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THE
Canadian Agriculturist
AND
JOURNAL OF THE BOARD OF AGRICULTURE
OF UPPER CANADA.

VOL. XV.

TORONTO, JUNE, 1863.

No. 6.

THE PROVINCIAL EXHIBITION.

We publish in this month's issue the prize list and regulations of the Eighteenth Exhibition of the Agricultural Association of Upper Canada, to be held in the City of Kingston, September 22nd, 23rd, 24th and 25th, 1863.—The attention of our readers and the public generally is earnestly invited to an inspection of the list, which will be found to embrace almost every article of importance connected with agricultural and manufacturing industry, including horticultural and artistical productions. It has always been the practice of the Association to award a money prize or a diploma to such articles of merit as may be shown, although not mentioned in the catalogue; and the occasion of the Provincial Show consequently presents the most favorable opportunity to producers of every description of bringing their various productions before the public, and to have their merits determined by competent and responsible judges. The sum offered in premiums has been of late years considerably increased, amounting now to the magnificent sum of about TWELVE THOUSAND DOLLARS! We think the Board has acted wisely in thus keeping up the amount of the premium; as large and numerous prizes will be sure to draw together a great number of visitors and competitors, from whom are chiefly derived the means of paying the premiums and expenses of conducting the Exhibition.

Kingston is most favourably situated for a gathering of this sort, it being of conve-

nient access both by rail and water, and occupying a sort of central position between the middle and eastern sections of Upper Canada; and is readily reached both from Montreal and the neighbouring States. If, therefore, the weather should prove favourable, another display of our great resources, and of the status of our art and industry, may confidently be anticipated that will reflect honour and credit on this rapidly advancing portion of the great British Empire.

As Kingston was the first of our cities to erect extensive buildings of a permanent character for the accommodation of our Provincial Exhibitions, nothing will now be wanting to render that accommodation still more complete, so as to meet fully the constantly increasing demand for space. With that view the Corporation have granted two thousand dollars, and the Council of the United Counties an additional two thousand, so that our farmers and mechanics, and other exhibitors, may safely reckon on having plenty of space, thoroughly protected, for exhibiting their various productions.

It will be seen from the List that numerous prizes are offered in the department of Arts and Manufactures, and it is much to be desired that our artisans should begin immediately to prepare for the occasion, if they have not done so already. Not a day should now be lost, and every effort should be made to sustain and improve this interesting and useful department of the Exhibition. We trust also that the leading farmers and stock breeders in every part of the Province will be represented on this occasion—but it should not be forgotten by the inhabitants

of the central and eastern sections that we must mainly look to them for the bulk of the material. As Kingston is situated, we may fairly expect a considerable amount from Lower Canada, and some from the State of New York, particularly when it is remembered that in Live Stock and Agricultural Productions, the competition is not confined to this Province. In Horticulture it will be perceived that the arrangement of the premiums has been somewhat altered, and it is believed improved; and it is hoped that the amount of prizes in this very interesting department, will bring out extensive competition. In a word, we trust that nothing will be wanting, either among the directors or the public, to make our next Provincial gathering what most of its predecessors have proved, worthy of so great an occasion, stimulating industry, and confirming PROGRESS, as the normal condition of Canada.

CULTIVATION OF ROOTS AND INDIAN CORN.

EDITORS OF THE AGRICULTURIST.—Seeing an article in your valuable paper urging Farmers to write for their paper, and being a Farmer, of course it applied to me as well as others. Now I think if you had a page, or even a column, for inquiries and answers, it would be of great benefit to your readers. It would give them a chance both to ask and answer questions. The article you gave on root cultivation is certainly an excellent thing, it gives people a chance to know what kind of land roots grow best on. I consider that article worth the subscription of the *Agriculturist*. Now I have found, as I see in that article, that roots grow best after sod. I generally turn sod down one Spring, sow it with peas, and next Spring cross-plow, cultivate, and harrow it well, (not using any manure,) then drill 24 inches, and sow 20th June, then roll with a two-horse roller; and I generally get first prizes for Turnips, Mangel wurzel, Beets and Carrots, at the Fall Fairs.

Now, if you allow to make an inquiry through your Paper, I will do it. How is the best way to manure corn and what kind of manure is best; if lime, ashes and plaster mixed equal would not be good as a top dressing?

J. R. S.

Brampton.

[The Indian Corn Crop is a voracious feeder. Almost every kind of manure, farm-yard or artificial, may be used with advantage. Dung,

from the farm-yard, stable, or hog pen, may be spread liberally broadcast, and ploughed in.— If the land has been previously ploughed, it may be covered in with a light furrow, and harrowed to mix well with the soil before marking out the rows. An application of limespread broadcast upon the surface is beneficial. Ashes also are an excellent manure for Indian Corn, and may be used in the proportion of about half a pint dropped upon each hill. Plaster also, in smaller quantities, has a good effect. Our correspondent may safely try the mixture he proposes. It is frequently used in the United States. We shall be glad to hear the result of his experiments.—Eds.]

CULTIVATION OF CORN.

EDITOR AGRICULTURIST.—Sir: Feeling an interest in the Agricultural pursuits of the Province, and thinking perhaps I was one of those you call upon so earnestly to contribute to the *Agriculturist*, I can perhaps give some hints in regard to the cultivation of corn that will be of interest to farmers generally.

There is no crop, in my estimation, pays so well as Indian Corn. As a substitute for summer fallow it follows closely to the turnip, and deserves in most parts of America to take the place of the turnip in England. Ground fitted properly for corn is almost sure to bring good wheat the following spring. The stalks as fodder I have tested for a few years, and find them preferred by cattle to hay, and no coarse feed will produce such a flow of rich milk. I have noticed in my own observations that stalks properly saved would, when fed to milch cows, immediately increase the flow of milk, when hay had previously supplied their place. The grain cannot be surpassed for fattening purposes, either in beef or pork, for quality or firmness of flesh. Pork fattened on peas will be oily, while corn-fed will be firm, and bring a better price in market. The quantity produced far exceeds that of most grains; I have grown on an average sixty-five bushels per acre, or I believe three times the quantity usually grown of peas. Why farmers have such a dread in Canada against raising corn is more than I can tell; the seed per acre is far less expensive than that of any other grain, while it does not have to be planted until all other grains are in.

My plow for fitting the ground is as follows: I select a piece that will do for nothing else if I have it. In the fall I manure with good manure as I have, plow in deep, and

ten inches, and then harrow it down. The following spring, about the 15.h of May, I draw on all coarse horse manure made the previous winter, and commence to plow it in about the twentieth of May. After plowing, drag it thoroughly. I now take a marker, which is made by boring holes four feet apart in a four by four scantling, and placing therein large pegs made of hard wood, then bore holes and place some poles in for shafts, fasten on your whippletrees, put in your horse, and commence to mark your ground, both ways if you like. I generally try to plant straight one way by stakes, put from four to six grains in a hill, cover with fine fresh dirt, spat it down with the hoe, and keep your feet off. Just as soon as you can see it coming up sufficient to follow the rows, start the best cultivator you can find both ways through it. In the course of a week or two cultivate again and follow with the hoe. After you are done hoeing plaster it lightly, say one handful to four hills. By the time the corn is a foot high run a small plow through, throwing the dirt towards the hill, then with the hoe dress it up, removing all weeds and suckers, if the grain is your object; if not, let the suckers grow, and my word for it you will have a crop you will be proud of, and willing to try again.

Duffin's Creek, May 10th, 1863. S.E.C.

ON LAYING DOWN MEADOWS.

EDITORS OF THE AGRICULTURIST.—*Gentlemen*,—We hear of and see a great deal of misery amongst the cattle of Canada, caused by the poor system of our farmers of sowing so much wheat and neglecting what ought to be sowed—hay, and plenty of it. I know by experience, and they would find out if they would only try it for a few seasons, that they would be gainers by it. It is absurd to think that the farmers of Canada cannot keep their cattle alive when they have the means in their power to do so; but they are too blind to see that they are standing in their own way to fortune. They think that they are doing great things when they have got all their fields turned over ready for sowing with wheat; but they are greatly mistaken, for they have done the very worst thing they could do. Where is their hay and oats to keep their teams in working order? They have neither. When spring comes they must go and hunt up enough of hay and oats to put their team through the fork, and it mostly turns out that their neighbors are in the same fix as themselves, and they cannot get what they want; so they have to do as they can, and that is not very well you may suppose, but still it has to be done, and no help for it, unless they change their ways.

Now is it not infinitely better to have enough to keep their cattle, and have the pleasure of seeing them in good order than to have them like two boards stuck together? But it will always be the same way unless they make some alteration in their domestic economy. They may ask what alteration they can make? Well, I will tell them what they can do; but it will take some time to realize anything, on account of the state of their land. They must first take one or two of their fields, and get them into good heart by manuring them well, and then get them well ploughed—they know how to do that by this time, for they have done it often enough—then sow it with wheat or oats; the first is the best, but the latter would not take so much strength from the ground, but if they are sown too thick they are bad for smothering the grass, so wheat is preferable, as it is not so close at the bottom, and it will give the grass a chance to grow. Then, when they have got them in working order, they can proceed as before. The fields that were sowed first can lie in grass for three years, not more, for then they begin to get worse, and they will not pay to keep them any longer, but turn them up and sow peas on them, and then they will come in to sow fall wheat on, if convenient, if not they will come in very well in the spring, and then you will have a crop that will pay itself, which you could never have by sowing grain every year on the same field. Rotation is the thing, and that you will find out to your gain, if you will keep at it, and you will have no trouble to decide what you will put on this field and what on that—it is as plain as a black spot on a sheet of white paper.

Messrs. Editors,—hoping that the farmers will consider this well before they condemn it,

I remain,

Yours, &c.,

JOHN DOBIE.

Mosa, C. W., April 30, 1863.

HEMP.

We are of opinion that the cultivation of Hemp is deserving of much more attention than it has heretofore received in this Province. In view of the importance of directing the attention of our farmers to the production of some textile fibre as an additional item in their operations, considerable prominence has been given in the pages of the *Agriculturist*, for some time past, as well as in many other public journals, to the culture of *Flax*. But the cultivation of Hemp equally deserves the

consideration of the farmer, and probably would prove quite as profitable a crop as Flax. On these considerations we have pleasure in giving insertion to the following very concise and practical Essay, written, as we infer, at the instance of the Iowa State Agricultural Society, but which will be found equally valuable, for the information it gives, in Upper Canada.

Essay on Hemp Culture.

BY J. L. BRADFORD, PRESIDENT OF THE KENTUCKY STATE AGRICULTURAL SOCIETY.

SIR,—The culture of Hemp is an interest of great and growing importance in the great West. Its production heretofore has been mainly confined to Kentucky and Missouri, but there can be no reasonable doubt in the minds of those who have given the subject the least attention, that Illinois, Iowa, Minnesota and Wisconsin, have vast advantages over the two named States in its production. Many writers have advanced the idea that Hemp, like Cotton, could not be grown by free white labour; and that its production would, for some time at least, be confined to the slave States. Nothing can be farther from the truth. The climate the very best adapted to Hemp growth, is found far north of the home of the negro, and where he would absolutely perish from the effects of climate. Hot, short, quick, forcing seasons of growth, just such as the region referred to actually possesses, are, of all, best adapted to the plant-growth of this great staple, and the day is not distant when the named States will be as noted Hemp producing States as Kentucky and Missouri ever were.

