal is subject to, as a breeding animal.

The power of secreting milk and also of laying on fat and flesh, is dependent to a considerable degree, on the development of the vascular system, and the common way of examining a milk cow, by feeling what is termed the milk veins, viz., those which pass along the belly before the udder is a certain sign of this. The udder should be handsome, large, well forward on the belly; the teats evenly placed and moderate in size; but as the property of giving milk is not one for which the Short horn is esteemed, the udder should not be over large as it requires to be in the Ayrshire, or other dairy breeds. The tail should be rather longer than in the male, and tapering towards the point. The eye should be large, set, and expressive of docility. The head should be fine, tapering towards the muzzle; and the neck should be less muscular than in the male. The horn smaller and more turned in or upward than in the bull. The cow should present a more deep rounded, and punchy form than the male. The parts termed points should be more distinctly marked than in the male. The point of the hook bone should be raised, and present to the eye an openness in the bony structure. On each side of the tail, flank, point before the shoulder, there should be fatty matter corresponding to the state or condition in which the animal is at the time. Also the fat on the short ribs and along the back, should be somewhat less uniform and more in patches than the male. The bull should have all the masculineness which belongs to his sex, while the cow and heifer should have all the feminineness of the female, and none of the peculiar or masculine appearance of the bull.

Over-fattening appears more hurtful to the female than to the male, except the latter is above three years old

The short-horns, as milk-secreting animals, are often seriously injured by over-feeding, and at present they stand low in the scale as dairy stock. The condition in which animals of this breed are usually kept, destroys their milk secreting powers. The constitution of a heifer or cow of any breed, appears to be always more or less injured for the dairy by over feeding; this is known to most practical men. We have seen several short-horns, and one Devon cow equal, if not surpass, the best Ayrshires, both for quantity and quality of milk.

A very valuable cow or heifer for breeding should be kept in ordinary condition.

In judging of young animals of both sexes, it is important to keep steadily in view the distinguishing quality of the short-horn, namely, early maturity. In this point they excel all other breeds, and in crossing impart this valuable property, less or more, to the offspring.

There are few joint diseases or malformation that require to be taken into account in judging cattle. There is, however, one, phthisis (consumption) that cannot be too strictly guarded against. From some causes, which we have never seen well explained, there is a tendency in some of the very highest breed animals to a delicacy of constitution, ending in disease of the lungs. Occasionally, too, the short-horn is affected with diseased joints, particularly the knee and hock joints, diseased joints will be more palpable to observation than weakness of the organs of respirations. The state of the coat, if shining and unthriving the appearance of the eye; these, if accompanied with a cough more or less hard or want of muscularity of form, should put judges on their guard as to the danger of phthisis. It is important to keep steadily in view that a high state of health is more essential in a procreating animal, than symmetry of form; both should be combined, but without the former the latter is comparatively valueless. The influence of either parent on the progeny, is greatly dependent upon the degree of mental and bodily vigour, constitutionally, as well as at the time of procreation.

The following are the points of perfection arranged in the order we consider the most essential:—

1. Pedigree on male side.
2. Pedigree on the female side.
3. Eye full, placid, and intelligent looking.
4. Head fine, tapering towards the muzzle, nostrils large, with the orange tint around the muzzle and eyes, and inside of the ears.
5. Touch soft, elastic, yielding to the touch as if the skin covered a fatty fluid between the muscles and skin.
6. Chest deep, well arched, and circular.
7. Hooks broad, raised, and open-looking at the points.
8. Quarters long, wide, and fully developed down towards the stiffe and hock joints.

9. Neck well set, straight, somewhat long, fine, without any appearance of coarseness.
10. Cheek small and lean.
11. Throat clean and well developed.
12. The points of the bone projections more or less covered with fatty matter, corresponding to the state of the condition of the animal.
13. Back broad, straight from the top of the neck to the setting on of the tail, and the tail at right angles to the back.
14. Shoulders short, light, and clothed with muscles and fat, the shoulders widely set at the points.
15. The points behind the shoulders full, and in a line with the shoulders and back. If so, the whole back will be correspondingly clothed with flesh.
16. Barrel hooped, arched, and moderately deep in the cow, rather light in the heifer.
17. Well-ribbed home, space moderate between the last rib and back.
18. Hair thick, furry, fine, and silky.
19. Udder, in the cow, moderate in size. In a line with the belly, and well up behind. Teats medium size and properly placed. In the heifer the udder loose behind, and developed before, corresponding to condition.
20. Legs squarely placed, with full knee and hock joints, broad and muscular above, and moderately broad below the hocks and knees.
21. Horns smooth, not too thick at the base, white or tipped with light brown, corresponding to colour of the skin.
22. Ears moderately long, oval shaped, clothed with silky hair in the inside.
23. Colour rich, dark or light roan white and red, or white. Dark small spots on a white skin is particularly objectionable, especially when the hair is white and the spots dark.
24. Tail well set on, thin towards the point, long, down to near the hock joints.
25. Feet sound, moderate in size, and round in shape.
26. General appearance lively, gay, docile and *stylish* looking.
27. Growth moderate. In young animals, if over large, there will be a tendency to coarseness.—*North British Agriculturist.*

An Account of a New Variety of Seed Wheat, a Hybrid between Piper's Thickset and the Hoptown, introduced by Mr. HUGH RAYNBIRD, which obtained the Gold Medal of the Highland Society in 1848, and a Prize Medal at the Great Exhibition of 1851; with Extracts from the Jury Report, and Mr. Wilson's Lecture before the Society of Arts; together with Testimonials from Agriculturists who have grown the Variety in Question. Barker and Son, Bury.

THE writer of this pamphlet has clearly demonstrated the practicability of hybridizing the cereals, and successfully solved this long desired problem. It is the application by a skilful far-

mer, of scientific principles in the field, to the production of a more valuable plant: and we would invite attention to the subject, which is so ably advocated by our author:—

New varieties of our cultivated plants generally owe their introduction to accident rather than to a systematic plan continued through a long series of years. A farmer is struck by the appearance of a few ears of corn, either growing in the field, or, what is more generally the case, in some place where the soil and circumstances are favourable for a luxuriant growth. He preserves and cultivates the seed, and in a year or two introduces it as a new and improved variety, or he may select a large and well shaped root from his turnip field, and raise stock of seed from it; such is the usual method, and it is one that has been adopted with much success; but though careful selection and cultivation may alter the appearance and growth of a plant, and improve its produce or quality, yet it can hardly be adopted as a means of introducing new varieties, but rather to improve those we already possess. In the same manner as the judicious breeder selects his cattle for those properties which experience tells him will be imparted to their offspring, in greater or less perfection in proportion as the system of feeding is judicious or the reverse, just so the seed farmer finds that the acquired luxuriance or quality of a single plant is continued by its seed in the production of similar plants, in greater or less perfection according as the soil, climate, and season, are favourable to the growth of that plant.

Much has been done by improving the various breeds of cattle, yet, with the same care in the judicious selection of agricultural seeds as of live stock, no doubt the result would be equally satisfactory. It is a matter that demands our serious attention, for if we can, by this means, add but one bushel per acre to our produce, it will, in the aggregate of the whole country, become an item of vast importance. In very many cases I have seen the production from seed of a good variety exceeding to the extent of seven or eight bushels that of another kind grown near it, under exactly the same circumstances of soil and tillage, and the same with roots to the extent of as many tons; thus it seriously affects the individual farmer, and it becomes of vast importance to the public generally that only the best and most productive of agricultural plants should be cultivated.

But whatever may be done by selection and cultivation, it is hybridization alone that varieties capable of permanently retaining their peculiarity of form can be obtained; and the new seeds that are so constantly brought before the public must either be old sorts with fresh names, or owe their origin to accidental impregnation. Cultivation and selection may for a time alter the form of plants, but under a different system of treatment they return to their original state: with Hybrids it is otherwise. It is a matter of some importance that the form and character of

plants may be combined or altered with so much ease; the operation merely requires patience and careful selection.

The Hybrid wheat, which is now offered to the public notice, is a red wheat, with stiff straw of a medium size, and is similar to one of the best specimens shewn at the Great Exhibition. It owes its origin, as a distinct variety, to the following circumstances:—

In the year 1846, I grew in a garden at Hengrave, near Bury St. Edmunds, Suffolk, a few plants of Piper's Thickset wheat, a red variety, then recently introduced by Mr. Piper, of Colne Engaine, in Esse, and remarkable for its short, thickly clustered ear, its short stiff straw, its productiveness in a favourable season, and its liability to blight in an unfavorable one, rather than for the quality of its produce. I thought that some of these bad qualities might be neutralized and new varieties be obtained, partaking more or less of the good qualities of both parents; and with this view I inoculated (as described in the Illustrated Official Catalogue of the Great Exhibition) the Thickset wheat with pollen chiefly taken from the Hopetown variety, a well-known white wheat of fine quality, with long straw, and with an ear much longer, though not nearly so closely set as that of the Piper's Thickset;—In fact, forming to the latter a perfect contrast. From this I obtained a few shrivelled grains, which I planted early in the autumn of the same year, and by division of the roots I greatly increased the number of plants. The produce was many kinds, both of red and white wheat; some of the ears bore a perfect resemblance to the Piper's Thickset; others partook of the character of the Hopetown everything except in the color of the chaff; others had half the ear thin and open; and the remainder close set, thus, in the same ear shewing the same characteristics of each kind.

The cultivation of the Hybrid wheat has been continued up to the present time, and by careful hand-picking an even sample is now obtained.

ROYAL FLAX IMPROVEMENT SOCIETY.

A letter was read from Mr. Clarke, one of the instructors, reporting the result of a trial of Mr. McBride's new scutching-machine at Kildinan, county Cork. The quantity of fibre turned out in a day's work was 27 stone, of 16 lbs. The number of persons required to attend the machine was five boys and a man. It was stated that two other machines, one by M. Mertens, of Ghœel, Belgium—an improvement of his former machine, and another by Mr. Lawson, of Leeds, were about to be brought forward. The meeting directed that every attention should be given to the future trial of these machines. The great difficulty of obtaining trained scutchers for the ordinary mills had been felt this year worse than ever, and therefore any plan by which skilled labor could be dispensed with was deserving of serious consideration. Besides this,

the cost of scutching, under the present system, was admitted to be unreasonably great, and the proportion of fibre wasted in scutching tow, much too large.

Samples of fibre were laid on the table, as specimens of the new process of steaming flax, now being carried out at the works of Messrs. J. Leadbetter and Co., Bedford-street. This process, the invention of Mr. Watt, was highly spoken of by several members of committee, who had witnessed it; the specimens of fibre were considered strong, and possessed of good spinning quality. The peculiarity of the present system consists in the substitution of simple maceration of the straw for the usual putrefactive fermentation induced by the steeping process. This is effected by placing the dried flax straw, after seeding, in metal vats or chambers, having a door at the end for the loading and discharging of the straw, and whose top is surrounded with a rim, so as to form a shallow tank for containing cold water. Steam at 212 deg., is introduced into the chambers by pipes: and its action on the flat stems is both direct and indirect—the latter being caused by the condensation of the steam when it comes in contact with the roof or top of the chambers, cooled by water. In about eight hours the straw is withdrawn from the chambers. It then appears to be thoroughly softened and of a dark brown color. It is at once passed between a pair of smooth metal rollers, of considerable weight, which crush out the water and also loosen the epidermis. This epidermis or cuticle is the substance which, in the steeping process, is got rid of by chemical decomposition; but, by Watt's method, it is simply detached by maceration from the fibre. After the straw has been passed through the rollers, it is dried in rooms heated by steam-pipes, and is soon ready for scutching, since the crushing operation separated the greater portion of the water which it had imbibed. The shove, or woody part, and the epidermis seem to separate from the fibre very readily in the scutch-mill, and for this reason the patentee expects to obtain a greater yield of fibre than is usually the case, as well as to turn out a greater quantity of work, with the same number of stands. Another novelty in the process arises from the character of the liquid drawn from the vats. When flax is steeped the liquid remaining in the pools, or if by Schenck's system in the vats, is very offensive, and is so poisonous a nature as to be productive of much injury when let off into rivers, by killing the fish, whence difficulty has often arisen with the Fishery Board, whose powers are stringent in such cases. The liquid remaining, after treating flax by Watt's process, is of a dark brown color, with a smell like wort, and can be productive of no evil effects, if let off into rivers. But as it contains a certain amount of nutritive matter, being an infusion of the flax stems, the patentee proposes to employ it along with the chaff of the seed-holes for feeding pigs. The

entire system appeared invested with such interest and importance that arrangements had been made with the patentee for investigating it closely, and a committee had been formed, including the members of the society's committee, and other parties interested, to whom was intrusted the carrying out of experiments at an early date, the result of which would be reported to the society and made public. It had been further arranged that the proprietors of reteries should be invited to be present at the experiments.

Some conversation took place relative to the paper read before the British Association by Dr. Hodges, upon the various processes employed in preparing flax fibre. It appeared that erroneous statements had been made in some journals, tending to the inference that the lecturer had alluded very favorably to M. Claussen's flat-bottom project. It was distinctly stated in reply, that this system had been merely named, along with others, without any opinion being expressed on its merits. Sir Robert Kane's report to government upon the investigation carried out at Kildinan, stated that "M. Claussen's process does not at all produce a material approaching in structure or organic quality to cotton." The inventor, it appeared, had relinquished his plan of treating all flax by his process, and now confined himself to operating upon scutching-tow, as the society had from the first pointed out to be the only plan holding out any prospect of commercial success. It still, however, remained dubious whether flax cotton could be profitably employed by manufacturers. There was no evidence in its favor from the latter as yet made public, whilst several statements from parties who had tried it showed very unsatisfactory results.—*Belfast Mercury*.

AGRICULTURAL STATISTICS.

In our last number we called attention to the very important subject of Agricultural Statistics, hinting that in January we had issued a circular, addressing to many well qualified agriculturists, throwing out the question for remark or solution—"Would the formation of a well regulated Corresponding Agricultural Association here co-operating with similar associations in England and Scotland, not tend greatly to promote agricultural ameliorations, by facilitating the acquisition of sound local and statistical information?" And we added, "Schedules of Queries could be properly framed on a variety of important topics, and issued to the various Secretaries of District and Local Societies as well as to other intelligent agriculturists, whose answers properly arranged in well digested tabular abstracts, would form a most useful body of facts, and lead to practical lessons of great value."

We also explained in the last number that, in answer to this circular, we had received several very interesting communications, which we

intended to publish, so as to invite a careful investigation of the subject; one of which, by Mr. J. L. Morton, Civil and Agricultural Engineer Edinburgh, we now lay before our readers.

"I perfectly agree with you as to agricultural interchange of opinion, and would rejoice to see measures adopted (whether by Government, Agricultural Associations, or Corresponding Statistical Societies), which might have the effect of accurately collecting the opinions and practices of observant practical agriculturists, and placing them side by side with the views and deductions of men of science.

"Farmers taken as a class, are very exclusive and reserved respecting their systems of cultivation and general management; and as to the results of their improvements in money value, the want of regular farm accounts necessarily makes them almost constantly defective.

"If anything would have the effect of drawing out such individuals, inducing them to adopt the practices of others to the improvement of their own, leading them to keep a regular statement of their rotation of cropping, outlay on improvements, and the yearly produce of their land, it would be the visits of active Inspectors, sent out by Agricultural Associations or Statistical Societies, and the giving publicity to their reports.

"I am well aware that the appointment of Agricultural Inspectors would be a more expensive way than that of issuing schedules of queries, but I am also convinced that it would be of far greater efficiency.

"There are many instances in which agriculturists, through want of attention to the education they have received in youth cannot give their views in writing, even were it simply in answer to queries, but who, if personally called upon, will detail the results of their experience, in their own way, quite intelligibly.

"I am fully convinced that more is often to be learned from a farmer, if he be intelligent, who cannot afford to keep a foreman, than from one occupying a higher position.

"The statements of the former are frequently powerful though rugged truth, and only require a little polish from a more artistic hand to render them really valuable to the public; while those of the latter, though certainly also of great importance, cannot be so thoroughly practical.

"It is also my opinion that in many instances a great deal may be learned by a careful study of the mistakes committed by agriculturists in the management of land, and into these the less educated man is more likely to fall; so that in conversation with the inferior class of tenants some useful hints are now and then picked up, but printed queries they could not understand.

"I am strongly inclined to think that Corresponding Associations, such as you propose acting in concert with the National and Local Agricultural Associations of the three kingdoms, would be more likely to obtain and publish in an intelligible and useful form the statistical and

general details connected with rural economies, than would be the case were the Government embarking in the undertaking without their co-operation.

"In the meantime, however, I am afraid that Agricultural societies will be rather tardy in making a beginning, and am therefore of the opinion that a few intelligent and enterprising individuals in England Scotland and Ireland, would do well to unite together in the first instance, and commence operations by each one taking a district or parish, where the systems of farming are of such a nature as to give a fair representation of the state of agriculture of the county or kingdom in which it is situated.

After the members of such a combination have received answers to the queries they may have sent out, or have personally visited every farm in their districts and written out their reports, these could be collected together and published as an agricultural work; such an undertaking might come to pay the authors, but at all events it would not thereafter be difficult to induce both the Government and Agricultural Societies to prosecute the work thus begun by private individuals, who, as their share of the general benefits, would have the satisfaction to think they had done something to advance the best interests of their country.

"In every district of the country there are some men qualified to contribute to such a work, and in many instances the requisite information might be collected without encroaching on their business engagements to any serious extent, activity and perseverance would do the whole.—*J. L. M., Journal of the Royal Agricultural Improvement Society of Ireland, and Irish Agriculturist.*

PROVINCIAL EXHIBITION IN NEW BRUNSWICK.

We have already announced the opening of the New Brunswick Provincial Exhibition. The following circumstantial account of it we abridge from the "Fredericton Head Quarters" of the 6th inst: "The subject of so much labour conjecture, fear and hope was formally and successfully inaugurated yesterday. At an early hour of the forenoon, the Firemen of Fredericton and St. John, and the Masonic fraternity, headed by the Band and Pipers of the 72nd Highlanders under the direction of Sheriff Wolhaupter as Grand Marshall, marched through the principal streets of the city, and in their varied and showy costumes: with badges, banners, and insignia, made an imposing and gay appearance. Precisely at two o'clock, p. m., His Excellency Sir Edmund Head, Lieutenant Governor of the Province, and Patron of the Exhibition, was received at the Hall of the Exhibition by a Guard of Honor, of the 72nd Highlanders, and entered the building under a salvo of Artillery. At the moment of His Excellency's entrance, the scene and

circumstances were deeply impressive. The vast area of the Hall was densely crowded by men of all ranks and conditions, from localities near and remote, with a large admixture of the mothers and daughters of our country. The band of the 72d Highlanders, and the united choirs of all our churches, struck at once into a glorious rendering of our time honored national anthem. At the conclusion of the national anthem, the full choir, accompanied by the band, sang to the venerable measure of old hundred, the appropriate hymn beginning

"With one consent let all the earth
To God their cheerful voices raise."

A complimentary address having been presented to Sir Edmund Head, his Excellency replied to it, and the following is an outline of his speech; "He thanked the audience sincerely for the kind manner in which he had been received. His absence in England during a great part of last year rendered it impossible for him to co-operate with them in their task to the extent he would desire to have done. The Exhibition afforded a strong proof that the province was rapidly advancing on the road to prosperity. Four years ago, when he first came to the Province, business of all kinds was suffering under depression caused by the great shock in the commercial world, and a succession of unfavourable seasons had forced one crop after another out of cultivation, by repeated failures, until farmers became careless of cultivating any. All was gloom and despondency. But there are two kinds of despondency, namely, that which influences men to abandon all further efforts in despair, and to become hopeless of success, and that which prompts them to renewed efforts and still greater exertions, and the determination to overcome all difficulties. Such, he believed, was the despondency of the people of this Province, for while a few gave up the struggle in despair others worked on, and now there was a renewed activity, in commerce, and good crops crowned the labors of the husbandman, and the whole country was prosperous and thriving. And in the progress of this Province, much as had been said of its backwardness, and though some complaints were heard, he thought they had much to be proud of. Some of those who then were present could remember when the site of St. John was little better than a wilderness, and now from St. John to the Grand Falls was a beautiful, fertile, and comparatively well-peopled country. He believed that this Province must share in the general prosperity. Within a few years the prosperity and growth of Upper Canada was astonishing, and this Province, he believed, was entering on a career of the like prosperity. His Excellency spoke at some length of the Exhibition and the effects it would probably have on the Agriculture and Trade of the Province. They would learn much, not only from what was exhibited but from what was absent, from what was there, what was not there and what ought

to be there. The attention of the people would be aroused, and a spirit of enquiry be awakened. They would learn what manufactures and what description of crops suited the country; what would be pursued with advantage and what must entail loss. The agriculture of every country is a great source of its prosperity, and it was pleasing to see that the agricultural capabilities of this country were so fully proved by the excellence of the articles exhibited there. It was also pleasing to observe that so much attention was paid to the manufacture of their agricultural implements, as it was of great importance that in an agricultural country they should make their own agricultural implements, and that these should be of the best description. Another benefit resulting from exhibitions of this kind is, that men from various sections of the country are brought together and induced to discuss subjects of so much general importance, thus becoming acquainted with new modes of cultivation or manufacture, with the use of new implements, of the best and most suitable kinds of crops, &c., and learning much mutually from one another. After a speech of some length his Excellency concluded by again thanking them for the manner in which he had been received.

After the reply, the opening of the Exhibition was officially declared, and was received by a round of thorough old fashioned British cheers, with a genuine Bluenose one or two more.

The Exhibition in quality, quantity, and variety of specimens, both agricultural produce and manufactures, outdoes the utmost expectation of the warmest friends of the enterprise, and is at once a triumphant refutation of all the apprehensions of the timid and the disloyal prophecies of the "ruin and decay" men.

If any New Brunswickers can stand in the presence of the industrial treasures which the soil and climate of our Province, and the labour of our agriculturists have piled up on those shelves before him, and the noble edifices which skilled ingenious and successful manufacturing industry have arrayed around, above, and before him, if standing thus he hesitates to "thank God and take courage" his mind and heart must be dead to the very possibility of faith and gratitude. The thruphics of mechanical skill and ingenuity in vast varieties of form, are equally abundant and demonstrative."

The Exhibition closed on the 9th inst. The cattle show is spoken of by our New Brunswick contemporaries as "a grand affair," and the cattle exhibited, as being greater in number and better in breed, than many supposed New Brunswick could produce.

DISEASES OF PLANTS.

(Continued from page 301.)

5. Water is as essential for plants as air. Vegetation can proceed no more in the absence of the one than of the other. It must be derived

either from the ground, from the air, or from both; or vegetation, after a time, greater or less according to the nature of the object, must cease. Water seldom or never is imbibed by plants in a state of purity; that which is absorbed by the roots is impregnated more or less with all the constituent parts of the soil, and sometimes to such a degree as to be prejudicial. All nutriment is imbibed from the soil by means of water, and the more speedily in proportion as evaporation is more active. Few things, however, are more prejudicial than soil constantly saturated with water; partly in consequence of an over supply of moisture, partly from its immediate action on the tender tissues of the roots, and partly from decomposition, due to its constant presence, existing in such a degree that the water is imbibed in a state unfit for healthy growth, but more than all to the low state of temperature which is kept up at the very point where the exigencies of a certain degree of heat are greatest. This alone is the cause of many a disease, and, in combination with other inequalities mentioned above, perhaps the most fruitful source of evil. Except for a very small portion of plants, no land can be productive where the water level is very near the surface of the soil.