It is to be regretted that in our Census returns, Hemp and Flax have been confounded, but it may, however, be safely assumed that the growth and preparation of Hemp is so far below the actual consumption of the country as to assure the Iowa agriculturist of a continued good demand and paying prices for many years to come; and the experience of Kentucky and Missouri has fully proven that the production of even an inferior staple has been and is yet remunerative. The reader must bear in mind the fact that American Hemp is almost exclusively what is technically called *dew rotted*, that is, spread upon the surface of the earth and there rotted by the slow process of the elements. France grows more Hemp than Flax for the linen manufacture, and the finer grades of cordage and twines. The fibre is greatly superior to American, from the fact that her climate is of a lower temperature than that of the portion of this country that grows Hemp, and the further fact that she has abundant supplies of pure soft water for steeping in the rotting process; and the same is true of the

Russian production. The soil of Kentucky is as well adapted to the growth of this plant as any in Europe or America, but there her adaptedness ends; her general temperature is too high and she is entirely destitute of water of the proper quality for the steeping process; hence all attempts to furnish our Navy from this State have been failures, notwithstanding that department has offered great inducements to her growers to water-rot. Iowa has certainly a climate much colder than Kentucky, and pure soft water in her small lakes and streams without limit, and most certainly a soil equal in fertility to any on the globe.—Why may not then her enterprising people reach forth their hands and lay hold of this prize, so well adapted to her soil, climate and situation. In the process of dew-rotting, the fibre, especially in warm climates, is materially deteriorated, and in some cases so far injured as to produce a very low grade of lint, unfit for anything but the very coarsest and lowest grades of bagging. This is especially the case when exposed to the dew process in open wet winters in Kentucky, thus proving that the true Hemp latitude is north of this State. Cold, snowy winters, on the contrary, universally produce an improved quantity of lint, always brighter and stronger.

CULTURE OF SEED.

The first step in Hemp culture is the production of good sound plump seed. Land intended for seed must be good tilth and well prepared for planting by corn planting. It should be laid off in straight rows four feet apart each way and planted in hills, seven or eight seeds to the hill. The same rules observed for cultivating corn will apply in the after culture of Hemp seed. When the plants reach six or eight inches high, they should be thinned to from three to four plants. Hemp plants are divided into what the farmers call male and female, the former producing the pollen or impregnating powder, the latter bearing the seed. A very little observation will enable the growers to distinguish between them. As soon as they can be distinguished, the male should be drawn up by the root, except here and there a solitary plant left, that the female plants may be properly impregnated. The female is to be retained until its seeds are perfected, when it is to be harvested by cutting at the ground and removal to cover. When cured detach the seed with a stick of convenient length, winnow and put up in barrels or sacks, perfectly dry, out of the way of rats and mice.

PREPARATION OF LAND.

The soil for Hemp must be a strong calcareous, deep, warm, loamy, perfectly dry and deeply and thoroughly prepared by plow, until a fine state of tilth is produced, more or less according to its previous condition.

PUTTING IN THE CROP.

The ground having been faithfully prepared, the grower must hasten the operation of seeding with the utmost dispatch, as the earlier the seeding, as a rule, the heavier the lint of the plant. Mark off the land with a small plough and very shallow furrow, or it may be marked off by a drag made of a small log of wood; anything to make a line to guide the sower accurately; then proceed by hand to broadcast your seed evenly at the rate of fifty pounds of seed per acre as the *minimum* or even up to seventy pounds as the maximum quantity, varying with the strength of the land; the object being to produce as thick a growth of plants as the land will sustain. If the plants set too thin on rich soil the stalks grow too coarse, producing a coarse and inferior lint; on the contrary, if seeded too thick the growth proves so short as to materially affect the value of the crop. In the latitude of the hemp-growing section of Kentucky the seeding is mostly done from the 1st to the 15th of April, and the land generally plowed the fall before.

In Iowa the seeding should be done as soon as the ground proves to be in good dry working order; although the seed itself seems very tender and its vitality easily affected, and its germination after sowing often seriously disturbed by unfavourable circumstances, yet, when once above ground and fairly set, no ordinary frosts that destroy other vegetation, seem to affect it; hence, but little danger need be apprehended from late frosts, that prove so destructive to corn. The seed being sown, proceed to cover them up with a light harrow by running both ways to secure uniform results. The shallower the seed is covered in a moist soil, the more certain the vegetation.— If the season and soil be dry, a somewhat deeper covering may be necessary. Under favourable circumstances, the crop makes its appearance in a few days, and with proper sun and moisture it rapidly covers the ground. From seed time until harvest, the laborer has only to watch its almost magic growth from day to day. After having once covered the ground the crop is generally considered safe by the grower, yet he is sometimes doomed to disappointment. Hail storms prove very destructive to the very tender watery growth of the young hemp plant; high winds damage the yield, but never entirely destroy the crop from seed time until harvest.

RIPENING AND HARVESTING.

The maturity of the crop is indicated by a change of color in the leaf, it gradually fading from a deep green to a paler hue, also a shedding of the leaves, beginning at the bottom of the leaves and gradually extending up the stalk.

The male plants ripen fully ten days in ad-

vance of the female, and in some countries where labour is next to nothing, the male is first harvested by being drawn up by the roots, the female being left standing; in our country such a mode of harvesting is impracticable; hence the American grower must divide the time as near as may be, between the earlier and later ripening, and thus secure the best results possible under the circumstances. The male plant is covered with minute pods, bearing pollen, which at maturity burst and fill the whole atmosphere. It may be seen when the crop is stirred by a brisk breeze rising in immense clouds and floating away from the field. When this is seen in addition to the indications previously named, the crop is ready for the knife.

This instrument is of a peculiar shape, perfected by long experience and need not here be described, as they can be purchased in the hemp region of Kentucky of almost any smith. The ancient manner of harvesting was by pulling as with flax, but this has long since been abandoned in favour of the hemp-hook, as the knife is called. Of late years, J. B. McCormick of St. Louis, Mo., and Versailles, Ky., has patented hemp-cutting machinery as an attachment to the McCormick Reaper. The writer has used the attachment and considers it a perfect success; it will supersede the hook in all level lands, and must prove well adapted to Iowa use. In Kentucky some of her best hemp lands lie so rolling and so rough as to perhaps preclude its use. If the crop is to be cut with the hook, the operator is required to cut at one through a width corresponding to the length of the hemp and as close to the ground as possible, spreading his hemp in his rear in an even, smooth swath, where it remains exposed to the sun's rays until it is properly cured and the leaves sufficiently dried to detach easily. The last operation is sometimes omitted by careless growers, and some contend without injury. The hemp can be shocked or *stooked* (as the Yankee would say) with more compactness without the leaves than with them, and any operation having an influence upon the future security of the staple from dampness or atmospheric influence is certainly important; the perfect detachment of all the leaves should then in no wise be admitted. No time should be lost after the stalk is cured in getting the crop up and in neat shocks. Every additional day's exposure to sun, wind, rain or dew, is deteriorating its quality and subtracting from its quantity; the brighter the stalks can be secured the better. The same rules will apply to hemp that obtain in securing good hay.— The operator, in taking up the hemp, uses a rude stick cut from the branches of the nearest tree, about the length and weight of a heavy hickory walking cane, taking care to use a fork of the branch (←) as

delineated. With this primitive but very effective tool he can rapidly draw the stalks into bunches of the proper size for sheaves.— In operating he throws his rude hook forward its full length, and suddenly draws it toward him, each motion making a bunch; this he raises quickly from the ground, and, with his hook by a few well directed strokes, divests the plant of its leaves; he then binds his sheaf with its own stalks and passes on to repeat the operation. Other laborers follow and place the hemp in neat close shocks of convenient size, securing the top by a neat band made of hemp stalks themselves after the manner of shocking corn. Here it is suffered to remain until the whole crop is thus secured; as soon thereafter as possible, selecting clear dry weather for the operation, the whole crop is to be secured by ricking or stacking.

The same rules are to be observed in stacking as with grain—the object being to keep the crop secure and dry until the proper time for rotting arrives; in the latitude of Kentucky about the middle of October is the proper time. The crop must be in the rick or stack, until the summer heats and rains have passed and frost appears instead of dew, the whole crop is then removed from the rick, and re-hauled back on the same ground on which it grew, there to be spread in thin swaths for rotting, where it remains without turning until properly rotted. This is indicated by the fibre freely parting from the stalk, and the dissolution by the action of the elements of the peculiar substance that causes it to adhere thereto. This stage is only to be learned to perfection by practical experience, yet the novice must have some information to enable him to begin to learn, and it is easily acquired by any one the least observant. When the operator finds his hemp sufficiently rotted, the wooden hook is again brought into requisition for drawing once more the swaths in convenient bunches. The hemp will have lost much of its weight, and can be bunched and shocked with less labor than at first, besides, at this last shocking, the binding is to be omitted entirely; the hemp is to be carefully and neatly handled, all tangling to be avoided, and placed again in neat shocks and firmly bound at the top. Then comes the last and crowning operation—the breaking and dressing the fibre or lint for the market. The peculiar brake to be used, like the knife or hook for cutting, needs no description; they are manufactured in the old hemp regions at a cost of about \$5 each, and from long experience have been perfectly adapted to the uses required. The new beginner would save time and money by ordering a sample brake, from which any carpenter can manufacture as desired. The crop is broken in this climate directly from the shock in the open field by the removal of the brake from shock to shock

as fast as broken. In Iowa, owing to the severity of the climate, it would probably be necessary to remove the rotted hemp to the barn, where the labour of breaking could be more certainly performed. The coldest and clearest weather is the best for this operation—in fact, excess of dampness in the atmosphere suspends this latter altogether. The breaking process is laborious, yet more depends on the skill than the strength of the laborer.

I have endeavoured to describe the whole progress as practised by the best growers in Kentucky. The same mode will certainly apply to Iowa up to the rotting process. With her advantages, steeping in soft water is entirely practicable, by which she will produce an article of water-rotted hemp perhaps in no respect inferior to the highest-priced Russian, which is fully double the value of the American dew-rotted, the only sort produced in this State. The writer is apprehensive that seasons are too short in Minnesota, Wisconsin and Iowa, for the successful growth of seed, a defect easily remedied by the purchase of seeds grown in more Southern latitudes, but not a shadow of doubt exists in his mind that they can, at the very first effort, produce better hemp than any territory South. Time, he thinks, will demonstrate that Illinois, Iowa, Minnesota and Wisconsin compose the TRUE HEMP REGION of the American continent.

FLAX CULTURE.

[An esteemed correspondent sends us the accompanying article addressed to the *St. Mary's Argus*, by Mr. Black, an intelligent and enterprising farmer, formerly of Northumberland in this Province, but now a resident in the county of Perth. The article is somewhat long for our columns, but the importance of the subject, and its able handling by a practical man, justify its reproduction in an unabridged form. *Ens.*]

DEAR SIR:—I have for some time been urging upon the Agricultural Societies with which I am connected, to consider the importance of endeavouring to induce the Farmers in this locality to try the cultivation of Flax. From what I have observed of its culture in Ireland, and having cultivated Flax for twenty years in this Province, I am convinced that Flax growing can be profitably introduced as an article of exportation into the rotation of cropping in this country.

The Blanshard Branch Agricultural Society, at their late annual meeting, invited me to read an essay on the cultivation and management of Flax at our annual fair in April, which I reluctantly agreed to do, in connection with the cultivation of wheat; but since then, Mr. Forrester and myself having concluded to erect

cutting machinery in St. Mary's, that period is deemed too late in the season for parties to benefit by any information which I might be able to give them. Therefore, with your permission, I will endeavor—although very incapable—to give the public all the information I can on the subject through your valuable journal.