Spotting of the leaves frequently arises from this cause, combined with low external temperature, as in the Camelia and many other plants. It is, however, far from being the fact that all cases of spotting arise from the same cause; sometimes globules of water settling on tender leaves act chemically upon the tissues; sometimes frost is the agent, and sometimes light. In many cases, too, the injury is strictly an internal disease, arising from original weakness of constitution, rather than from any outward cause. In such instances, the diseased tissue presents very much the same appearance as the brown cells in the potato disease; in the rusty specks which are so common in some apples a little beneath the cuticle, as, for instance, in the Ribstone pippin; and in the saffron disease, called *Tucon* by the French, which has been so well described by Dr. Montagne, in a paper read before the Société de Biologie, and translated in a late number of the *Agricultural Journal*. In the spotted leaves, however, the contents of the cells are usually more firm and resinous, and sometimes very brilliant in colour. The spots on leaves are sometimes due to the presence of imperfectly developed fungi. Alternations of extreme wet or drought in the growing season, are also fruitful sources of mischief to the cultivator. To this cause is attributable the cracking of fruits and tubers, which is so injurious to their appearance. The tissues, from a long course of drought are firmer than usual, and consequently, as soon as a flush of water comes, they give way, and present unsightly fissures. In tubers, a curipous curative process is set up; but in fruits, especially in those which are very succulent, this is often impossible. A form of scab, extremely common in potatoes, and wholly independent of

any cryptogamic parasite, unlike a disease often confounded with it, arises probably from some such cause, connected, however, with certain peculiarities of soil.

In practice, it is by no means a matter of indifference what sort of water is used for irrigation, whether on a larger or smaller scale. Spring water, highly impregnated with lime, iron, or other, minerals, if not decidedly prejudicial, is far inferior to rain, or pond, and river water; and in the garden, the temperature is often of great importance. In districts where water is much impregnated with lime, a coat of carbonate of lime is frequently deposited, which sometimes accumulates to such a degree as not only to be very unsightly, but even destructive, especially to plants with delicate foliage.

6. It remains merely to notice the soil in which plants grow. As they derive the greater part of their nourishment from thence by means of water, this is of course of first-rate importance, especially in cultivation on a large scale. We shall content ourselves with adverting to the fact that different soils are suited to different plants, and that while some requires strong vegetable or animal manure, others lime or gypsum, others salt, some will not flourish except in sharp sand, with a very slight admixture of vegetable matter. The fir tribe are perhaps as dependant upon the peculiar nature of the soil as any. In some districts, a well-grown spruce fir is hardly known, and many extensive larch plantations have been made, which, after a very few years, begin to fail, and finally decay in the centre, and die. Thousands of acres of larch in Scotland are rendered all but useless from this cause. Even in natural woods and forests, a marked difference is seen in the growth of trees. While in the stiff clay, in the forest district in which we write, incumbent on the inferior oolite, the oaks flourish to such an extent, that single trees have made as much as £120, on the opposite side of a valley of no great width, where a lighter calcareous soil rests on still lower oolitic beds, the trees never arrive at a large size, and after a few years almost invariably die at the top. While, however, in this district, the oak scarcely more than exists, the beech, which has not, however, been encouraged, grows to a very large size, the principal undergrowth consisting of *Tilia parvifolia*, which is there perfectly indogenous. Disease arises, however, not merely from the original nature of the soil, but sometimes from injudicious application or excess of manure. Guano, for instance, requires to be used with great caution; an overdose being directly destructive to plants, with which it comes in contact; and few greater evils exist in crops than coarse, crowded, over luxuriant growth, which is too often the sure forerunner of mildew or defective produce. Diseases constantly occur in plants from over-nutrition. The intercellular passages are gorged with juices of a thicker consistence than usual, the vegetative powers excited beyond their just limits, and either a natural is-

sue is formed for the discharge of the superabundant matter, which frequently affords a nidus for the growth of destructive parasites, producing gangrene, or the whole plant becomes gouty and unhealthy. In some cases, the superabundant sap is discharged from the leaves, as in vines and the Indian shot; in others, especially in hot weather, it drips out in the form of mana, or forms a sticky coat upon the leaves, which is known by the name of honey dew. A host of smoky-looking parasites is in the latter case soon established on the leaves consisting of the genera *Cladosporium*, *Capnodium*, *Antennaria*, &c., to the destruction of their beauty, and the impediment of due respiration. Orange trees are frequently sufferers from this cause; for a time the ole completely failed in consequence, in parts of Madeira and the Azores, and the coffee plantations in Ceylon, two years ago, were materially injured from a similar malady. It is certain, too, that many forms of disease in cultivated trees arise from their being planted in over-manured soil. Water highly impregnated with manure often carries with it the seeds of canker and gangrene, or the over-stimulated cells put forth coarse barren shoots and suckers, destructive or fertility. To this cause, too, is frequently attributable the sudden failure of plants in the course of propagation which have made good root and have been placed under favourable circumstances as to ventilation, draining, and temperature; but, from being planted in soil badly and unequally mixed with half-decomposed manure, at some period of their growth their roots penetrate into the rank stratum, and contract disease, which after a time is fatal.

The subject might be prolonged to almost any extent, but sufficient has been said to give some notion of the causes of the first disease. Many interesting facts of particulars might have been produced; but if every fact were to be mentioned that lies before us, a volume would be required instead of a brief article.

It may, however, be added, that much depends on individual constitution, whether of species or varieties collectively, or of each plant taken separately. Some varieties of apples and pears, for instance, are extremely subject to canker; so much so, that it is almost impossible to cultivate them successfully, while others as rarely suffer. Individual trees are completely barren, never yielding any fruit; while others of the same kind, by their side, are remarkably fruitful; and in the disease called chlorosis, in which the malady consists in an incomplete or diseased secretion of chlorophyll, from the same paper of seed, and in the same spot, some plants will, from their first growth, exhibit chlorosis, from which they never recover; while others, placed, as far as observation goes, under precisely the same circumstances, are quite healthy. It has been said that a tonic treatment, with a weak solution of sulphate of iron, has been successful in such cases, but we have no certainty that this is the fact; and it is scarcely probable that any treat-

ment would ever renovate an originally depraved constitution. This is so much the case that a renovation is seldom attempted by men of experience.

A CHEAP WEATHER-GLASS.

Sir—In "Every-day Book," page 491, I met with a letter, giving an account of a weather-glass used for several years by a gentleman on whose veracity the author could depend. This strange barometer consisted of a common eight-ounce phial, filled to within one-fourth of its space with water, and having therein a leech-worm; the water was changed once a week in fine or summer weather, and once a fortnight in cold or winter weather; the mouth of the phial was stopped with a piece of fine canvas, and hung near a window in the room where the gentleman dressed. In fine weather the leech-worm remained motionless at the bottom of the phial, rolled together in a spiral form; and as long as he saw him in that position in the morning he was certain that day would be fine; if the day was to be wet or showery, he was sure to find him creep up to the top of his habitation, and he remained there till the weather cleared up. If wind or storms were near, it ran and galloped through the liquid, nor ever rested till the tempest began to blow violently. If thunder and rain were near it generally kept out of the water for two or three days previous thereto, and discovered great uneasiness by throes and convulsions. In frost, as in fine weather, it kept its place at the bottom; before snow it crept up to the very mouth of the phial. From these observations on the leech-worm, the owner was always able to foresee what sort of weather was likely to be expected; and as the cost or trouble of such a weather-glass is so trifling, I am of opinion that many of your readers will eagerly make a trial, and then they can judge from their own experience the truth of the statement.—Yours, &c., JACOB THOMPSON DUNNE, *Cullenagh, near Maryborough, Sept. 20, 1852.*

OLD TAN A REMEDY FOR THE POTATOE DISEASE.

—Owing to the prevalence of disease, I am again induced to recommend planting in old tan, which has proved the best and only remedy I have yet met with; and, as a proof of my success, I grew nearly sixty bushels on this principle, and scarcely a bad potatoe was to be found, although planted on heavy clay soil. They were, the admiration of all who saw them; while others planted in the same garden without tan were entirely destroyed. As a further proof of the excellence of this remedy, I was resolved last year, by way of experiment, to try them on the same ground without tan, and the result was that nearly half was bad. I write this after three years' experience, which has proved most satisfactory. I usually had the ground thrown up in

ridges about November, and I allowed it to remain in that condition until the first week in February, when the sides were chopped slightly down, and about three inches of old tan and a portion of soil. There is likewise another advantage, viz., when the potatoes are dug they leave the ground so clean that they require no rubbing, which assists their keeping.—*E. Bennet. gr. to Sir Osfy Wakeman, Bart., Pendeswell.*

A FEAT IN CHEESE-MAKING.—(To the Editor of the Mark Lane Express.)—Several attempts have been made in Lancashire to make cheese on the Cheshire system, but proved failures, owing, it was supposed, to the land. Mr. Patten, M.P., engaged a first-rate Cheshire cheese-maker at the commencement of the present year for his farm (Gift Hall, Winmarley, near Garstang), and requested the cheese to be made, if possible on the Cheshire system and of a first-rate Cheshire quality. This has been done, to the great astonishment of all that have seen them, both as makers, buyers, and landowners. The quantity made from 51 cows is 153 cwt., all of first-rate Cheshire quality; and 70s. per cwt. being now the London market price, the value of Mr. Patten's cheese is £535 10s., and after deducting 2s. per cwt. for carriage to London, leaves £510 4s. There can be no doubt but that the latter sum will well repay Mr. Patten for his spirited experiment; at all events it will be a far greater profit than he ever received as the rental of the said farm, and also be the means of inducing others to adopt the Cheshire system.—Yours, &c., M. SAVI, *Garstang, Oct. 7.*

PEDESTRIANISM.—GREAT TEN MILE RUNNING MATCH FOR THE CHAMPIONSHIP AND £100.—This great match between J. Jackson (the American Deer) and John Levett (of Battersea), to run 10 miles for the championship and £50 aside, came off on Monday, at the Copenhagen House, Islington, and attracted to the grounds between 11,000 and 12,000 spectators. The present match, which caused the greatest interest in sporting circles, was made some time since, in consequence of a challenge from Levett, who had a short time before lost the championship, in consequence, as he stated, of his being on the day of the last match in a very bad state of health. The backers of both men yesterday were, in consequence of the good condition of the contending parties, very confident of success, and a good deal of money was laid out at 5 to 4 on Jackson, but owing to the avidity which was shown in taking the odds, the betting changed to evens, neither having a decided call. Shortly after the hour appointed, the men made their appearance at the toeing mark, and at once got off at great speed, Jackson shortly after the start taking the lead by a few yards. The race, owing to the even running of the men, can be narrated in a few words. Jackson or (the American Deer) kept the lead which he

first obtained of about three or four yards, until within a couple of hundred yards from home. Here Levett put on his final "spurt," caught his man, and after running shoulder and shoulder for a short distance, passed him, and, amidst the deafening cheers and hurrahs of the assembled thousands, ran in a good winner by a yard and a half, thus obtaining for himself a second time the proud title of "The Champion Runner of England." The time as stated to us, was, for the 10 miles, rather under 52 minutes.

RETROSPECTION.

By MOORE.

As slow our ship her foamy track
Against the wind was cleaving.
Her trembling pennant still looked back
To that dear land 'twas leaving.

So loath we part from all we love,
From all the links that bind us;
So turn our hearts, wherever we rove,
To those we've left behind us.

When, round the hearth, of vanished years
We talk, with joyous seerning,
And smiles, that might as well be tears,
So faint, so sad their beanning.

While mem'ry brings us back again
Each early tie that twined us—
Oh, sweet's the cup that circles then
To those we've left behind us!

And, when in other climes we meet
Some isle or vale enchanting,
Where all looks flow'ry, wild, and sweet,
And nought but love is wanting;

We think how great had been our bliss,
If Heaven had but assigned us
To live and die in scenes like this,
With some, we've left behind us!

As travellers oft look back at, eve,
When eastward darkly going,
To gaze upon that light they leave,
Still faint behind them glowing—

So, when the close of pleasure's day
To gloom hath near consign'd us,
We turn to catch one fading ray
Of joy that's left behind us.

A SONG FOR MERRY HARVEST.

By ELIZA COOK.

Bring forth the harp, and let us sweep its fullest,
Loudest string;
The bee below, the bird above, are teaching us to sing
A song for merry harvest; and the one who will not bear

His grateful part, partakes a boon he ill deserves to share.
The grasshopper is pouring forth his quick and trembling notes,
The laughter of the gleaner's child the heart's own music floats:
Up! up! I say, a roundelay from every voice that lives
Should welcome merry harvest, and bless the God that gives.

The buoyant soul that loves the bowl may see the dark grapes shine,
And gems of melting ruby deck the ringlets of the vine;
Who prizes more the foaming ale may gaze upon the plain,
And feast his eye with yellow hops and sheets of bearded grain:
The kindly one, whose bosom aches to see a dog unfed
May bend the knee in thanks to see the ample promised bread.
Awake, then, all! 'tis Nature's call, and every voice that lives
Shall welcome merry harvest, and bless the God that gives.

SUN AND RAIN.

By JOHN SWAIN.

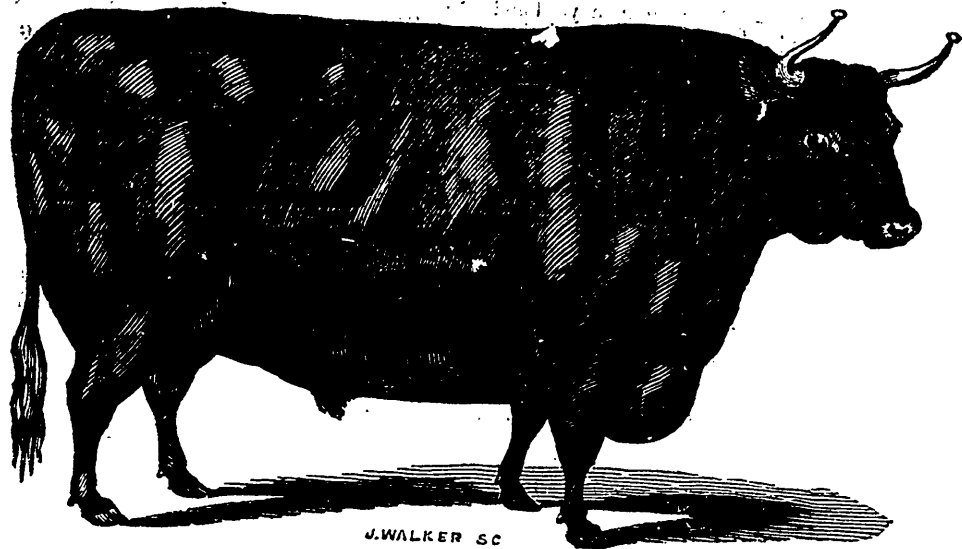
How glorious the sunshine
Salutes the fields of June!
How dances 'mid the leafy boughs,
To merry woodland tune!
The shadows shadows chasing,
Of clouds, that fleetly pass,
More glorious make the sunshine,
By contrast on the grass.

But like to little cottagers
Reclining on the earth,
Outwearied with the wild delight
Of their exhausting mirth;
So droops the lovely field-flower,
As languid, and in pain—
Bow'd to the earth thus wearily,
It breathes a prayer for rain.

The gale, with cooler rush, comes
Upon the leafy bloom:
All hazy grows the sultry sky—
Clouds in the distance loom:
The light'nings leap out fearfully—
The air the thunder rends;
And all night long, upon the earth,
The drenching rain descends.

The sunny morn, and cloudless,
Awakes upon a scene
All the more glad and beautiful
Because the storm hath been:
Our hearts have days of sunshine,
But, freshness to retain,
We must have times of cloudiness—
We must have night and rain.

The following illustrations of a Devon and Hereford Bull, will give some idea of the shape of animals of those breeds, which are most highly prized by good judges, as each of them obtained the highest Prizes in their respective classes, at exhibitions, where the finest cattle in the world were in competition with them. Parties may imagine that these are flattering likenesses of the animals, but we are confident they are perfectly correct.



J. WALKER SC

A DEVON BULL.

The property of Mr. Thomas Bond, of Bishops Lydeard, Somerset, for which the First Prize of £50 was awarded at the Northampton Meeting of the R. A. S. of England.

Agricultural Journal,

AND
TRANSACTIONS

OF THE

LOWER CANADA AGRICULTURAL SOCIETY.

MONTREAL: DECEMBER, 1852.

NOTICE TO SUBSCRIBERS TO THE AGRICULTURAL JOURNAL.

We beg to state for the information of subscribers that Mr. H. Cherrier has not been able to go upon the collection of the subscriptions to the Agricultural Journal, as he proposed to do last March, and therefore, subscribers are respectfully requested to pay up their subscriptions with as little delay as possible, at the Rooms of the Lower Canada Agricultural Society, or by Post, addressed to the Secretary and Treasurer of the Society, Wm. Evans, Montreal.

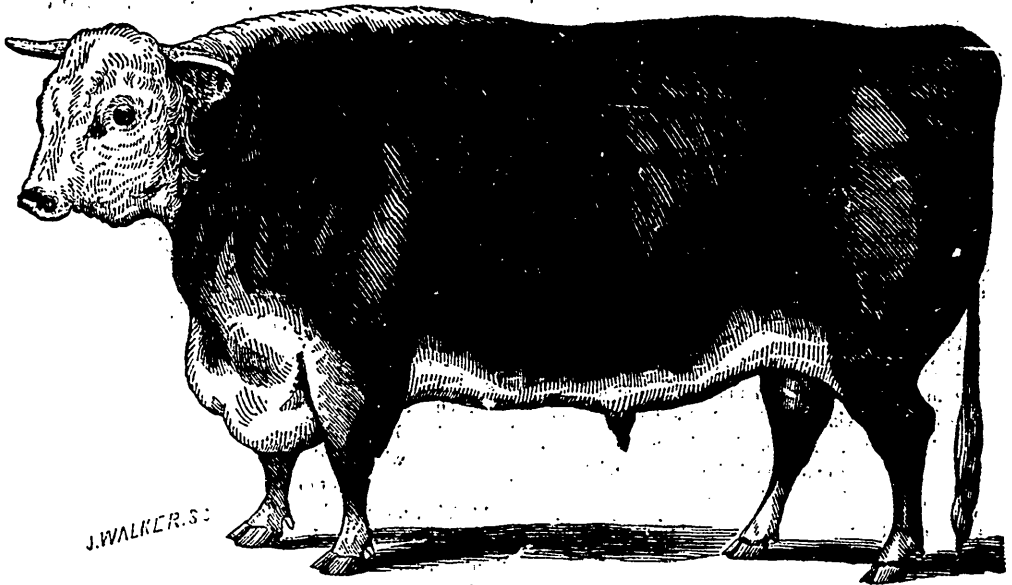
NOTICE.—The Monthly Meeting of the Directors of the Lower Canada Agricultural Society will take place at their Room, in this City, on Wednesday, the 8th day of Dec., instant, at 11 o'clock, A. M., and a full meeting is desirable.

By order,
WM. EVANS,
Secretary and Treasurer,
L. C. A. S.

Montreal, Dec. 1852.

REGULATIONS FOR AGRICULTURAL EXHIBITIONS.

Having been requested to propose General Regulations for Agricultural Exhibitions, Cattle Shows, &c., we have endeavoured to form a Set of Regulations, which might be so amended and revised, as to be made generally suitable. It may appear an arbitrary assumption to propose General Regulations for these



A HEREFORD BULL.

Awarded the First Prize of £50 at one of the Exhibitions of the Royal English Agricultural Society.

Shows, but as the funds are in a great measure derived from grants of money from the Public Revenue, we are persuaded that it would be necessary and expedient that some General Regulations should be established for the Government of these Exhibitions. The Directors, of Agricultural Societies are liable to be changed annually, and the rules adopted by one set of Directors this year may be altered the next year by new Directors. We have known parties excluded from competing at Cattle Shows, because they were not subscribing members for a certain period previous to the Show. Such a regulation as this we consider to be inexpedient, because the Government grant a considerable portion of the funds for these Shows and for the general encouragement of agriculture, and it may be excluding the best animals, and other things from competition, because their owners were not a certain number of months members of the Society previous to the show, though willing to pay their subscription as members, before entering for competition. Inferior animals or other products, cannot take prizes, and if superior animals;

&c., are brought forward even at the eleventh hour, it is a pity to exclude them, if the object be in reality, to encourage what is best. When judicious regulations are once established, they should be strictly enforced, and particularly in any case where any imposition was attempted to be practised by competitors in regard to breed or age of animals, their feeding, or where any deception is attempted, in order to gain a prize for animals, or for any other article exhibited.

We now beg to submit the following regulations for Agricultural Exhibitions for consideration, and perhaps they might be so modified as to make them generally acceptable to Agricultural Societies.

GENERAL CONDITIONS FOR AGRICULTURAL EXHIBITIONS.

1. That all Premiums offered at Agricultural Exhibitions be regularly Classed and numbered.
2. That no person shall be allowed to enter more than one animal or lot in the same Class, or take more than one premium in the same Class.
3. That no animal or lot can obtain the same Premium a second time, but, this not to preclude young animals from competing subsequently in Classes, for more advanced ages.
4. That no stallion shall be entitled to a Premium,

that has not been kept in the County or District the previous six months, and regularly advertised for serving mares, the place kept, and rates charged.

5. That brood mares be disqualified, unless their colts are shown with them, to enable the Judges to estimate more accurately the merit of the animal, as a brood mare.

6. That no cow shall be entitled to a Premium, unless the Judges are satisfied she shall have produced a calf on or after the 1st of January preceding, or shall be evidently with calf at the time of the show.

7. That any person obtaining premiums on male animals for breed, shall be obliged to allow the use of such animal to a reasonable number of applicants, at a moderate charge, viz: Stallions fit for the saddle, not over eight dollars. Fit for draught, not over four dollars. Bulls, not over one dollar, Rams and Boars, not over a half a dollar each.

8. In order to encourage the importation of superior varieties of stock of pure breeds, any animals so imported, having satisfactory pedigrees of origin, should they be awarded, within the year imported, first prizes in the Classes in which they are entered, at any Agricultural Exhibition in Canada, the owner shall be entitled to claim double the amount of such prize, but this privilege can only be claimed when imported animals are adjudged first prizes.

9. That each competitor, or person appearing for him, should hand to the Secretary of the Society or Exhibition, before nine o'clock, A. M., of the day of the show, or previously, a written statement of their name and residence, the breed, age, and description of the animal or lot, with the number of the class in which they are to be exhibited; and if fat stock, the kind and the quality of the food on which they have been fattened, with the time the animal or lot has been fattening, and their condition when put to fatten; and if cows, the time they have been dried from milk, with any other useful information, and each certificate shall be signed by the owner of the stock.