Although it will extend this to a rather long article, yet I consider it necessary that I should state, in connection with Flax growing, my views on the injurious effects of having so much land under wheat in this country, lest it be imagined that I am advocating the culture of Flax at the expense of a diminished quantity of wheat. My object is to show my brother farmers that the growing of Flax in the rotation, will increase the quantity of wheat, and at the same time enable us to diminish the breadth of and sown to wheat.

For 17 years I have experienced the ravages of the numerous insects, and I have invariably observed that they did most damage to crops where land was poor and foul from a succession of wheat crops; and also that where land was rich and clean, neither drouth nor insects affected the crops nearly so much. There can be no doubt but that a series of cereal croppings is most ruinous to the soil, especially in this country where a sufficient quantity of manure is not applied, without which, and sufficient rest from white crops, the land will get hard and sterile. Crops on such lands may look tolerable healthy during a favourable spell of growing weather, but a drouth of 8 or 10 days will cause this luxuriance to vanish into a poor stunted yellow appearance, with blades like horse's hair. How can it be otherwise, with a soil perhaps to the depth of 5 or 6 inches; like as much broken stone, which cannot defend itself against drouth, either can it retain moisture, and a subsoil so hard that the roots of plants cannot penetrate in search of nourishment. With such poverty and hard usage, it is no wonder that the crops are weak and unable to stand a dry time and the assaults of vermin. To enable us to produce better crops, we will require to have a less extent under wheat and that in a better condition by thorough cultivation, liberal manuring, and rest from white crops.

There is no doubt but that the want of sufficient capital among us is one cause for so much land having been put under wheat. Wheat has been the main article that the farmer could depend upon to enable him to meet his engagements.—Therefore many have been obliged to sow wheat year after year in succession, although they knew at the time that if they could spare the field from wheat, and clean, manure, and seed it to grass for 2 or 3 years, that when put to wheat again it would pay them double; but they required immediate returns, even if they could be small.

I consider that the cleared lands in Canada ought to support double the quantity of stock, and they better fed than what is on it at present,

to give the land the least chance to continue to produce a quantity of wheat equal to what it is producing at the present time. For years past the greater portion of the lands have been put under wheat and other cereal crops, leaving only a small extent for cleaning crops—hay and pasture—and nothing for cattle in winter but sapless straw, and that commodity they often get their own way of managing, frequently tramping their winter supply under their feet in a few months, and in April they have to roam the fields, if able, in search of food, poaching the land, and nipping the first buds of grass into the ground. The pasture is kept so bare that when a drouth comes, it is burned up and unable to sustain the stock during the whole summer after, and then when plowed under there is no rich sward to decompose and enrich the soil for future crops. It has been impoverished as well as the stock. Animals of all kinds require shelter from the winter blast and summer heat; so also does grass lands.

The solid and liquid manure obtained by having a full stock of well fed animals is a treasure to the farmer. So also is a close, rich grass sward turned under to rot, which makes first-class manure for all kinds of crops.

We require to have more acres under hay, pasture, and cleaning crops, such as roots, flax, corn, &c., if we expect to grow wheat with profit.

I believe that nearly one half the land which is now put under wheat, if put under regular rotation and sufficiently manured, would yield more wheat than the whole acreage now produces, and of a superier quality, and not so liable to injury by its many enemies.

The culture of Flax is becoming the subject of increasing interest to the people of this country, but more so at present on account of the war in the States; but there is little doubt, if machinery had been introduced years ago for preparing the fibre, that large quantities would have been grown over a large extent of Upper Canada.

And when we reflect that the prosperity of the Province is mainly dependant upon the success of the wheat crop, we may wonder that our Bureau of Agriculture has not given their attention more toward encouraging this source of industry, which might not only have saved to the Province large sums of money, but have given us a surplus to export. I see that in 1844, £80,000 worth of cordage, bagging and canvass, was imported into this country, and of course this is but a trifle in comparison to what is now imported.

Before the war with Russia, Great Britain was yearly importing from that country alone, \$26,000,000 worth of flax, and in 1831, Britain imported 2,759,100 bushels of flax seed for crushing and sowing.

Why might not Canada have a few millions of this money; with a soil and climate so peculiarly adapted to the growth of flax and hemp as ours

is, we ought to export more value of this article than all our surplus of wheat now brings us. The oil also can be made a profitable item to us, as soon as there is enough grown to afford a surplus after the seed required for sowing. Flax seed yields about 5 gallons of oil per 3 bushels, or 22 per cent.—the remainder being oil cake.

Let it also be remembered, that a first rate man-of-war requires the produce of 320 acres of an average crop of hemp, for an outfit of cordage alone.

From these figures and our own increasing wants, there is every prospect of finding a ready market for all that we can produce, and at full prices. With a view of introducing machinery for scutching flax, into this locality, Mr. A. Forrester and myself went down to Waterloo, where we visited three mills, two of which were in operation, belong to Messrs. Perine & Co. These gentlemen own four mills in that section, and also have machinery for manufacturing. They have been in the business ten years, therefore their experience, so freely imparted, is more applicable to us to be guided by at present, than to follow systems pursued in countries where the price and supply of labour, and climate are so widely different from ours. They scutch at their mills from 1,500, to 2,000 acres yearly, part of which they grew themselves, by leasing land from the farmers for the season.

The soil best adapted for the cultivation of flax, is a deep, rich, clay loam, with a considerable portion of decomposed vegetable matter in it; but it will grow on any soil provided it is rich and mellow. Except on sandy or gravelly soils, land should not be manured for the flax crop, but the preceding crops should be heavily manured; the yield will be increased and the fibre improved, with the increased quantity of manure applied to the previous crop. Flax may be sown after any crop, if the land is rich and clean; such as potatoes, turnips, corn, and after peas or oats, if they have been grown on fresh sod land, if well plowed in the fall, and thoroughly cultivated with the harrow. But whatever crops precede it, the land, to ensure success, must be made fine by thorough cultivation. Then a heavy rolling, and the land will be ready for the seed, which may be sown from the 20th of April to the 12th of May, at the rate of from 5 to 6 pecks to the acre; if later than this the fibre will not be so good, and will waste in scutching. Cover with a light grass seed harrow, or a brush clear of leaves will answer, but a uniform depth is necessary, and it thereby causes uniform growth and fibre of equal quality. Then a light roller run over it, and it will be finished. Some advocate 2 and 2½ bushels per acre, but Messrs. Perine's experience does not justify so thick sowing. They state that at the present time we must endeavor to get a heavy medium quality of fibre and a good yield of seed, until the people become better acquainted with the management; also,

they say, that when sown so thick the fibre is apt to be short, and I know this to be the case. And again, we must bear in mind that the Irish acre is a quarter larger than the imperial acre, and if we were to sow as much grain per acre as they do in Britain, our crops would be like windle straws.

If two bushels of salt are sown two days before the flax seed, to allow it to mix with the soil, it will kill a great quantity of the seeds of weeds, such as wild mustard, &c, and will keep the land moist, and save labour in weeding. Plaster and ashes sown over, after it is up, will enhance the value of the crop; use all means to push forward the crop to early maturity, as early maturity will not only produce the more valuable crop, but will enable the farmer to pull it before wheat harvest comes on, which is a great consideration. Flax is ready for pulling when the lower leaves appear to be decaying & getting yellow, and the seeds have changed from the white, milky substance to a greenish color, and firm. This is a very important point to be attended to, for if allowed to get too ripe the fibre will be injured, and if too green the seed will be injured.

And in pulling great care must be taken in keeping it even, as raveling or breaking the fibre before rotting causes it to rot unevenly, thereby causing a great waste in the scutching. The binding should not be done with straps of flax, because as the sheaves should be small, say from 6 to 7 inches in diameter, it would waste a large quantity of the fibre. A patch of early sown oats, cut rather green; when thrashed will answer to bind it with. When bound shoot up with 10 or 12 sheaves to the shock, and there are signs of rain cap the same as in grain then in a few days (if dry enough for the seed to be separated) the seed may be taken off, rippling, which is a kind of comb constructed of iron teeth, made fast into a plank, and close enough to prevent the balls from passing through. Then the flax is firmly grasped in handfuls and pulled through this comb. The balls or seed then may be thrashed with the flail or the thrashing machine. Thrashing the fibre with the flail bruises it.

Then, if time will permit, it should be spread out thin and regular on grass land, which, when bare, to rot, the rotting of which will be accomplished in from six to ten days, according to the humidity of the atmosphere; and when it has been from five to seven days on the grass, great attention must be paid to it by turning several times a day; if by breaking the seed separates freely from the fibre it is rotted; or the fibre will strip from the shove, the denier of the straw it should be lifted at once. During this process it will require several turnings which can be done with a small pole or handle, then (if dry) it may be bound up in larger bundles than before, and either taken to the scutching mill or the barn.

But if there is not sufficient time to do

plish the rotting before the harvest commences, I should prefer putting it into hand stacks in the field, with a little thatch on the top to keep it dry, and shade it from the sun, there to stand until the hurry of harvest is a little over. And as it does not clasp like grain, the seed will dry and mature considerably in these small stacks. This will be an advantage to the fibre by admitting the pulling to be done rather on the green side. It would be unsafe to be caught with flax on the ground when harvest commences, as it would likely be lost by neglect.

The grass-rotting system is pursued in Waterloo and considered the most profitable, under our present supply of labour. But I shall give you a few directions with regard to water-rotting, &c. &c. Ponds must be made along the sides of streams where the water can be conducted from them into the pond, and if it can be done a water course made to drain the pond, so as the flax may be washed by running a stream over it before it is taken out. Ponds should be five or six feet deep, and large according to the crop. The water should be soft, and pure from mineral substances, such as iron ore, &c., which abounds in this section. The water should not stagnate in the pond before the flax is put into it. The flax is put into the pond in layers, each somewhat sloped, with the root ends down, much in the manner that the wheat is mowed away in barns, being kept straight; then, when partly filled, a portion of water let on, and the filling continued until full; then fill up with water, and cover with plank, or straight rails will answer; then stones, or weight of some kind to sink the flax, but not to the bottom. It will rot in from six to ten days, according to the warmth of the weather; and the same instructions will apply to the rotting which were given before. When taken out of the water, it has to be teamed to a grass field, and there carefully spread out, not allowing clotted bunches to stick together; it will be turned more or less, and when thoroughly dry, bound up, and either taken to mill or stacked. Kiln drying is unnecessary in this country. In a letter to the *Ohio Observer* the writer says, "That we have frequently grown as high as 25 bushels of flax, and 500 lbs. of fibre per acre, over an area of 15 to 40 acres, and the land after flax is better for wheat than a summer fallow, as the wheat is not so apt to rust, and the heaviest crops of clover have been grown when sowed with flax." A letter in the *Observer*, from an agent of the American Linen Company, states that from 2 to 2½ tons of straw can be grown per acre, and every ton yields 300 lbs. of fibre, so that those who take pains to grow large crops will have, after scutching, 600 to 650 lbs. of fibre. For this he says, in a letter to the Governor of Indiana, "We would gladly contract for two years to come, at the rate of 12½ to 15 cents per pound, \$250 to \$300 per ton, according to quality. It costs us this to import, and we would much prefer paying it to our own industry."