10. That at every Agricultural Exhibition, it shall be the duty of the Directors or managing Committees, to cause to be placed upon the Show-ground previous to the Exhibition, lines of suitable railings, with staples and rings to which the animals can be secured in the various Classes in which they are entered, and for this purpose the railing shall be portioned off, and regularly numbered for each Class; and that for sheep, exhibited in Lots, suitable pens be prepared, and numbered, and also for swine.

11. That all animals or lots entered in the same Class shall be kept together upon the show ground, where assigned for them, and not allow other stock to mix with them, in order that the judges may be

able to compare and more accurately determine the comparative merit of each.

12. That no animal be allowed to enter the show ground without being secured in a proper manner by a chain, strap, or cord, to enable the person in charge to take them to the proper place, and secure them there and that each animal or lot have a ticket attached to them with the number of the Class in which they are entered, and a letter of the alphabet shall also be upon each ticket, thus: Class 1, A, Class 1, B, &c., that the Judges may be able to designate the animals or lots entered in the same Class, one from another, when adjudicating the Premiums; and these tickets shall be printed, and handed by the Secretary to Exhibitors, when making the entries.

13. That no animals or lot received at these Exhibitions shall be removed from the ground during the Exhibition, without the consent of the parties who have the management of the show.

14. That no animals for breeding shall be entitled to a Premium, if the Judges consider that they have been over fattened for breeding purposes, when exhibited.

15. That Judges shall be appointed with the concurrence of a majority of the Directors of the Exhibition, and no person shall be qualified to act as judge who shall be directly or indirectly interested in the decision.

16. That in case of any competitor attempting to impose upon the judges, or hand in a certificate of stock that is not strictly true in every particular, he shall be disqualified, and shall also be disqualified from competing at any future Exhibition held at the instance of the same Society or Directors.

17. Competitors, as well as all other parties, except those in charge of animals or lots, shall, if possible, be excluded from the show ground during the time the judges are inspecting the stock, or other articles, and making their awards.

18. Bulls not to be allowed to compete for Premiums after five years old, Cows after seven, Rams after four, Ewes after three, and Boars and Sows after two years old. Age of animals, except pigs, to be taken from the 1st of January of each year in which they were born.

19. When grain, seeds, or roots, are exhibited by samples for competition, reports in writing, must be handed in by each exhibitor, stating the variety of grain, seeds, or roots, the quality of the soil, the mode of cultivation, the manure applied, the time of sowing and harvesting, the produce per acre, and any other interesting information.

20. When Premiums are awarded for superior samples of grain, or seeds, of any description or variety, the samples shall become the property of the Association or Society, at whose instance the

Exhibition is held, to be by them sold or distributed to farmers for sowing.

21. In all cases where doubts may arise in regard to competition or claim for Premiums, the Directors of the Agricultural Association or Society, at whose instance the Exhibition takes place, shall decide, and their decision shall be final.

22. That any person who shall be, or become a member of an Agricultural Association, or Society, shall be entitled to enter his stock, or any other production or manufacture, for competition at such Exhibition, provided such person reside within the limits where such Association or Society have jurisdiction.

CONDITIONS FOR PLOUGHING MATCHES.

1. Any Candidate shall be disqualified, whose sod is settled, by any other means except the Plough, or the foot of the Plough-Man, as the Plough-works, or who suffers any assistance, setting of irons, or otherwise, to be given to the Plough-man.

2. Any person having obtained a premium at any former Ploughing match, unless it was in a Class for young men, shall be disqualified; but such persons may compete in a separate class, for honorary or other reward.

3. The premiums shall be awarded to the Candidates who shall perform the work in the shortest space of time, and in the best manner.

N. B.—The Judge appointed as for the Cattle Shows.

CONDITIONS FOR THE DISTRIBUTION OF PREMIUMS FOR GRAIN AND GREEN CROPS, &c.

Any claimants for Premiums on Grain or Green Crops, whose farm generally does not appear to the Judge to be well managed, in proportion to the time they may have been in possession of it, shall be disqualified.

Any claimants for Premiums for Grain or Green Crops, who shall not have mowed or otherwise cut down or pulled all weeds upon their farms, previous to the Inspectors viewing their crops, shall be disqualified. This rule should be rigidly enforced, without any exception.

RULES TO BE OBSERVED IN ADJUDGING PREMIUMS FOR WELL MANAGED FARMS.

No person shall be entitled to receive a premium for well managed farms, who shall suffer to go at large any uncut or unchanged male animal not necessary for breed, and whose stock of animals altogether shall not be in good condition. It will also be necessary that the tillage—fences—drains—stables—and barns shall be in good order,—the manure shall have been judiciously applied—weeds of all descriptions (if any there were) removed or destroyed previous to

the Inspectors viewing the farms,—and the general management be approved of by the Inspectors.

No person should receive Premiums at the the same time in the class for well managed farms and in the class for grain and green crops.

INSTRUCTIONS TO THE JUDGES AT THE CATTLE SHOWS, &c., &c.

You are to decide which is the best animal, or lot of animals in each class, having regard in forming your judgement to excellence and utility of form, quantity of flesh, lightness of offal, propensity to milk or fatten, and early maturity; also, in sheep, to quantity and quality of wool. Having signed your adjudication, you are not to mention your decision until announced to the Committee, you are not to disclose the opinions of each other, previous to your report, and the decision of the majority shall be conclusive, you shall withhold any premium when there shall not appear to be sufficient merit in the animal or its off-spring, you shall number the lots in each class in the order of the comparative merit. Symetry, strength, activity, spirit, thrift, hardiness and moderate size, should be the best recommendations for draft Stallions.

*N. B.—*When Judges are appointed to the inspection of other than live stock, the instructions to be altered so as to be applicable to that particular inspection; according to the general conditions of the Society, by which the Judges are to be governed in their adjudications.

We would propose that no animals should be allowed to compete after they had obtained prizes when at maturity. No matter what prizes they are awarded, if at full maturity when they obtained them, they should be excluded from future competition. An animal at maturity that is only classed second or third by judges who are competent, may very reasonably give place to other and younger stock. For neat cattle, it would be well to have four classes for bulls; that is for one, two, three, and four years old. Superior animals would then have four chances, in succession, and they should not have any more. We would propose the same number of classes for heifers and cows, but that no cows could compete after 7 years old, or after obtaining one prize after she had attained the age of four years. For sheep, two classes would be sufficient, that is, for one year old, and two years old. These rules, with regard to age, are necessary, if it be desirable to prevent animals

obtaining the same prizes a second time. By strictly adhering to these rules, we should have a more numerous competition. We are not advocates for bringing inferior stock to cattle shows, but we know that many farmers are discouraged from bringing good stock in competition with those that are brought to one show after another, for prize catching. By establishing certain ages for competition, we shall have better stock, and a greater number of them. The owners of prize stock, when they find they can take no more prizes for these animals, will dispose of them to other farmers, and strive to have young stock that will replace them and take prizes. The owners of good stock should not have any objection to these rules because they can still have a fair chance to maintain their position, and continue successful competitors.

We do not pretend that the foregoing Rules would be the best to adopt, but we believe they might suggest Rules that would be generally suitable. We detest "prize catching" or any attempt at it, or for any one party, whoever they may be, to appropriate as many as possible of the premiums offered, where perhaps there is very little competition. When animals are awarded first prizes, they should not be allowed to compete again, nor should Ploughmen be allowed to compete after gaining prizes. There could not be any objection to sweepstakes for all animals having gained first prizes, or for Ploughmen under like circumstances. We propose that proper Certificates should be given in by exhibitors of live stock, in order that they may be properly entered, and also, that the owners may be accountable for the description they give of the animals, and be disqualified if this description be willfully incorrect in any particular. We are sorry to say, that we have repeatedly seen attempts at imposition at Cattle shows, and every precaution should be adopted to check and prevent them. We have also seen premiums awarded to inferior animals, for want of competition. Fattening breeding animals to conceal all their imperfections renders them unfit for breeding and we have often seen this practised both in neat cattle, sheep, and swine. In England, even in fat stock, they are not disposed to give the preference to animals over fat, that are only fit for the Chandler to make soap and candles. In samples of grain, there is frequently deception attempted, by showing, not the average of the crop, but picked samples, and therefore, the samples obtaining Premiums should be given up to the Society

as good seed for sale or distribution. In regard to our proposition to exclude Ploughmen who had previously gained Prizes at Ploughing Matches, from competing again, unless where they gained them in Classes for young men. We would beg to observe, that very often at Ploughing Matches, it is extremely difficult for Judges to make awards, from the superior execution of the work by many of the Ploughmen, and therefore, we are persuaded, it would make Ploughing Matches more useful, to allow new competitors to come forward in the Classes for men.

ANNUAL PROVINCIAL AGRICULTURAL EXHIBITION.

We hope that in future, Lower Canada will have her great annual Exhibition, as the sister Province of Upper Canada has had for the last four or five years, and that it shall be such an Exhibition, as will show the capabilities of the country in a favourable light. These Exhibitions might be changed annually, and held alternately, at Montreal, Quebec, Three Rivers, and Sherbrooke. This would give each section of the Province an opportunity of exhibiting their products of every description, and these places would be easy of access from all parts of the Province, by steamers, and by railroad. One annual Exhibition, properly got up, and under judicious regulations, would be better than a hundred of such District shows as some of those that have taken place in Lower Canada latterly. These Exhibitions, to answer any good purpose, must be judiciously managed, and be under strict regulations, so that every party who have any good articles to show, shall feel encouraged to come forward, when the competition is made as open as possible, and no parties allowed to appropriate too large a number of the premiums, or too much of the honors of successful competition. The legitimate object of these Exhibitions is to give an opportunity of showing the agricultural, and industrial products of the country, and by awarding premiums, to give a certificate of superior excellence for animals or other products, and these premiums should only be regarded as honorable testimonials of skill and industry in the raising and management of live stock, the products of good cultiva-

tion, and of the dairy, the product of the orchard, and garden, and of every other industrial pursuits. The money amount of the premiums might be regarded as a reimbursement of the expenses of bringing animals or other articles to these Exhibitions. It should not be forgotten, that the awarding of premiums for superior stock or other articles, is a great advantage to the owners, as a recommendation of what they may have to dispose of, particularly if live stock. The advantage of agricultural Exhibitions will mainly depend upon an extensive collection of good animals, implements, and the products of lands, and industry, and a numerous assemblage of agriculturists and others to inspect them. The most effectual means to insure this result would be a liberal list of premiums, under such regulations as would offer every encouragement to competitors. The grand point is, to bring the live stock and other articles together, and induce the people to come and see them, and when there is a show worth seeing, and all the live stock arranged regularly as they should be, there will doubtless be, a full attendance of spectators. Hitherto, these Exhibitions have not generally, excited much interest in Lower Canada, because few competitors attended. There was no proper arrangement or classification of the stock, that would make them appear to the best advantage, and the whole affair has been mismanaged. Indeed, in Upper Canada also, the arrangement and placing of live stock, was anything but perfect, at their Exhibitions. It is utterly impossible to make correct adjudications of premiums, unless the stock are properly arranged, as they are at the great Exhibitions in England, Ireland and Scotland. These Exhibitions, properly arranged, would not cost more than they do at present, and the visitors would at once see the different varieties and classes of stock together in their proper places, and be able to form some correct estimate of their comparative merit. The agricultural Exhibitions as conducted at present, both in the United States, and in Canada, are more like Fairs for the sale of stock, than Cat-

tle Shows for awarding premiums to the best animals. High boarded pens, are very objectionable for keeping animals at a Cattle Show, unless for sheep shown in small lots. Ranges of railing properly placed, would answer for neat cattle, and for rams, and the classes could be numbered in rotation, and the animals secured to the rails, in the number of the class in which they are entered for competition. When regularity is observed at these Exhibitions, visitors will estimate them more highly; and other good judges of live stock that may be present, will be able to see the animals exhibited in competition with each other, and be satisfied that the adjudications of premiums are correctly made, and that they should be correctly awarded is of great importance, as otherwise, a certificate of superior excellence may be obtained for animals not entitled to this character, and thus lead parties who are not good judges into serious errors, by breeding from such stock. We have no doubt that these Provincial Exhibitions might be made to pay their own expenses, if properly got up, and judiciously managed, and we hope that the first exhibition of the kind that will be got up in Lower Canada will prove entitled to this character. It would be better to forego them altogether than see them carelessly jumbled up, without arrangement or order. Their orderly arrangement, will not cost more, we are convinced, than many Exhibitions we have seen, that were wanting in these essentials. There would not be any covering necessary for the live stock. Railing, with rings and staples to secure the animals, would be all that was required, with a few pens for sheep exhibited in lots, and for swine. Sheds would be necessary for other productions, but the materials would be useful, after the show was over, and would not be much less valuable. The cities or towns where the Exhibitions were held, would of course contribute liberally towards them, as they do in England, Ireland and in Upper Canada. They might very well contribute, because the Exhibition could not fail to be a great advantage to the city or town. An agri-

cultural Exhibition, upon a large scale, will bring live stock, and produce from an extensive range of country, and strangers will see what we are able to produce, and agriculturists will know where the best stock, and farm implements are to be found. Every publicity should be given as to the premiums offered, and the conditions upon which they will be adjudged. When the arrangements would be regular and judicious, there would not be so much space necessary to be inclosed for the show ground, but of course it must be inclosed, or it would be useless to have an Exhibition. The inclosure will give it increased interest, and a large amount of funds. Visitors would not think it worth seeing if they were allowed to see it without any charge.

KEEPING OF LIVE STOCK.

We perceive by our exchange papers, that in the British Isles, the prices of live stock of every description are higher than they have been for several years. At all the great fairs lately, the horses, neat cattle, sheep and pigs, have all been bought up at high prices. At the great annual fair of Ballinasloe, in Ireland, the first week in October, a few choice horses were purchased for the English market at £150 to £315 sterling each, and there was several buyers from that country who purchased largely. There was also a considerable demand for horses for the army, that was only partly supplied, as first class horses were scarce. For cattle and sheep the prices were better than at any fair for the last twenty years. Of between ten and eleven thousand neat cattle exhibited, there was only about 200 remained unsold. Calves of this year were sold for as high as £3 to £4 each, not for breeding purposes particularly, but as store stock. We allude to this fair in order to show that there is a generally increased demand for horses, neat cattle and sheep, in the British Isles; and this demand should have a favorable influence upon the value of the same description of stock in Canada. The increase of population, as well as the flourishing condition of trade and abundance

of money, must produce an increased consumption of butchers meat, and consequently higher prices. We should be prepared to appropriate some of the advantages which this state of things places in our power. We should augment our stock of horses, neat cattle and sheep; endeavour to have them of good quality, and provide suitable and sufficient food for them, by good pastures in summer; and abundance of roots, grain and hay for winter. It is a well-known fact, that in general, the live stock of the country, are of a very inferior description, in consequence of inattention to selection and breeding, and not providing them with sufficient and suitable food. We would be far from recommending very large breeds of neat cattle, until our agricultural system is greatly improved; but there is an urgent necessity for improvement in the stock we have, if we desire to make them profitable. We have been constantly urging farmers to pay more attention to breeding, by castrating the males not intended for breeding, (the calves at a week, and the lambs at four or five weeks old,) and selecting the best heifers and ewes only, for breeding, fattening the inferior for the butcher. By this attention, the quality of the stock would soon be improved, and by providing them with suitable and sufficient food, they would become creditable and profitable to their owners. If every farmer was to cultivate two arpents of green crop in mangold-wurtzel, carrots, or swedish turnips, he might have from four to five bushels of roots to give his cattle daily, for the winter season, and this would be a great help to keep his stock in good condition. This quantity might be increased of course, and it would be an additional advantage to the farmer who would grow more roots. We are only anxious to see this plan of growing roots commenced generally on a small scale, and there is no doubt farmers would increase the quantity when they ascertain the advantage of keeping their stock in a proper manner. Improved stock, however, we cannot expect

to be generally introduced, until farmers become better acquainted with a good system of agriculture. A good stock of cattle, cannot be expected, unless in connection with a good system of husbandry. All must proceed harmoniously together, and it would be worse than useless, to attempt to improve our live stock unless preparation is made to feed them properly both in summer and winter. We have frequently an opportunity of seeing neat cattle brought to our principal markets as beef, that certainly are of very mixed quality, and generally not sufficiently fat. These cattle if of better form, more suitable for taking on flesh and tallow, and fed on good pastures, might be worth double as much as they sell for at present. Beef for exportation, unless properly fattened, will not sell for a remunerating price. Purchasers in England wish to buy good beef, and not that which has too large a proportion of bone in it, and little fat. As regards sheep, they are improving, and the carcass is only for home consumption. Our mutton though small, is of good quality, and of excellent flavour, and by a little attention to our sheep stock, we shall have no cause to complain of them. The greatest defect in their management is allowing the rams to run with the ewes too early in the fall, and by this means having the lambs before the very cold weather is over, and hence losing a great many of them. The ewes with young, are also neglected in their feeding and shelter, before and at the time of having lambs. This is a great drawback to the profits of sheep. Ewes should before and after lambing, have great attention, and some grain or roots daily. Sheep if properly kept, and of a good description, will pay well, but not otherwise. Horses perhaps, receive more care from Canadian farmers than any other stock. They however are not sufficiently attentive to castrate young colts, or prevent fillies from breeding at two or three years old. There is a further difficulty from farmers allowing inferior male animals to run at large, and

trespass upon their neighbours. We hear numerous complaints of this annoyance, and while it is allowed, it is very difficult to have good breeds of stock, or of pure blood. The pure Canadian breed of horses, are not often to be met with, and this is a great injury to the country. It would be very desirable indeed, that some specimens of this breed should be preserved pure. They have many excellent qualities suitable to Lower Canada, and as regards size, it might be readily increased to whatever was thought requisite for ordinary purposes. There are some excellent breeds of swine in the country, and as they are a stock that might be increased rapidly, there is no excuse for farmers continuing to keep an inferior, and most unprofitable breed of pigs, that are difficult to make fat.

If attention was given to the improvements we suggest, the live stock of Lower Canada would soon be worth double the amount they are at present, and they would be a credit to the country. It is a great loss to sell cattle as fat, that are not properly fattened, and that is often done in Lower Canada; and we see stock brought from Upper Canada also, to be sold for beef that are not fat. The bulls kept for use in Lower Canada, are frequently of very inferior quality, and young bulls and rams not intended for breeding, are suffered to go at large. Under these circumstances, with the additional fact, that heifers, however small, are allowed frequently to breed at a year old, it is impossible to have a good or profitable stock; and the Canadian breed of cattle have got a bad character in consequence of the culpable neglect to their breeding and feeding. The most superior breed of cattle that is known, would, if treated and managed in the same manner, soon become of little value. We do not wish to give any offence, but we appeal to agriculturists for the general correctness of what we have stated. Our object is to bring the defects that are known to exist in our system of agriculture fairly forward, and suggest what we conceive would be the best means of improvement.

THOROUGH DRAINING.

The expense of thorough draining deters many farmers from adopting this mode of improvement, however convinced of the benefit it would be to the land. Labor is high, and if tiles are made use of, that are double the price that is paid for them in England, besides the cartage, which is generally avoided in that country, by making the tiles upon the farm. By their perfect machinery, they are able to make tiles upon most lands that require under draining. If we had stones upon the farm, or at a convenient distance, we should prefer them to any other material for under draining, particularly in clay soils. When small stones are used, the drains should be made from three to three and a half feet in depth. The first two feet should not be cut larger than would be necessary for the man to work in, and then a suitable spade should be made use of the exact size necessary, viz: twelve inches long, eight inches wide at the top next the handle, and four inches wide at the bottom or point, and this should be the size of the drain, to be filled in with small stones, of the size made use of on macadamised roads. A cubic yard of small stones, what is generally allowed for a Scotch cart load, would fill about nineteen yards of this drain, or about three loads and a half to a drain the length of the square of an acre. By placing the drains about twenty two feet apart, thirty loads of stones, or thirty square yards would be sufficient for an acre. A tough sod cut from the surface, should be turned grass side down, over the stones, or some small brush or straw, before the earth would be filled in. We have in former numbers, described the mode of draining with long poles, which is also a good method, and not expensive where the poles can be had conveniently. For any party wishing to drain it is easy to calculate the expenses, according to the several materials to be made use of, and the nature of the soil to be drained.

We do not expect to see under draining introduced to any great extent, immediately, but for those who possess the means and are

disposed to try the experiment, it would be well they should be able to estimate accurately the expense. The expenses of tiles might be greatly diminished by portable and perfect machinery, that would be taken about the country to make tiles where required upon the spot, and thus save the cartage. There cannot be any doubt that under draining would pay, if it could be executed at a moderate cost, not to exceed twelve or fifteen dollars the acre, but we would not take upon us to recommend a larger outlay than this, which might be expected to be refunded by the improvement, in from three to five years. If under draining is executed where land requires it very much, the improvement will be more certain to pay, because there are many lands nearly useless now, that if under drained, might be some of the most productive soil in the country. Under these circumstances, the advantage and profit would be certain. We had two or three acres of land, a perfect waste in the centre of a large field, but by draining it at a considerable expense, and raising the land by carting the banks of drains upon it, it was converted into the best land on the farm, the most productive, and least difficult to maintain in fertility.

We know many situations, where land of the best quality is waste for want of draining and this draining might be effected at less expense, than to clear forest land. Open drains will always be required in connection with covered drains in this country, in order to carry away the snow water in spring, when the under drains would not answer this purpose. It is the opinion of many that under draining would dry the soil too much in Canada, but this is a mistake. We admit that under drains should not be placed to near the surface, but three feet deep, or more than this depth, the soil will be vastly improved for cultivation and for production by under-draining. The moisture, when kept too near the surface of the soil causes the land to be baked by the heat of the sun in summer, and the moisture is not serviceable to the crops as might be supposed. Rain, when it falls, cannot percolate through

this baked surface in summer, but runs off into the open drains. In under drained land it is different, as the surface does not become baked or hard, and when rain falls it passes through the soil, moistening, and refreshing the roots of the growing crops, and the residue passes off in the under drains. It is in this way that under drains act beneficially upon the soil, and upon the crops while growing.

AGRICULTURAL SCHOOLS AND MODEL FARMS.

We are aware that a considerable difference of opinion exists as to the expediency and utility of introducing these institutions into Canada. We have reason to know, however, that the rural population of French origin are generally in favor of them, and most anxious for their establishment, at least, so far as one in each county, by way of making a fair experiment. We cannot, for our own part, see any reasonable objection to a fair trial of the experiment. The only difficulty is, to establish them upon a good principle and under competent superintendence, and if they were, it would be scarcely possible that any loss would be incurred. The capital employed in the lands, buildings, stock and implements, would be always forthcoming and improving, and the farm must pay its own expenses if managed properly. Those who would be receiving instruction, should, of course, pay for their teaching, either in work or in money.