Sir J. McNeil, who cultivated 600 acres of flax in Ireland, states that it is a mistake to suppose that flax is injurious to land. It may be sown every four or five years without injury. A letter to the *Observer*, from Ohio, states "that on rich lands from 15 to 20 bushels seed and from 300 to 700 lbs. of fibre may confidently be anticipated per acre." A neighbour of mine has grown 26 bushels of seed per acre, and the straw was over 3½ feet long. If this fibre had been scutched it would have weighed 600 or 700 lbs. of flax. The *Agriculturist* of 1844 states that at a person near Toronto ploughed over a clover sod, one rood, and sowed it with flax; the produce was 8½ bushels of seed, or 34 per acre, and the straw was over three feet long. An excellent article in your paper last week, by Mr. Donaldson, puts the average at 16 bushels of seed, and 500 lbs. fibre per acre. The Messrs. Perine put the average scutched at their mills at 16 bushels, and 300 lbs of fibre, but have got as high as 700 lbs.; but say that a large yield cannot be got without great care, and good management. Any other crop will abide more negligence. There will also be an advantage in the transportation of flax over wheat and other articles from this to the seaboard, as I suppose ten tons of flax would cost no more than ten tons of wheat (I think a car would contain that of fibre) the one worth \$2400, while the other is worth about \$297. From the foregoing figures, farmers can judge for themselves whether a portion of their land in flax will pay them better than so much wheat sowing. It will be readily seen that those who will prepare their land well, and take pains in the after management, will have more profit on one acre of flax than from 3 to 4 acres of wheat, at the average yield in former years, which was only 15 bushels per acre, and is far less this year, even if we allow from 8 to 10 dollars per acre, for handling the flax crop, which is a large allowance, as four hands can pull over an acre per day, and I have some hopes that before long machinery will be applied for that purpose, which will greatly enhance the profits.

A few acres of flax will bring a considerable amount of money, which will enable the farmer to allow a large portion of his farm to rest from wheat growing, thereby enriching his land, which will ultimately enrich him.

This is what I have in view in treating the culture of wheat in connection with flax growing. Mr. Editor, if this very long article, setting forth these imperfect ideas of mine, should be the means of causing abler pens to give us more information which may induce farmers to try it, my object will be accomplished. I did intend to mention hemp, and explain what can be done with these extra quantities of stock which I spoke of in this paper, but I cannot trespass further at this time, but may at a future.

I am, dear sir, yours truly,

GEORGE BLACK.

We hereby guarantee to have scutching machinery erected in St. Mary's, ready for operation this fall; and also, a machine for separating the seed from the straw, which we will hire out to the farmers for that purpose. Likewise, we will lend seed to parties in this vicinity, who may want it, until the fall. The only charge will be the discount on the money advanced, and all parties who require seed in this way will please enter their names and the quantity with Mr. Long as soon as possible, to enable us to ascertain what amount to order.

GEORGE BLACK
ANDREW FORRESTER.

St. Mary's, April 1, 1863.

THE ENGLISH SEED TRADE.

[The following article from a recent number of the *Mark Lane Express*, will give our readers some idea of the magnitude of the business which England carries on in imported seeds. The home growth probably exceeds the amount received from foreign countries, while England exports very extensively agricultural and horticultural seeds to every portion of the civilized world.—Ed.]

The Seed trade of the United Kingdom, agricultural and horticultural must be immense, judging by the extent of land under cultivation and the amount of seeds imported. Leaving out of the question the grain and the seeds raised, saved, and sold at home, of which we have no return or data whatever, we find by the official trade reports that the value of the seeds annually imported, now amounts to about five millions sterling, a sum that must give a considerable profit to many a cultivator and dealer. Thousands of acres must be under tillage yearly to furnish the harvest of seeds thus drawn from different quarters of the world, from India, from North America, Africa, and the Continent of Europe, for the use of our farmers and gardeners. The kinds of seed enumerated in the Board of Trade list of imports comprise about twenty-five, and the principal of these are the oil seeds, which are year by year becoming a more important article of commerce for oil crushing. Taking them in the groups in which they naturally arrange themselves, rather than in the alphabetical order in which they are placed, they are as follows: Pungent and aromatic seeds, carraway, coriander, cumin, and aniseed to the extent of 13,000 cwts., and of the value of £22,000. Dari, millet, and canary seeds, in all, 95,000 cwt., worth about £26,000. Trefoil, lucern, clover, grass, and other pasture seeds, 262,452 cwts., valued at £601,712. Unenumerated garden and field seeds, 26,847 cwts., valued at £31,817, besides carrot and onion seeds worth £12,000 more. Tares, lentils, and kidneybeans, 61,159 quarters, value £130,643. This is exclu-

sive of one million quarters of beans and imported and classed under "corn" from having to pay the 1s. per qr duty, while all other seeds come in free.

Lastly, we have the oil seeds, the most important as regards quantity and value, and which we may specifically enumerate from the official returns of 1861, as we have done the other seeds.

We may here advert incidentally to the want of uniformity in the unit of entries, of which we have often complained, for we have all confusion of lbs., cwts., tons, bushels, quarters, instead of that simplicity and uniformity so essential for calculations and in drawing conclusions and summaries. The oil seeds imported in 1861, were:

		Value
Mustard cwts.	23,299 £25,3
Rape qrs.	249,365 711,1
Poppy "	5,451 15,7
Flax "	24,160 65,2
Lint "	1,136,110 3,042,8
Hemp "	10,571 25,0
Sesame "	2,122 6,8
Croton "	93 1,3
Cotton tons.	20,034 152,1
Unenumerated	qrs.	32,305 92,3

Qrs. 1,460,447 £4,138,1

The seeds already enumerated, as compared with the same range, we may perhaps flower roots, of which about £20,000 were imported, and plants, shrubs and trees the value of £24,000.

But a very small portion of the imported are intended for sowing. The pasture grasses, some of the flax seed, a little of the madder and canary seed may possibly be so employed. The garden seeds are all for cultivation in this country, much of the cotton seed imported is intended for distribution abroad, in different new quarters where cultivation has recently been entered.

About 17,000 cwt. of clover and 23,000 quarters of flax and rape seed went direct to the ports, 26,000 quarters of flax seed and 10,000 cwt. of clover to the Irish ports. Hull, Grimsby are the great ports of entry for continental seeds, more than half a million quarters being received there—nearly equal amount which comes into London—while Liverpool stands third, the imports there about 250,000 quarters annually. New Bristol, Gloucester, and a few others receive smaller amounts.

Now, whence do we derive our supplies these seeds? The aromatic seeds come from Europe and Africa: the grass seeds from many and France, except a little Timothy from North America; the garden seeds chiefly from Holland, Belgium, France, and Hamburg; the oil seeds mostly from Russia and Italy, though Egypt, Italy, and Prussia now increasing quantities. The pulse, lentils are principally from Egypt and Portugal. Aromatic seeds and others are used for c

confectionery, and medicinal purposes. The great bulk of the oil seeds furnish besides painters', burning, and other oils—oilcake for cattle food and manure, of which our imports are not so large as they formerly were, probably because it is found that we can make a better article at home. The wretchedly foul condition however, in which much of the seed is received renders it extremely difficult to make a palatable cake for cattle, much of it being refused by beasts, owing to the quantity of earth and sand with which it is mixed.

Professor Voelcker, in his paper on the adulation of linseed cake, read before the Royal Agricultural Society on Wednesday, drew attention very prominently to this subject. He showed that the admixture of foreign seeds with seed sometimes amounts to 70 per cent. of the bulk; and some of these seeds are not only injurious to the quality of the cake, but actually poisonous. He had taken the trouble of separating from some samples the foreign seeds, and when he counted no less than twenty-nine different kinds of weed seeds, including the common darnel and the corncockle, which often do very injurious effects upon the animal. In others the pungent wild-radish seed mixed, and wild rape and charlock, or common wild mustard. These are positively known to be injurious to cattle, but there are many others in the ordinary linseed cake sold in the market which impair the quality of the meat, and are not so injurious to the health of the animals, such as the seed of the gold of pleasure, which imparts a disagreeable taste to the meat, a deep yellow color to the fat, the purging and others. Indian rape-seed cake invariably contains a large amount of wild mustard—which, from its pungency, is highly injurious to cattle. The *Curcas purgans* and other poisonous seeds are materially detrimental to the health of cattle.

The prices of seeds imported range extremely according to the demand and supplies. Complaints are frequently made, and not without reason, of the quality of the field and grass-seeds imported—and this is a matter of importance in an individual and national point of view.

Considering that we have 19,000,000 acres in the kingdom under arable and garden culture, 7,000,000 acres in meadows and pastures, seed required annually is considerable. It should be good and to be depended upon if imported from foreign sources is highly valuable, and there should be some kind of guarantee that it is not old and valueless, or inferior. Much of this rests with the dealers and importers, who, by obtaining supplies only from reputable foreign houses, would attain for themselves a reputation which could not be easily lost. At least three-quarters of a million bushels of seed in foreign seeds required for sowing, a failure in the vitality of any of these is a serious injury as well as a dishonourable fraud to the purchaser.

RICH LEAN JUICY MEAT—ITS PRODUCTION AND ADVANTAGES.

As practical farmers it must be confessed we have yet to learn how to carry out advantageously, in the daily pursuit of our profession, under the artificial systems of husbandry now practised, the natural system of fattening cattle, so as to be able at pleasure to increase the proportional quantity and quality of the lean part of our beef, mutton, and pork—the portion that fetches the most money in the market. We can increase the proportion of fat to almost a fabulous amount; but that which procured for the "roast meat of Old England," with its rich "black gravy," a world-wide fame, in the days of our forefathers, we cannot produce. For such we must go to the wilds of Lochaber, Connemara, or Wales! There Nature can grow juicy lean meat, with its fine black gravy. True enough, we read many very nice plausible theories in the columns of agricultural journals relative to flesh forming substances; but when we enter the feeding stall at the homestead, and begin to examine tangibly our cattle preparing for the shambles, the beautiful theories thus taught us with so much analytical erudition are, unfortunately, nowhere to be found. For want of certain articulating membranes, or some contrivance to bind them together, the bubbles on the surface of the fair-flowing stream immediately burst, their elementary contents vanishing instanter into thin air. Disappointment is the common lot of fallen humanity; and, if we mistake not, the oracles of more than one Obese Experimental school are about to join those of the Delphic of old, the public palate having lost its relish for oily fat. But be this as it may, practical farmers have one consolation in plenty of customers for rich, juicy, lean meat, with the corresponding encouragement to grow it. Such being the position of the practical man, let us briefly examine from an economical point of view his professional duties in the manufacture of rich juicy chops and steaks for the million.

In the first place we have to turn our reader's attention to the fact that it requires a much less consumption of food (provided such food is of a proper quality) to make flesh on the lean portion of the meat, than it does to make the rough fat of the obese system that goes to the tallow chandler. This arises from the large percentage of water which the former contains, especially when compared with the peculiar composition of the latter. Thus, according to the analyses of Brande and others, the lean of rich mutton may contain about 70 to 73 per cent. of water, and the lean of rich beef 74 to 78, so that 100 lbs. of the lean of rich mutton is composed of 70 lbs. to 73 lbs. of water, and from 27 to 30 lbs. of the solid materials of flesh; while the lean of rich beef contains 74 lbs. to 78 lbs. of water, and from 22 lbs. to 26 lbs. of

solid matter. Now from these data it consequently follows, that if we can add 100 lbs. of rich lean mutton to the carcase weight of our fattening sheep, we only require from 27 lbs. to 30 lbs. of the solid flesh-forming matter to do so, or rather perhaps we should say, only 30 lbs. of the dry solid food is used up in the manufacture of 100 lbs. of rich, juicy, lean mutton; and 26 lbs. in the production of a like increase of a rich, juicy, lean beef. On the other hand, fat contains but a small percentage of water; so that nearly the whole weight of the superfluous amount of fat now produced under the obese system of fattening is from the solid part of the food. Such is the contrast; and when we come to strike a pecuniary balance between the two systems, the difference in favour of the production of rich lean meat on the natural system will be found to exceed what some may at first sight imagine.