Suppose there was a few thousand pounds appropriated by the Legislature to such a purpose, subject to the risk of losing a part of it, would not the province be able to bear such a loss, risked for such a good and necessary purpose? Want of education and skill in the practice of a good system of husbandry, is the cause assigned for the backward state of agriculture in Lower Canada, and there is no doubt but this was the chief cause. What friend of his country would not be anxious to remedy this great evil if it was possible to do so? The Lower Canadian farmers are taunted with the poor products of their agriculture,

compared with those of Upper Canadian farmers, as appears by the late census returns, though we certainly do not consider these returns to be perfectly correct in every particular. If the rural population requires instruction, it is the duty of the country, we humbly conceive, to provide instruction for them.

The late President of the United States, General Taylor, said in his last message to the Legislative body of that country, "To elevate the social condition of the agriculturist, to increase his property, and to extend his means of usefulness to his country, by multiplying his sources of information, should be the study of every legislator." Can there be any doubt of the correctness of General Taylor's views on this subject? The expense of educating the people, and instructing them in the art of cultivating the land to the greatest advantage, will not be a misapplication of money in this or any other country. A well managed farming establishment, that would be constantly open to the inspection of agriculturalists, and where they could obtain every information as to the modes of cultivation, and management of live stock, and their products, could not fail to act beneficially. In addition to these advantages, clean varieties of agricultural seed, of every description, should be obtainable at these institutions, as also specimens of live stock, of every variety, of pure distinct breeds. Farmers wishing or requiring to purchase any of these things, would pay a liberal price, when they would be sure that any article purchased, would be what it was represented to be. We have given much consideration to all these matters, and we feel convinced that if these establishments would not succeed, -it must be in consequence of not establishing them upon a proper footing or placing them under incompetent superintendence, or defective management. Economy in every expenditure should be strictly enforced, and neither live stock, or implements should be purchased, except such as would be suitable, and of the best quality. There should be few, and well selected, and no rubbish collected at these establishments. In regard

to implements in particular, the greatest caution should be observed, and no article purchased, but such as are proved to be the most useful. Of course it is at those establishments that we should expect the best implements for use, and not for show, and also, we should hope that new implements would be *invented* at these places—of the best description. There are numerous other recommendations that could be adduced in favor of Agricultural Schools and Model Farms, and we hope the subject will receive every consideration from the new Minister of Agriculture.

We have constant opportunities of seeing the entrance to the City of Montreal, by the Upper Lachine road, and from the Turnpike gate to Dow's Brewery, has for the last two or three years been extremely muddy in wet weather, and rough in dry weather; indeed, so much so, as to be a discreditable approach to the city of fine houses. The several manufactories along the canal—the shipyard, and two or three extensive lumber yards, cause a great travelling in carriages, carts, and on foot, upon this part of the road, and certainly it is a difficult matter to take heavy loads upon it at any time, and as to walking for a part of this distance next the Turnpike gate, it is frequently impossible. This we conceive to be a great injustice towards all parties who have to enter the city by this route, for business or pleasure, either with carts, carriages, on horseback, or on foot. We have been told that some of the parties residing near the road in question, have offered to contribute liberally towards the construction of a planked pathway from the Turnpike gate to the entrance of St. Joseph street, but the offer has not been accepted or acted upon. We believe a planked side walk for this distance would not cost more than from £40 to £50, and we have no doubt that if the gentlemen of the Corporation were to see carters, poor tradesmen, and others, who have to walk over this part of the road, wading through the mud, they would loose no time

in having a side walk constructed, and the road put into a proper state of repair. The Turnpike road out to the village of St. Henri is generally in excellent order, and has a very good side walk nearly the whole distance, but what does this matter to the inhabitants of this village, who, when they get to the Turnpike gate, must wade through mud for a quarter of a mile until they come to the planked side walk. We notice this matter in order to bring it under the consideration of the Corporation, who may have forgotten this road altogether, as there is a Railroad so near it for the accommodation of city travellers, and tourists going that route.

At a late ploughing match in the county of Rutland, England, there was 86 ploughs, competing in three classes. First class was for farmers' sons, not in business for themselves, and two silver cups were the prizes one £10 and the other £5 value. The second class was to ploughmen who had never won a prize at a ploughing match, except as a youth under 18 years of age; and the third class was for youths under 18 years of age. The time allowed for ploughing half an acre was four hours. We mention these conditions to show that those who once obtained prizes, are not allowed to compete again, unless in a higher class. Youths who have obtained prizes, when under 18 years of age, can compete subsequently in the class for men, but when men obtained prizes, they cannot compete again. We wish this rule was established in Canada, and we have no doubt it would be productive of a more numerous competition at our ploughing matches. Men are discouraged from coming forward to compete with those who have succeeded in winning prizes; and we would beg to enquire, how it serves the cause of agricultural improvement to allow the same ploughmen to take the prizes continually? It is quite manifest that a man who has succeeded once in gaining a prize, will have a better chance of gaining a second and third prize, than a ploughman of less experience and

skill. It is the same case in well managed farms, and with superior animals. It will be difficult to succeed in taking the prize from a farm that once obtains it, nor from full grown animals that once obtain prizes.

A special meeting of the Directors of the Lower Canada Agricultural Society took place at their rooms, in this city, on Tuesday, the 19th day of October, 1852, pursuant to notice addressed by the Secretary to each of the directors. Gentlemen present:—P. E. Leclere, Esq., President, Major Campbell, A. Kerezkowski, David Laurent, J. Hurteau, M. Lepron and Wm. Evans, Esquires.

The President having taken the Chair, the Secretary read the proceedings at the last meeting, and stated that he had been instructed by several Directors to give notice for the meeting, in order to take into consideration the Bills now before the Provincial Parliament, for establishing a Bureau of Agriculture, and for the better regulation of County Agricultural Societies.

The Secretary further stated, that he had not received officially any copy of the Bill for establishing a Bureau of Agriculture, and it was therefore resolved, that not having been furnished with a copy of the Bill, this meeting have not an opportunity to go into the details, but they adhere to their reply to the minister of agriculture adopted at their meeting on the 14th of July last, when applied to on this subject by that gentleman.

The Secretary was then instructed to address a letter to Dr. Valois, Member for the County of Montreal, and acquaint him on this resolution.

The copy of the Bill for the regulation of County Agricultural Societies was submitted in English and French, and the Secretary stated that he had received the English copy from the minister of agriculture, when at Toronto. On reading this Bill, the Directors did not think it necessary to suggest any alteration.

The President of the Society, P. E. Leclere,

Esq., being about to proceed to Europe early in November next.

It was proposed by A. Kerezkowski, Esq., seconded by David Laurent Esq.

Resolved.—That P. E. Leclere, Esq., President of the Lower Canada Agricultural Society, being about to proceed to Europe, be requested to visit all public agricultural establishments in Europe, in the name of the Society over which he presides, and these said establishments are respectfully requested to furnish Mr. Leclere with such information as may be of service to the interests of Canadian Agriculturists.

Adopted unanimously.

The Secretary was instructed to make a copy of this resolution, for Mr. Leclere, and affix his signature to it as Secretary of the Society.

There being no more business for discussion, the meeting separated, By order

WM. EVANS, Sec. and Tres. L. C. A. S.

We have seen samples of the "Improved Garden Nets" referred to in the following notice and have no doubt of their answering a useful purpose in Canada for shading young plants. The net is of excellent quality, as regards the manufacture, and is cheap. It can be fixed on small bows of wood as appears by the representation of the shade given in the notice. The shades can be made to any size, and the net can be used in any way that may be required. We had the pleasure of seeing Mr. Hall in Montreal lately, his manufacturing establishment is at Manchester, England.

LIGHT GARDEN SHADES FOR FURROWS OR BEDS.
—This happy contrivance, communicated to Mr. Hall, the Manufacturer of the Improved Garden Nets, by a friend who delights in his garden, is calculated to be of immense importance by its convenient protection of young plants; and is useful at all seasons of the year: for one purpose or other; being very light, it can readily be moved about to any point where shade or shelter are desirable; by its aid the garden may be made productive and delightful for 8 or 9 months of the year.

The shade represented above is a yard and a half long, which is the width of the Net, and covered with 20 inches of it; the thing complete, costs only 10d.; so that a considerable number will be but a trifle, and with little care, will last

4 or 5 years: the satisfaction, it is impossible to estimate.

Nets for various uses, all 56 inches wide, in pieces 20, 30, 40, or 60 yards. With a liberal discount to the trade.

No. 1, 6d. per yard, or 4d. per square yard.

No. 3, } 7½d. per yard, or 5d. do.

No. 4, }

AGRICULTURAL REPORT FOR NOVEMBER.

The weather was very favorable for field operations up to the 12th when we had the first fall of snow for the season but only a slight covering which soon disappeared. The day previous to this fall of snow was beautifully fine, and there, was every indication, judging by the atmosphere, of continued fine weather, but at this season of the year, there is no certainty for a countenance of fine weather for more than 24 hours. There is seldom a very heavy fall of snow without showing a day or two, previous, indication of a coming storm, but ordinary changes, from fair to foul weather, come very suddenly, from the autumnal equinox, to the opening of spring. There was scarcely any frost up to this date and none to stop ploughing for an hour. The land in many places, was difficult to plough up to the end of October, and retarded the execution of this most essential work, but we hope good progress has been made from that time. So far as our own experience, we believe there is generally an opportunity afforded to execute the fall ploughing on most farms, if commenced in time, and due diligence observed. Indeed it is a great defect in the Canadian system of farming, that there is too large a proportion of each farm under plough, particularly if not well cultivated so as to produce profitable crops. To plough less, and plough and manure better, and more systematically, would be a great improvement generally. It is unnecessary for us to state here that there are many farmers in Lower Canada, who have their ploughing executed in the best manner, but we are sorry to be obliged to admit that the exceptions are numerous. There are very many farmers who are not sufficiently care-

ful about ploughing, and do not take sufficient time to execute it properly. The furrow slice is cut too wide in proportion to its depth, and this forms defective ploughing, and causes a very wide furrow between the ridges, which is seldom cleared out by passing the plough in the furrow after all the surface is turned over. This is essentially necessary in all good ploughing, both for appearance, and for draining the land. It is not by any means the fault of the Canadian wheel plough that land is often badly ploughed, but it is the want of skill, and due attention to the principles of good ploughing in the man who makes use of the implement, and a desire to plough, or turn over, too much land in a day. One of the worst consequences of defective ploughing, is, the impossibility of harrowing it in a proper manner, also, that the ploughed soil is not left in a fit state to drain or dry. When ploughed soil is not dried by draining but left flat and water soaked until dried up by a hot sun, it becomes as hard as bricks, and unfit for the healthy growth of plants; and hence the summer dews and rains has not that beneficial influence upon the crops that might be expected, if more perfectly cultivated. The defective mode of cultivation we have described, encourages very greatly the growth of weeds, because the harrows in sowing or covering the seeds, does not, nor cannot disturb many of the roots of grass or weeds that are in the soil, consequently they vegetate immediately, and keep ahead of the plants grown from the seed put in by the farmer, until the crop is harvested. These are some of the evil consequences of defective ploughing, and we may add, that the land is never in so good condition for meadow or pasture, after bad ploughing as after good, because natural grasses and weeds come up with cultivated grasses, and the surface cannot be laid down in the best manner for hay or pasture.