The above data, we have in the next place to observe, has chiefly reference to the flesh of young growing animals; the proportion of elementary substances, or of the proximate principles of the flesh, remaining nearly the same when the animal is slaughtered, as when it was put up to fatten for the shambles. In practice, however, such data are often exceptional; for after the ox or the sheep has attained maturity of growth, the weight of bone, muscular tissue, and other parts remain nearly stationary; so that when a full grown, but lean animal, is put up to fatten, the increase that takes place in the weight of the lean meat added during the process of fattening contains a larger proportion of water. In the case of fattening sheep, previously quoted, some thirty per cent. of solid matter of the food was used up in the formation of the albumen, fibrine, gelatine, osmazome, and the other solid substances composing the flesh. But in the case of the full grown sheep, the solid materials of the food used up, in forming the increase in the weight of the flesh, do not amount to so much—say, for the sake of illustration, from ten per cent. of this increase is water, including the blood, lymph, and juice of the flesh. In the case of the full grown lean ox, a corresponding difference is experienced in favour of the co-assumption and conversion of water, along with condiment, into rich juice, for the shambles. In other words, increase of weight is comprised of the rich juice of the flesh—beef or mutton, as the case may be—with the corresponding increase that takes place in the blood and lymph, to preserve the normal equilibrium of the fluids.

The practical question, when comparatively viewed, lies between the manufacture of the rich juice of lean meat, and the manufacture of the tubfuls of superfluous rough fat, unfit for human food, that go from the butchers to the tallow chandler, with the advantages and disadvantages experienced under the two practices or systems now in operation of fattening

cattle. In other words, we have in the above an illustration of the old question of "black gravy versus white gravy," which engrossed so much of the attention of the agricultural mind towards the close of the last century, and during the early part of the present. Our fathers and grandfathers, for example, knew the difference between the two systems of fattening in question, viz., the natural system handed down to them by previous generation and the obese system of fattening on oil and other feeding materials of an abnormal character, that began to be practised and generally adopted in their own times. At that period, a very erroneous notion prevailed relative to the dietetic value of the fat of beef or mutton, for it was considered the most nutritive and valuable portion of the meat; indeed this fallacious opinion was common fifty years ago. Thus says a writer of the period (Larance): "In regard to the flesh of animals, in its proper state for human food, I apprehend we have long been in error, and the current fashion still runs strong for its continuance; it is the presumption that fat is the most valuable part of the carcass, and that a propensity to the laying on of fat, is the most, or rather the only valuable property in cattle." This supported, the obese system ("white gravy" carried the bell) against its older rival (black gravy); but now that public opinion is changed as to the dietetic value of fat, and that lean meat fetches twice the price of rough in the market, and requires less feeding material to produce it, the old natural system of fattening is again coming into favour, because under it we can produce not only an increase in the flesh or lean portion of our beef and mutton for the shambles, but also at the same time a sufficiency of finely flavoured fat, mixed and engrained with the lean: whereas the obese system is diametrically opposed to the growth of flesh, or of an increase in the weight of meat, its tendency being calculated to produce atrophy of muscle, with a predominant coarse, patchy fat, the consumption of feeding materials required to produce a given amount of carcass weight being often more than that under the other or natural system, a difference of result which is easily explained on chemical grounds.

The difference between the natural system of fattening cattle and the obese system is so great, as hardly to leave any chance to the modern farmer but to adopt the former, in the practice of his ancestors, under such circumstances as the more scientific rationale of the current age may suggest. No doubt there is not without its advantages also, in the use of the rich manure it makes for the land. It is certainly no little consolation to its advocates, and we should regret to underestimate its value one iota. But rich as the drop of oilcake obese-fed animals may be, yet, placed in the scales with the rich, juicy

the natural system, they are found greatly wanting in yielding ready-money profits to the farmer. On the contrary, nothing could illustrate more forcibly the penny-wise-and-pound-foolish economy of the whole obese system, and the inestimable value its supporters put on its rich manure—its valuable flesh-forming elements being converted not into flesh (?), but into dung, to fertilise the land, in order to give feeding material to produce enough fat for the tallow chandler!

We have next to examine the feeding materials that supply the aliment which has been assimilated or used up in the process of increasing the carcass weight of the animal when fattened on the natural system, in order to ascertain what they are, and how to supply them in food. In other words we have to solve the problem as to what the substances are that form the rich lean and fat of our fine beef or mutton, the rich juice-forming and fat-forming substances under the natural system of feeding cattle.

The protein elements of flesh, as they have been called, including fibrine, albumen, and gelatine, that are used up in the above process of increasing the carcass weight of the rich, juicy, lean meat in question, form but a very small percentage of the whole proximate principles thus utilized from the food. It is therefore highly unscientific and illogical to designate the former (the protein elements) the flesh-forming materials of our cattle. As it is only the natural practice of fattening, and its general principles, that we are discussing, it will be unnecessary to quote the detailed analyses of rich, juicy flesh, in order to show the actual percentage of protein matter in juxtaposition with the others. Indeed we have no trustworthy analyses to quote. It has already been shown that in meat of an ordinary description about three-fourths of the whole is water, and now we add to this that only about the half or two-thirds of the solid materials of the flesh (protein, the reader will perceive that they include albumen, and gelatine) only form about eight to one-fifth of the whole weight; we may observe, the greater the quantity the worse the argument. Indeed it would be much more correct to designate the osmazomic, creatine and kreatinine, the lactic acid, phosphoric acid, inosinic acid, the lactate and phosphate of potash, the chloride of potassium, and mineral salts, the flesh-forming materials, as the formation of flesh is entirely dependent upon, and mainly due to, their presence. Thus (quote the authority of Pereira and Majendie), "In muscular flesh, in which gelatine, albumen, and fibrine are combined, according to the laws of organic Nature, and where they are associated with other matters, such as fats, salts, &c., suffices, even in a very small quantity, for complete and prolonged nutrition." "Dogs fattened solely for 120 days on raw meat from their own heads, preserved their health and

weight during this period, the daily consumption never exceeding 300 grammes (= 4,630½ grains troy), and often being less than this quantity. But 1,000 grammes (= 15,434 grains troy) of isolated fibrine, with the addition of some hundreds of grammes of gelatine and albumen, were insufficient to support life." "What then," exclaims Majendie, "is the peculiar principle which renders meat so perfect an aliment? Is it the odorous and sapid matter that has this function, as seems probable? Do the salts, the trace of iron, the fatty matters, and the lactic acid contribute to the nutritive effect, notwithstanding they constitute so minute a portion of meat?" (*Pereira's Treatise on Food and Diet*). The opinion of this able chemist is thus plainly stated, that the peculiar function of the odorous and sapid properties of the meat is that which renders the whole alimentary. They (the odorous and sapid properties) are the flesh-forming materials, and this conclusion he deduces from the experiments made at the instance of the French Government, under the "Gelatine Commission." When dogs were fed exclusively on mutton, lard, and fatty matters, large quantities of fat were secreted, so that the animals increased the quantity of fat in their bodies, but rapidly experienced atrophy of muscle, &c., &c., so that they soon died. The dogs, in the above experiment, that were fed on isolated fibrine, albumen, and gelatine, lost both their lean and fat before they ceased to exist, thus leaving the practical conclusion manifest to the high alimentary and flesh-forming value of the condimental properties of food; while it is equally conclusive that the protein elements alone are not flesh-forming.

As it is with carnivorous animals so it is with herbivorous animals. If the flesh-forming elements of the food of the former are the odorous and sapid properties of the animal food they consume, so the flesh-forming elements of the food of the latter are the odorous and sapid properties of the vegetable food they consume. If we wish to produce heavy weights of coarse fat meat, comparatively unfit for human food, we have only to turn our sheep and neat cattle into the coarse, washy, insipid herbage of a water-meadow in summer, or to put them upon cake, hay, and turnips in winter, to obtain the solution of our problem; but if we, on the other hand, wish heavy weights of rich, juicy meat, with a sufficiency of finely flavoured fat, so as to render the whole carcass in the highest degree nourishing and economical, we must then give our fattening cattle food rich in those odorous and sapid properties of which such meat is formed. And more than this; for we must not only give feeding materials supplying those odorous and sapid properties natural to the chemical senses (smell and taste) of our cattle, according to their respective requirements, but such feeding materials must be free from noxious matter, or even an excess of

albuminous or oleaginous principles. In short, the food for our cattle should be not only normal in quality, but also in quantity; for it is now an authenticated fact that the normal flow of the gastric and other secretions of the alimentary canal will only digest the normal quantity of food required; consequently, that when animals are induced to eat larger quantities than natural, as under the obese system of feeding, gastro digestion is imperfect, and so are all other processes, digestive, alimentary, and excretory, in the animal economy. All the organs require a regular supply of their natural stimuli, including heat, light, &c., in order to enable them to perform their respective functions, and this is what they should have with the greatest impartiality to every function.

It is an easy matter thus to commit to paper a rough outline of the general dietic principles exemplified in the natural dietary of our cattle, when they are left to select their own food in rich pastures, but not such an easy affair to carry out those principles under the artificial system of husbandry which farmers must now everywhere pursue. The work, however, must be done, as it is the only one that will justify or remunerate the investment of capital, for the feeding of cattle is in reality a natural process, beyond our control as practical farmers, and therefore in its performance the Laws of Nature must be duly respected by all who propose supplying our butchers with beef and mutton rich in those odorous and sapid properties that give to beef, mutton, and pork a high money value in the estimation of the public. Thus, if the rich, juicy, lean meat fetch from eightpence to a shilling per pound, and the rough fat that is pared off and sent to the tallow chandler only fourpence per pound, and if, in the production of the latter, twice the quantity of solid food has been consumed by the cattle in the process of fattening, then the pecuniary difference in favour of the former is something considerable, for the coarse fat of the obese system costs the farmer twice as much as the rich juicy meat produced by the natural practice of feeding, while he only gets something like half the price for it (obese fat.)

In the olden time, when in door winter fattening was the exception, and out-door summer fattening the rule, certain grounds were set apart for preparing cattle for the shambles, because experience had taught our ancestors that the herbage of such grounds was better adapted for fattening than the herbage of other grounds; and to this day such grounds are well known to practical men. They are not confined to our low lying rich grazing meadows, but are to be found rather on elevated pastures, amongst the highland glens, south downs, and on some very rich corn-bearing lands, when subject to the plough. Now it is a well-known fact that those grounds that produce the greatest quantity of the finest quality of beef and mutton are not those that produce the largest

quantity of grass per acre. The natural and practical rule, on the contrary, is that the finer the quality of the herbage, and the richer it is of the odorous and sapid qualities required by the fattening animals, the less the quantity they consume to produce a given amount of carcase weight.

All who have paid attention to the practical data at issue, must therefore be satisfied with the soundness of the general principles advocated. No doubt the olden time was not without its examples of the twofold kind of obese fattening, of which sheep-rotting meadows, irrigated pastures, and all rapidly-grown etiolated herbage may be quoted as illustrations; but in all such cases the quantity of herbage consumed was, as it now is, immensely large, while the quality of the beef and mutton produced was and is coarse in the extreme, being devoid of the requisite supply of those odorous and sapid properties upon which their natural value depends. Thus, when the meat was deprived of its natural condiment, Majendi's dogs consumed four times the quantity which those did that were otherwise fed; so that the objection thus raised against the principles advocated turn out to be important practical data in their favour the moment they are examined and seen in their true practical light.

Individually considered, the odorous and sapid properties or condimental principles required by cattle in their daily food must, from the peculiar function they appear to serve in the animal economy, be estimated at a very high figure—a fact which of itself ought to encourage the investigation of the subject, as to what those condimental substances chemically and medically are, which different kinds of animals and qualities of feeding material require. That they are of a very diversified character, and that animals require change when fed under artificial systems as they do when fed under the natural system, or when they are allowed to select for themselves, appears reasonable to conclude. When Nature furnishes so many practical lessons in every province of the kingdom, is it not the bounden duty of farmers to profit by her successful example?—W. B. *Farmer's Magazine.*

MEANS BY WHICH THE ACTION OF AUXILIARY MANURES CAN BE RENDERED MORE IMMEDIATE.

The speedy action of auxiliary manures is a question of very considerable importance at all times to the cultivators of the soil, and is one of more special interest in such seasons as the present, when the means to procure manures have been much curtailed by the smallness of returns derived from the sale of the preceding crop. Wherever it is possible, therefore, to restrict the outlay in the application of manures this spring, it is most

sirable to do so; but at the same time it is especially necessary to so regulate the quantities as to secure an abundant produce. It should be borne in mind, however, that whatever tends to render manures more immediately available to the crop to which they are applied reduces in a corresponding ratio their fertilising action on succeeding crops; and consequently it becomes necessary to apply them more frequently during the rotation. This specially holds good where the soil readily gives up the constituent elements of plants, and when the manures used are more or less adapted for the particular crop to which they were applied.

With the view of guiding those who purpose to reduce the outlay in procuring manures by purchasing cheaper fertilisers, and by rendering these and the other manures formerly largely used more immediately available to the crops to which they are to be applied, the following remarks are submitted. As a rule, it is generally advisable to use a mixture of fertilisers in preference to one substance singly, and to mix these some time previous to their application to the soil. The action of the mixture is usually to produce a more uniform and healthy growth of the crop, which, as a consequence, renders it more productive than when only one auxiliary manure is applied.

For general purposes, Peruvian guano is the most efficient fertiliser, and formerly was much employed for the manuring of grass, root, and bulbous crops; but owing to its relatively higher price, compared with the price of other fertilisers, it has been replaced on many farms in whole or in part by cheaper manures, such as phosphatic guanos, phospho-Peruvian, and superphosphates. The crops produced from these cheaper fertilisers have been equally, and in some instances even more productive than when Peruvian guano alone was used. The demand for these manures has rapidly increased. The majority of those farmers who still give a preference to Peruvian guano could with advantage substitute in part at least other fertilizers, such as a mixture of two or more of those most generally used. To obtain the nitrogenous element, which is the most valuable constituent of Peruvian guano, nitrate of soda and sulphate of ammonia can be substituted with advantage; to furnish phosphoric acid, phosphatic guanos, superphosphates, and ground bones are all available, and contain a larger percentage of phosphoric acid than Peruvian guano. The kinds of manures and the proportions to mix should be mainly determined by the condition of the soil, the character of the crop to be grown, and the relative prices which the fertilisers can be purchased. The constituents of the various fertilizers in general use, with the prices at which they are

sold, may afterwards be given; but at present attention is directed to the best means of rendering the constituents of manures more immediately available to the crops to which they are applied, by the use of sulphuric acid and by fermentation. By these means the action of the manures will be rendered more immediate, which will admit of smaller quantities being applied to the soil than were formerly used, and with the same results as regards the produce of the crops to which they are applied—whether to grass lands, corn, root, or bulbous crops.

The action of all auxiliary manures—guanous, ground bones, &c.—can be increased by a judicious treatment of them previous to their application to the land. The fertilizing action of Peruvian guano, and of all kinds of guano, can be rendered more immediate by the addition of sulphuric acid to one ton of guano. The acid should be regularly added, and the heap turned over, so that the whole of the guano may come in contact with the acid. Any free ammonia in the guano will be changed into sulphate of ammonia, and a portion of the phosphates present rendered soluble, preparatory to the application of guano to the soil. Ground bones and bonedust may also be treated with a quantity of sulphuric acid. As sulphuric acid rapidly corrodes iron, wooden shovels and other implements formed of wood should be used in mixing the acid with the manurial substances. Fermentation will also reduce the bones to a soft mass. By the adding of water or liquid manure, fermentation will be induced, which, by still further reducing the bones, will greatly facilitate their immediate manurial action. As the water or liquid manure or stale urine, is added, the heap should be turned over several times, and the surface of the heap afterwards compressed by a shovel—a covering of sawdust, gypsum, or mould being afterwards applied to retain any ammonia which may be expelled during the process of fermentation. The same means may be adopted with guano heaps treated with acid. Where a mixture of fertilizers is to be prepared, each manure may be treated separately, or the whole may be mixed previous to the adding of the acid and water. Those who use guano and ground bones mixed for the potato and turnip crops can with advantage mix them several weeks previous to the period of application.

Nitrate of soda being relatively cheaper than Peruvian guano, a manure can be prepared—by mixing nitrate, ground bones, and phosphatic guano—which will be manurially equal to Peruvian guano, and the price per ton considerably less.

Common salt may be used in those cases where the mixtures are intended for particular crops, but especially where the situation

is inland. Salt is very essential for the growth of mangel, and its presence generally proves beneficial to all cereals and the leguminous crops. The quantity should in no case, however, exceed four or five cwts. per acre; and half this quantity will generally prove sufficient for all crops, with the exception of mangel, for which the maximum quantity of five cwts. may be allowed, if the land is not on the sea coast.

Sulphate of soda is also a very powerful fertiliser for several of the cultivated plants, more particularly the potato. It is, however, very seldom employed as a fertiliser, and those who experiment with it would confer a favour on agriculturists generally were they to report the result of their experiments. Sulphate of magnesia also acts powerfully on the growth of the potato as well as on several of the other cultivated plants. When it is used along with sulphate of soda, equal weights of which may be added to the other manures in forming a compost. Two to two and a half cwts. per acre of each sulphate is sufficient.

By examining the constituents of plants, particularly the ashes, a knowledge can be obtained of the manures which will act most beneficially on the growth of the various cultivated crops.—*North British Agriculturist.*

TRANSPLANTING TOBACCO PLANTS.

Many of those to whom we have distributed tobacco seed, have expressed doubts that the seed in one paper should be sufficient to plant an acre of ground; but when they learned that each paper contained ten thousand seeds which were to be first planted in a seed bed, and then transplanted to the distance of two feet apart, their doubts were at an end. Although no one of our readers will be likely to raise tobacco to that extent, yet the process is the same for a larger or smaller quantity, and accordingly the following hints on transplanting are given:—

Presuming that the seed distributed to our readers has been planted in a hot-bed, or in boxes of earth placed in-doors, and that it is progressing towards the state at which it should be transplanted, these rules are to be observed. Prepare the plat where you are to transplant it, by manuring the ground well, and working it fine and deep, and as soon as the seedlings are the size of cabbage plants, that is, as soon as they have four leaves and are four to six inches high, they are ready for transplanting. This is done in precisely the same way as with cabbages, and requires no more skill. They should be placed two feet apart, and the operation should be done in damp weather or immediately after a rain. If hot weather occurs after they are planted out, the plants must be protected by a light

covering of paper, dry leaves, or straw; and they should not be allowed to suffer from moisture. Dead or weak plants must be removed, and replaced by healthy ones, hence a supply should be kept in the hot-bed until this difficulty is past.—*Maine Farmer.*

SEED, SOIL, AND CULTURE OF SORGHUM

The committee appointed by the Ohio Sorghum Convention, to report on the above topic made their report as follows:

"Your Committee on seed, soil, and Cultivation, report that in their view the best variety of seed for all purposes, is the Sorghum, Chinese cane, especially for sirup. For gratulation, they recommend the Imphee called Oon sec-a-na, which they think identical with the which is now mis-called Otaheitan. As a very early variety they propose the kind of Imphee called Nee-a-zar-na, though this last variety is not generally desirable.

"Soil—Good wheat land is considered the best soil for this cane. The particular composition of this soil should be sandy, inclined to limestone, with a sufficiency of clay to hold the soil tolerably compact.

"Cultivation—The soil should be worked deep, & thoroughly pulverised and rolled firm. Plant in check-rows, the same distance apart as corn. Cultivate flat and thoroughly, till the plants are three feet high, not afterwards. Plant as early as practicable."

THE LAWS OF CULTURE OF THE LAND ACCORDING TO LIEBIG.

(Concluded from page 138.)

If an average crop of corn takes from the soil per hectare 32 kilos. of potash and 20 kilos. of phosphoric acid, a crop half as large as would require potash and phosphoric acid in proportion: that is to say, 48 kilos. of the first and 30 kilos. of the second; and it is the same with other nutritive principles. Some nutritive principles are found in the soil in such quantities, that there is no fear of their being exhausted. Such are iron, lime and magnesia. These elements nearly all belong to the mineral substances which compose the arable bed of the earth, and they only need to be dissolved to render them available to the plants. The melting of the soil with stable dung, and manure rich in carbon and azote, contributes powerfully to dissolve these principles. Other alimentary plants, namely potash and phosphate, are found only in very limited quantities in the earth, they will soon be exhausted in the soil unless they are restored to it, by the use of other manures from those above named.

All plants draw from the air a part of their nourishment, and strictly speaking, there are no crops which sustain the soil, still less enrich

Clover is reckoned amongst those crops that improve the soil, yet it is difficult safely to repeat it every sixth year in the same land. We cannot obtain two good crops of vetches successively on the same field. Plants are sometimes sown for the purpose of burying them green when they are in full vegetation; but the soil does not become the richer for it; at most, the nutritive principles contained in the soil become by this means more soluble. The soil is only enriched by the substances which plants draw from the air, and these substances do not contribute in any respect to the fertility: they only help to hasten the dissolution of the solid substances which are found in the earth, and which serve for the nourishment of plants.

The fodder plants do not leave the soil richer than before. Even if they return to the earth as dung, they do but restore to that earth under another form its constituent principles. The trefoils offer to agriculture an immense advantage: their roots run down to such a depth that they seek their nourishment in the subsoil, and the manure they produce serves afterwards to enrich the upper bed of the soil; they are a means of putting at the disposal of the cereals the fertilizing principles contained in the subsoil.

The fertility of a farm cannot be increased by the culture of fodder plants alone. The culture of these fodder plants has also its natural limits; the moment that the trefoils have exhausted the subsoil they no longer succeed.

Every cultivator sells with his produce, under the form of grain and cattle, a part of the principles necessary for the nourishment of his land; and if he does not in another way restore to the earth these principles sold by him, whether by the use of bones or ashes, or by purchasing oilcake, or disposes of hay produced by natural meadows, then necessarily the land must become gradually poorer, until it will be wholly unproductive.

This restoring to the land what has been taken from it, does not in general take place with us in Germany. We not only sell to the foreigner corn and cattle, but England has already carried off from the soil of Germany, to transport them at home, millions of quintals (cwts.) of bones. The excrements of men, which run into the rivers and go from thence into the sea, occasion another loss at least as great. Taking for granted that the excrements of a million men living in the towns are lost; admitting further that excrements of one man suffice to produce $3\frac{1}{2}$ kul. of grain, it follows that this billion of men annually cause the loss of the beans of producing 3,500,000 kilos. of grain, and in twenty-five years we find the enormous sum of 87,000,000 quintals of grain lost to the country.