Any skillful and practical farmer will admit the correctness of these remarks. We do not offer them from any desire to find

fault. We endeavour to describe bad ploughing, and to show why it is bad, and the consequences resulting from it; and we do this, that farmers may give the subject due consideration, and remedy any defects that may exist in the execution of ploughing. Our observations are not intended for agriculturists that have their ploughing well executed, and are satisfied that it is so. It is in the fall the draining should be done, to insure the good condition of the soil, in the spring following, for sowing in time. If there is any neglect in regard to this part of the work, farmers are sure to suffer from it in spring. This fall has been very favourable for draining the wettest places, that might be very difficult in ordinary seasons. We cannot now expect to do much in the fields for four months at least. Attention to live stock, thrashing and carting manure, fence, and fire wood, will be the chief employment of the winter, together with the disposing of the surplus produce of the crops, which fortunately will not be difficult this year, as there is fair prices for most of what the farmer has to dispose of. Indeed we do not recollect for many years, that the farmer's prospects were better than at present, and there is every reason to believe that they will improve still more. In order that we may profit by these good prospects to the full extent, we must do all in our power to augment the quantity, and improve the quality of our produce. If we neglect to do this, we shall see others come in and appropriate the advantages that are offered for our acceptance. The average produce of our arable lands is not near what it might be, by more careful cultivation, and attention to draining and weeding. The averages might readily be doubled by an improved system, and this would be a vast augmentation of the farmers annual income. The waste of manure, about the city of Montreal, and the frequent misapplication of it in the country, is a serious draw back to improvement, and to the profits of farming. A large amount of agri-

cultural produce is disposed of in our cities, and every pound of manure made in these cities, would be required for the country, to maintain productions. Land cannot be always giving without receiving an equivalent to keep up its fertility, and its constant waste. If the account was fairly balanced between our cities, and the surrounding country, the amount of produce sold, and the quantity of manure brought from our cities in return, the balance would, we are perfectly convinced, be greatly against the country. Of course, we allude to the quantity of manure required to keep the land in condition, that yields all the agricultural produce sold in towns. Crops must exhaust lands to a certain extent, and this waste must be replaced from some quarter, and therefore, where the produce of land is consumed, is the natural source for supplying manure in return. These matters deserve serious consideration, as it must be the interest of towns that the fertility of the country should be maintained. We have frequently alluded to this subject, and suggested the expediency of preserving every particle of manure made in towns, and not allow it to be thrown into the river, or otherwise wasted. Street manure, and that which is mixed with snow in the winter, may not be worth the farmers while to cart it in that state, but if collected in piles for some time, farmers would purchase it at a price that would pay for the expense of collecting it, and thus the manure would be saved to the country.

Potatoes are said to keep well this year, with few exceptions, and this circumstance has induced many farmers to suppose that the disease to which they were liable for some years past, is now passed away. We are not however, so sanguine, and we fear that if a wet season was to come, we should have the disease as usual, though perhaps, not to such an extent, as in former years, because farmers have introduced new and more healthy varieties of the potatoe, and are more cautious in their cultivation. We

should strongly advise farmers not to slacken in their caution with regard to the cultivation of the potatoe, but to continue to select the most hardy varieties, not to apply large quantities of fresh manure, and to plant in the dryest soil, which is always the most suitable for potatoes. It was supposed by many that the wheat fly had left us, or nearly so, but this year farmers found that any wheat that came into ear previous to the 15th July, suffered severely from the ravages of that insect. The potatoe disease, and wheat fly, are dangerous enemies to the farmers, and it is our duty to adopt every precaution, which we have learned by experience, to be a remedy against them. Fortunately for the country, it is in the farmer's power to prevent in a great measure, the destructive ravages of both these plagues, by adopting the measures that we have already so often suggested. We need not imagine that these evils are only peculiar to Lower Canada. In the British Isles, the wheat fly does considerable injury, and the potatoe disease is common to every country where they are cultivated. The markets for agricultural produce should be very satisfactory to agriculturists, as the prices are remunerating, and as to wheat, there is a strong presumption that it will command a better price than at present, as it appears that in England the crop has not been a very good one, generally. The supply for Canada alone will absorb a large quantity before the next harvest, taking into consideration the public works that are likely to be in active progress next summer, and the number of persons that will be employed upon them. Farmers should give every attention to their live stock, and have them in good condition in the spring, so that they may be profitable for the dairy, and for every other purpose. Dairy produce sells well this year, and their is every prospect that good prices will continue for butter and cheese. We are very happy to have it in our power in this, the last number of the Journal for 1852, to give so favourable an Agricultural Report, both

as to the years product, and the prospect there is of disposing of it to advantage. There may be complaints in some instances, and perhaps, farmers may be to blame in many of these instances, but upon the whole it has been a good year for agriculturists, and particularly so, as they can readily dispose of their produce at prices that are remunerating. Up to this date there, is no snow to be seen in the District of Montreal, and the weather is now very fine for the season. In the District of Quebec and Three Rivers, we understand they have had snow for some time.

November 23d, 1861.

MUSEUM OF AGRICULTURAL IMPLEMENTS AND CANADIAN PRODUCTIONS.

We hope there is now no doubt, that we shall soon have the advantage of an Agricultural Museum established at Montreal. The expenditure required for such an establishment, is, we believe, the chief cause that we have not had one before this, as it is generally admitted that it would greatly promote agricultural improvement. We do not think there would be any necessity for a large expenditure in the first instance, but if an annual grant was made to it of even £50, we should soon have a respectable Agricultural Museum. There should be great caution observed not to fill up space with a parcel of trash, and with regard to agricultural implements, none should be purchased but those that have been proved to be of the best description. If manufacturers were to send specimens, they would save expense in the way of advertising, as the Museum would make them better known to parties who might want to purchase, than by any newspaper advertisement. Those in charge of the Museum, however, should assign a separate place for all unproved implements, and it should be known to all visitors which was the proved, and which the improved.

We have known several gentlemen who have been induced to purchase implements that are now only useless lumber in their es-

establishments, and though there might not be any objection to allow manufacturers to exhibit specimens of their implements on their own account in the museum, there should not be one shilling expended by the Directors of the Museum upon any implement that was not proved, and of the best description. Previous to any purchase being made, implements should be tried before a Committee of competent persons, and then when an agriculturist came for advice, he would be sure there was no deception when an implement was recommended. A Museum, under good regulations, would be a great means of promoting agricultural improvement, indeed, we would say, it is a necessary means. We have now a Bureau of Agriculture, we shall soon have a Board of Agriculture, the Lower Canada Agricultural Society, and Societies of Agriculture in every county, and connected with all this machinery we should undoubtedly have a Museum of Implements, Seeds, Plants, &c. Farmers would have a great advantage in selecting implements at a Museum, where he could ascertain their true character, rather than to purchase them from manufacturers or other parties, who only want to sell. Of course, we do not propose that implements or any thing else would be sold from the Museum, but parties who wanted to purchase, might first visit the Museum, see the specimens, hear their true character, and then go and purchase. Correct Catalogues should be kept for the information of visitors; also, the prices, and where the article could be had to purchase. The strictest caution should be observed, in not allowing any person in charge of the Museum to recommend any implement or other article, without proper authority. The character of the Museum should be maintained, so that any party who applied there for information, could rely upon it, with perfect confidence. If once this character could be impeached, the Museum would be comparatively useless from that moment. These establishments should not be employed for exhibiting, and recommending, painted and polished imple-

ments, unless they have been proved to be well adapted for their several uses, and so constructed, as to be capable of executing well any work they were employed for. At all events, if painted and polished implements are exhibited to fill up space, they should be left to recommend themselves, and they should not be purchased for the establishment. It might be useful to have specimens of Agricultural implements of former times, for comparison with improved implements that have superseded them. We should be anxious to see a well furnished Museum that would be a credit to our country, or not have any.

We have read with attention the "Act to provide for the establishment of a Bureau of Agriculture, and to amend and consolidate the Laws relating to Agriculture." Also, "An Act to provide for the better organization of Agricultural Societies in Lower Canada," but we received them too late for insertion in the present number, but shall copy both in our next. These bills are well calculated to promote the improvement of Agriculture, and we trust they will work satisfactorily. It is an easy matter to find fault, but if we compare these Acts with those which were previously in force, we must acknowledge that agriculture is in a much more favorable position, and that the aid afforded by the Government for the encouragement and improvement of agriculture, will have a much better chance of accomplishing that object under the provisions of the New Bills, than under those that are repealed.

We occasionally give insertion to selections of poetry, which we conceive may be interesting to subscribers. In this number, we are happy to give a beautiful poem composed by a Canadian Lady, Mrs. Dr. Leprohon, of St. Charles, on "The Fall of the Leaf," and we hope that Lady will often favour us with her contributions for the Agricultural Journal. We frequently insert verses composed by an English Lady, Eliza Cooke, a

they are generally on rural subjects, exceedingly well written, and in that peculiar style, that must be pleasing to agriculturists. As Mrs. Leprohon resides in the country, we have no doubt, that rural subjects will interest her more than any other, and that she will employ her pen in describing the beauties of the country, and the pleasures of a country life.

We beg to direct attention to the article. "The short-horned Cow," 359, as containing very useful information for parties wishing to cultivate this breed of neat cattle. The points that constitute perfection are laid down so clearly, and we may add, so correctly, that they are calculated to assist any agriculturist in selecting stock of this breed. By carefully studying that article, and the following description, it will be easy to detect where animals are not of pure blood, and good judges of this variety of stock must be aware, that cattle are often shown as pure short-horns, that are only mungrels. We do not object to crosses between this breed and others, but we have a great objection when there is any attempt made to impose as pure breeds of favourite varieties of stock any that are not so in reality. It becomes a fraud at Cattle Shows, and a vexatious imposition upon purchasers of such stock.

"The fine, thin, clear bones of the legs and head, with the soft mellow touch of the skin, and the benign aspect of the eye, indicate in a remarkable degree the disposition to fatten; while the uniform colours of the skin, red or white, or both commixed in various degrees, bare cream-coloured skin, on the nose and around the eyes, and fine, tapering, white, or light coloured horns, mark distinctly the purity of the blood; these points apply equally to the bull, the cow, and the heifer. The external appearance of the shorthorn breed," adds Mr. Dickson, "is irresistibly attractive. The exquisitely symmetrical form of the body in every position, bedecked with a skin of the richest hues of red, and the richest white approaching to cream, or both colours, so arranged or commixed as to form a beautiful fleck or delicate roan, and possessed of the mellowest touch; supported on clean small limbs, showing, like those of the race-horse and the greyhound, the union of strength with fineness; and ornamented with a small, lengthy, tapering head, neatly set on a broad, firm, deep neck, and furnished with a small muzzle, wide nostrils, prominent, 'mildly beaming' eyes, thin, large, biny ears set near the crown of the head, and protected in front with semicircularly bent white or brownish coloured short (hence the name) smooth pointed horns;

all these parts combine to form a symmetrical harmony, which has never been surpassed in beauty and sweetness by any other species of the domesticated ox."

An Index, or Table of contents, for this year's Agricultural Journal, will be furnished to subscribers with the next January number.

THE FALL OF THE LEAF.

[BY MRS. J. L. LEPROHON.]

Written for the Agricultural Journal.

It is a sad and solemn tale
That the sighing winds give back,
Scattering the leaves with mournful wail,
O'er the forest's faded track;
And summer's songsters have left us now,
For a warmer, brighter clime,
Where no leaden sky or leafless bough,
Full of gloom and winter time.

The reapers have gathered golden store
Of waving and ripened grain,
And they'll seek the far spread fields no more
Till the spring time come again;
But around the homestead's blazing hearth,
They will find sweet rest from toil,
And many an hour of harmless mirth
Whilst the snow storm piles the soil.

Then, why should we grieve for Summer's skies,
For its blooming trees and flowers,
Or the thousand light and joyous ties
That endeared the sunny hours:
A few short months of gloom and storm,
Of winter's chilling reign,
And Summer with smiles and glances warm,
Will gladden our Earth again.

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