In the middle ages, before the thirty years' war, Germany fed almost as numerous a population with the triennial system as it does at the present time. The result was, the production

was no longer in proportion to the population. They introduced the system of alternate culture, of roots, fodder plants, and trefoil. The production increased in an astonishing manner. But now they already speak of exhausted fields, worn out by the growth of clover; and intelligent farmers assert that the return of the crops is gradually diminishing. Would it be possible for us to supply the wants of the population now with the triennial system?

The action of manures is often very capricious, but only in appearance. If a manure is not efficacious, the cause is in the ground. If we give to a piece of ground phosphorous, when it requires potash, no effects will be produced; and, on the other hand, if I give potash to land which requires phosphate, I shall do no good. There must exist a certain analogy between the different elements necessary to the plant, and it is when this analogy exists that the elements of the nutrition of plants exert their whole action. Stable dung, the normal manure, does not produce everywhere the same results. In one soil it raises the productions one-tenth, whilst in another it increases it one-third—a proof that it is not the dung alone which produces the crops, but that it acts in concert with the earth and the nutritive substances of the plants it contains. Different opinions have been given upon the manner of treating dung. Some advise taking it directly from the stable to the fields; others advise that it should be left to rot in a pit. Everything depends upon the manner in which we employ the dung, and the nature of the soil with which we have to do: *there is not in agriculture one good absolute rule; everything depends upon circumstances.*

Manure acts in two ways—by the principles that it contains, which serve for the nourishment of plants, and by its chemical and physical action; that is to say, by its influence, by means of the carbon and ammonia which it contains, upon the decomposition of the nutritive substances that are found in the soil, and by the raising of temperature which it causes during its putrefaction.

The insoluble substances in dungs, which serve for the nourishment of plants, do not escape by fermentation; they are found as well in decomposed dung as in fresh. In decomposed dung they are rendered more free, because in a more soluble state, and this is why decomposed dung operates more actively than fresh. By fermentation there escapes from dung a certain quantity of carbonic acid and ammonia. Whoever then wishes to obtain from dung all the physical and chemical action that it can produce, ought to carry it to the fields before it has fermented.

In clay the temperature is raised by the fermentation of dung; clay is rich in soluble principles serving for the nourishment of plants; for these reasons the use of unfermented dung is advisable.

Fresh dung is not so suitable to sand, which

contains but very small quantities of the substances to be decomposed, and in which the raising of the temperature is not necessary. In sand, therefore decomposed dung suits better, and it lasts a longer time in it.

The best manner of using dung would be to make a compost of it.

If we leave the dung spread upon a clay soil, the only inconvenience which results is that it does not warm the land. Upon a flinty soil there is some risk that a part of the fertilizing principles may be carried down by the waters into the subsoil.

The whole art of the farmer is reduced to setting in action the principles serving for the nourishment of plants which are found in the soil; in manufacturing from them grain, meal, &c., and in taking care that there should be restored to the earth, by a sufficient manuring, the solid principles that have been taken from it.

It is not with dung only that the farmer makes his produce. Dung only restores to the earth the fixed elementary principles which have been taken from it. There is a kind of circulation of the elementary principles which have been taken from it. There is a kind of circulation of the elementary principles of the plants that are found in the soil: they are changed into plants and cattle: the farmer sells especially the atmospheric principles; the solid principles that he sells at the same time must be replaced by the purchase of bones, ashes, &c., if he does not wish to impoverish his fields.

The new truths contained in the theory of Liebig are:

1. The principle that crops are in accordance with the eight inorganic and solid elementary substances of plants, which are found in the earth in a state of dissolution.
2. That the atmospheric principles, ammonia and carbonic acid, are not really less necessary to plants than the others, but that they are furnished in sufficient quantity by the air, *when the inorganic principles exist in sufficient quantity.*
3. The combination of carbonic acid and azote with the dung has for its principal results the dissolution of the nutritive substances of the plants which are in the soil, and the raising of the temperature.
4. The faculty which arable soil possesses of absorbing the nutritive principles of plants.
5. The manner in which plants draw their nourishment from the earth, by the cells, which are found at the extremity of the radicles.

One of the greatest merits of Liebig was that of having scientifically proved the injury that is done to agriculture by the loss of the excrements of the inhabitants of towns, and the damage sustained by a country in the exportation of grain and bones.

ADAM MULLER.

Agricultural Intelligence,

EIGHTEENTH EXHIBITION,

OF THE PROVINCIAL AGRICULTURAL ASSOCIATION,
TO BE HELD AT KINGSTON ON MONDAY, TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY,
SEPTEMBER 21, 22, 23, 24, & 25, 1863,

RULES AND REGULATIONS.

MEMBERSHIP.

1. The members of the Agricultural Societies of the several Townships within the County, or Electoral Division, or United Counties, wherein the Annual Exhibition may be held, and the members of the County or Electoral Division Society, shall be also members of the Association for that year, and have members' tickets accordingly; provided the Agricultural Societies of the said Townships, or the Society of the said County or Electoral Division or United Counties, shall devote their whole funds for the year, including the Government Grant in aid of the Association, and shall pay over the same, accompanied with a list of the members' names, each such Society, to the Treasurer of the Association two weeks previous to the Exhibition.

2. The members of the Board of Agriculture and of the Board of Arts and Manufactures, the Presidents and Vice-Presidents of all lawfully organized County Agricultural Societies, and all Horticultural Societies, are members of the Association for Upper Canada, *ex-officio*. The payment of £1 and upwards constitutes a person a member of the Association for one year; and \$10 for life, when given for that specific object and not as a contribution to the local funds.

3. Members can enter articles for competition in every department of the Exhibition, at any time previous to the dates below mentioned, and all who become members previous to or on the Saturday preceding the show week will be furnished with tickets admitting them to the grounds during the whole time of the show, without additional charge.

ENTRIES.

4. No one but a member shall be allowed to compete for prizes except in class 44 section 11 to 16, class 47, and class 54.

5. All entries must be made on printed forms which may be obtained of the Secretaries, Agricultural Societies, or of Mechanics' Institutes, free of charge. These forms are to be filled up and signed by the exhibitor, enclosed a dollar for membership, and sent to the Secretary of the Association, Board of Agriculture, Toronto, previous to, or on the following named dates:—

6. *Horses, Cattle, Sheep, Swine, Poultry* Entries in these classes must be made by forwarding the entry form, as above mentioned filled up, and member's subscription enclosed on or before Saturday, August 15th, five weeks preceding the show.

7. In the classes of Blood Horses and pure bred cattle, full pedigrees, properly certified

must accompany the entry. No animals will be allowed to compete as pure bred, unless they possess regular Stud or Herd Book pedigrees, or satisfactory evidence be produced that they are directly descended from such stock. In the class of Durham cattle particularly, no animal will be entered for competition, unless the pedigree of the same be first inserted in the English or American Herd Book, or in the Upper Canada Stock Register, kept at the office of the Board of Agriculture.

8. *Grain, Field Roots, and other Farm Products, Agricultural Implements, Machinery, and Manufactures generally*, must be entered previous to or on Saturday, August 29th, three weeks preceding the show.

9. *Horticultural Products, Ladies' Work, the Fine Arts, &c.*, may be entered up to Saturday, September 12th, one clear week preceding the show.

10. Exhibitors are particularly requested to take notice that it is absolutely requisite that the entries be made at the dates above mentioned, in order to afford sufficient time to examine the entry papers, and to correspond with parties, where necessary, for the correction of errors and omissions.

11. In the live stock classes, the entry must in every instance be made in the name of the *bona fide* owner; and unless his rule be observed, no premium will be awarded, or if awarded will be withheld.

12. In all the other classes, entries must be made in the names of the producers or manufacturers only.

13. In the Agricultural and Horticultural department the competition is open to exhibitors from any part of the world, with the exception of some classes of fruit.

14. In the Arts and Manufacturers department, no article can be entered for competition unless it be the growth, product, or manufacture of Canada; and no money premium will be awarded except in accordance with this rule; articles of foreign manufacture, however, may be entered for exhibition only, and will be reported upon by the judges, according to their merits, or certificates awarded them, if deserving. Manufacturers are requested to furnish with their articles exhibited, the quantity they can produce, or supply, and the price, for the information of the Judges; whose decision will be based on the combination of quality, style, and price, and the adaptation of the article to the purpose or purposes for which it is intended.

15. No person shall be allowed to enter for exhibition more than one specimen in any section of a class, unless the additional article be of a distinct named variety, or pattern, from the first. This rule not to apply to animals, but to apply to all kinds of grain, vegetable products, fruit, manufactured articles, &c., in which each additional specimen would necessarily be precisely similar to the first.

16. On the entry of each animal or article, a

card will be furnished the exhibitor specifying the class, the section, and the number of the entry, which card must remain attached to such animal or article during the exhibition.

TRANSPORT OF ARTICLES, PLACING THEM ON EXHIBITION, AND CHARGE OF THEM WHILE THERE.

17. All articles for exhibition, must be on the grounds on Monday, September 21st, except live stock, which must be there not later than Tuesday 22nd, at noon. Exhibitors of machinery and other heavy articles, are requested to have them on the grounds as far as possible during the week preceding the show.

18. Exhibitors must provide for the delivery of their articles upon the show ground. The Association cannot, in any case, make provision for their transportation, or be subjected to any expense therefor, either in their delivery at, or return from the grounds; all the expenses connected therewith must be provided for by the Exhibitors themselves.

19. Articles not accompanied by their owners may be addressed to the care of the Superintendent of the exhibition, who will receive them on their being delivered at the grounds, but in no case will such articles be brought on the grounds and placed on exhibition, except by and at the expense of the owners or their authorised agents.

20. Exhibitors, on arriving with their articles will apply to the superintendent of the grounds, who will be stationed within the entry gate, and will inform them where the articles are to be placed.

21. Exhibitors will, at all times, give the necessary personal attention to whatever they may have on exhibition, and at the close of the show take entire charge of the same.

22. No articles or stock exhibited will be allowed to be removed from the grounds, till the close of the exhibition, upon the delivery of the President's address, on Friday afternoon, under the penalty of losing the premiums.

23. While the Directors will take every possible precaution, under the circumstances, to ensure the safety of articles sent to the exhibition, yet they wish it to be distinctly understood that the owners themselves must take the risk of exhibiting them; and that should any article be accidentally injured, lost or stolen, the Directors will give all the assistance in their power towards the recovery of the same, but will not make any payment for the value thereof.

STEAMBOATS, RAILROADS, CUSTOMS.

24. The Association will make arrangements with Steamboat and Railroad proprietors for carrying articles and passengers at reduced rates.

25. Arrangements will be made with the Customs department for the free entry of articles for competition.

ADMISSION TO THE GROUNDS.

26. Tickets from the Secretary's Office will be furnished each person becoming a member previous to or on Saturday, September 19th, which will admit himself only, free to every

department of the exhibition, during the Show. Life members admitted free throughout the Exhibition.

27. No member's tickets will be issued after the above last mentioned Saturday evening, but those issued up to that time will be good till the close of the show.

28. Necessary attendants upon stock and articles belonging to exhibitors, will be furnished with admission tickets with their names written upon them, which ticket will be good at the *Exhibitor's Gate only*, during the show.

26. The admission fees to non-members, on Tuesday and Wednesday, will be half a dollar, and on Thursday and Friday, a quarter-dollar, each time of entering through the gates.

3. Tickets of admission to those who are not members, will be issued on and after Tuesday morning, at 25 cents each,—two such tickets to be given up at the gates each time of admission, on Tuesday and Wednesday, and one such ticket on Thursday and Friday, in accordance with the above rates. Children under fourteen years of age, half price. Carriages to pay one dollar each admission; each occupant, except the driver, to be also provided with the usual admission ticket. Horsemen half-a-dollar.

JUDGES AND THEIR DUTIES.

31. The judges will be appointed by the council of the Association previous to the Exhibition, and will receive a circular informing them of the fact and inviting them to act.

32. The judges are invited to report themselves at the Secretary's office, presenting their circular of appointment, immediately on their arrival at the grounds.

33. The judges will meet, at the committee room on the grounds, on Tuesday, September 22nd at 1 o'clock, A. M., to make arrangements for entering upon their duties, and will then be furnished with the committee books containing the numbers of the entries in each class.

34. No person shall act as a judge in any class in which he may be an exhibitor.

35. In addition to the stated premiums offered for articles enumerated in the list, the Judges will have the power to award discretionary premiums for such articles, not enumerated, as they may consider worthy, and the Directors will determine the amount of premium.

36. In the Fine Arts and Mechanical Department, Diplomas will be awarded—in addition to the money prizes—to any specimen evincing great skill in its production, or deemed otherwise worthy of such a distinction, on its being recommended by the Judges and approved of by the Committee to whom all such matters shall be referred.

37. In the absence of competition in any of the Classes, or if the Stock or articles exhibited be of inferior quality, the Judges are instructed to award only such premiums as they think the articles deserving of. They will exercise their discretion as to whether they will award the first, second, or any premium.

38. Each award must be written in a plain,

careful manner, on the blank page opposite the number of the entry; and the reasons for the award should be stated when convenient.

39. No person will be allowed to interfere with the judges while in the discharge of their duties. *Exhibitors so interfering will forfeit their rights to any premium to which they might otherwise be entitled.*

DELEGATES, THE ANNUAL MEETING, &C.

40. Delegates and members of the Press are requested and expected to report themselves at the Secretary's office immediately on their arrival.

41. The Annual Meeting of the Directors of the Association will take place on the grounds on Friday morning, Sept. 25th, at 10 o'clock.

42. Delegates from County Societies desiring to obtain a portion of the Canada Company Prize wheat for their Counties, will please apply to the Secretary for it before leaving the exhibition, and take it with them from thence.

THE GENERAL SUPERINTENDENT.

43. The General Superintendent will have the entire supervision of the grounds and the arrangements of the exhibition. He will have an office upon the ground, where all persons having inquiries to make in relation to the arrangements will apply.

PAYING THE PREMIUMS.

44. The Treasurer will be prepared to commence paying the premiums on Saturday, Sept. 26th, at 9 a. m., and parties who shall have prizes awarded them are particularly requested to apply for them before leaving Kingston, to leave a written order with some person to receive them, stating the articles for which prizes are claimed.

45. Persons entitled to cash premiums may apply for them at the Secretary's office, who will give *Orders on the Treasurer* for the amount.

46. These orders must be endorsed, as they will be payable to *order*, not to *bearer*, and presentation to the Treasurer, properly endorsed, will be paid either in cash or by check on the Bank.

47. Orders for premiums not applied for on Saturday as above will be given by the Secretary, and the amount forwarded by the Treasurer, on receipt of proper instructions.

MISCELLANEOUS.

48. Provyender will be provided by the Association for live stock at cost price. For information Exhibitors will apply to the Superintendent of the grain and fodder department his office.

49. Auctioneers will be on the ground at the premiums are announced, for the purpose of selling any animal or article which owner may wish to dispose of, and every fair will be afforded for the transaction of business.

50. In case the Directors shall require particular information in reference to animals or articles taking first prizes, the owners will be expected to transmit it when requested to do so.

PROGRAMME FOR THE WEEK.

1. **MONDAY, Sept. 21st,** will be devoted to the final receiving of articles for exhibition, and their proper arrangement. None but officers and members of the Association, judges, exhibitors, and necessary attendants will be admitted.

2. **TUESDAY, 22nd** The judges will meet in the Committee Room at 10 A. M., and will commence their duties as soon as possible afterwards. As soon as they have made their awards, they will report to the Secretary, and will then be furnished with the prize tickets, which they are requested to place on the proper articles before dispersing. Non-members admitted this day on payment of 50 cents each time.

3. **WEDNESDAY, 23rd.** The judges of the various classes will complete their awards, and will place all of the prize tickets if possible. A mission this day the same as yesterday.

4. **THURSDAY, 24th.** All the remaining prize tickets not yet distributed by the judges will be placed upon the proper articles this morning, before 9 o'clock, if possible. The public will be admitted this day on payment of 25 cents by each person, each time of entering.

5. **FRIDAY, 25th.** The annual meeting of the Directors of the Association will take place at 10 A. M., in the Committee Room. The President will deliver the Annual Address at 2 P. M., after which the Exhibition will be considered officially closed, and exhibitors may commence to take away their property. A mission to-day the same as yesterday.

6. **SATURDAY, 26th** The Treasurer will commence paying the premiums at 9 A. M. Exhibitors will remove all their property from the grounds and building. The gates will be kept closed as long as necessary, and none will be admitted except those who can show that they have business to attend to.

PRIZE LIST.

AGRICULTURAL DEPARTMENT.

NE STOCK, AGRICULTURAL AND HORTICULTURAL PRODUCTS, IMPLEMENTS, &C.

Competition open to all the world, except as specified.)

MEDALS—In all cases the winner of a first prize of \$40 will be entitled to the Association's Gold Medal, value \$10, instead, if he prefer it; and the winner of the first prize of \$50, or upwards will be entitled to the Silver Medal, at \$10, if he prefer it, with the difference in money.

HORSES.

CLASS I.—BLOOD HORSES.

cl.		\$	c.
	Best thorough-bred stallion	40	00
2d	do	25	00
3d	do	12	00

2.	Best 3 years old stallion	22	00
2d	do	14	00
3d	do	7	00
3.	Best 2 years old stallion	14	00
2d	do	1	00
3d	do	5	00
4.	Best yearling colt	8	00
2d	do	6	00
3d	do	4	00
5.	Best thorough-bred stallion of any age	Diploma	
6.	Best 3 years old filly	18	00
2d	do	11	00
3d	do	7	00
7.	Best 2 years old filly	14	00
2d	do	10	00
3d	do	6	00
8.	Best yearling filly	8	00
2d	do	6	00
3d	do	4	00
9.	Best mare and foal, or evidence that the foal has been lost	22	00
2d	do	14	00
3d	do	6	00
10.	Extra entries.		

Pedigree to be produced in this class.

CLASS II.—AGRICULTURAL HORSES.

1.	Best stallion for agricultural purposes	40	00
2d	do	25	00
3d	do	12	00
2.	Best 3 years old stallion	22	00
2d	do	14	00
3d	do	7	00
3.	Best 2 years old stallion	14	00
2d	do	10	00
3d	do	5	00
4.	Best yearling colt	8	00
2d	do	6	00
3d	do	4	00
5.	Best agricultural stallion any age	Diploma	
6.	Best 3 years old filly	18	00
2d	do	11	00
3d	do	7	00
7.	Best 2 year old filly	14	00
2d	do	9	00
3d	do	4	00
8.	Best yearling filly	8	00
2d	do	6	00
3d	do	4	00
9.	Best brood mare and foal, or evidence that the foal has been lost	22	00
2d	do	14	00
3d	do	6	00
10.	Best span matched farm or team horses	20	00
2d	do	15	00
3d	do	10	00
11.	Extra entries.		

CLASS III.—ROAD OR CARRIAGE HORSES.

1.	Best roadster or carriage stallion, 4 years old and upwards	40	00
2d	do	25	00
3d	do	12	00
2.	Best do. 3 years old	2	00
2d	do	14	00
3d	do	7	00

3. Best do. 2 years old	14 00
2d do	10 00
3d do	5 00
4. Best yearling colt.	8 00
2d do	6 00
3d do	4 00
5. Best stallion of any age.....	Diploma
6. Best French Canadian stallion.....	3 00
2d do	20 00
3d do	19 00
7. Best 3 years old roadster filly.....	18 00
2d do	11 00
3d do	7 00
8. Best 2 year old filly	14 00
2d do	9 00
3d do	4 00
9. Best yearling filly	8 00
2d do	6 00
3d do	4 00
10. Best brood mare and foal, or evidence of foal having been lost	22 00
2d do	14 00
3d do	6 00
11. Best pair of matched carriage horses	20 00
2d do	15 00
3d do	10 00
12. Best single carriage horse in harness	10 00
2d do	8 00
3d do	6 00
13. Best saddle horse	10 00
2d do	8 00
3d do	6 00
14. Extras.	

CLASS IV.—HEAVY DRAUGHT HORSES.

1. Best heavy draught stallion.....	40 00
2d do	25 00
3d do	12 00
2. Best 3 years old stallion.....	22 00
2d do	14 00
3d do	7 00
3. Best 2 year old stallion	14 00
2d do	10 00
3d do	5 00
4. Best yearling colt	8 00
2d do	6 00
3d do	4 00
5. Best draught stallion, any age.....	Diploma
6. Best 3 years old filly	18 00
2d do	11 00
3d do	6 00
7. Best 2 years old filly	14 00
2d do	9 00
3d do	4 00
8. Best yearling filly	8 00
2d do	6 00
3d do	4 00
9. Best brood mare and foal, or evidence that the foal has been lost	22 00
2d do	14 00
3d do	6 00
10. Best span of draught horses.....	20 00
2d do	15 00
3d do	10 00
11. Extra entries.	

Horses shown as single carriage horses, as saddle horses, or as spans of team or carriage horses, must not be stallions.

No horse will be allowed to compete in more than one class or section, except when competing for the prize for the best horse of any age in his class, or for the best of any age or blood.

CLASS V.—THE PRINCE OF WALES' PRIZE.—HORSES OF ANY BREED.

For the Best Stallion of any age or blood, prize presented by His Royal Highness the Prince of Wales,.....\$60 00

CATTLE.

CLASS VI.—DURHAMS.

1. Best bull 4 years old and upwards...\$36 00	
2d do	24 00
3d do	16 00
2. Best 3 years o'd bull.....	32 00
2d do	21 00
3d do	12 00
3. Best 2 years old bull	24 00
2d do	16 00
3d do	8 00
4. Best one year o'd bull.	20 00
2d do	12 00
3d do	7 00
5. Best bull calf (under 1 year)	16 00
2d do	10 00
3d do	6 00
6. Best bull of any age.	Diploma
7. Best cow.....	20 00
2d do	12 00
3d do	8 00
8. Best 3 years old cow	16 00
2d do	10 00
3d do	6 00
9. Best 2 years old heifer.....	12 00
2d do	8 00
3d do	5 00
10. Best one year old heifer	10 00
2d do	6 00
3d do	4 00
11. Best heifer calf (under one year)	6 00
2d do	4 00
3d do	2 00
12. Extra entries.	

N.B.—A certificate of HERD BOOK PEDIGRE, or a sufficient reference to the Herd Book in which they are registered, will be required of all animals in the Durham class, along with or previous to the application to enter them for exhibit on. The pedigree of others should be as full and correct as possible.

CLASS VII.—DEVONS.

The list of Prizes the same as in Class VI.

CLASS VIII.—H REDFORDS.

Prizes the same as Class VI.

CLASS IX.—AYRSHIRES.

Prizes the same as Class VI.

CLASS X.—GALLOWAY, AND POLLED ANGUS, OR ABERDEEN CATTLE.

Prizes the same as Class VI.

CLASS XI.—GRADE CATTLE.

1. Best Grade cow	20 00
2d do	12 00
3d do	8 00

3. Best 3 years old cow	16 00
2d do	14 00
3d do	6 00
3. Best 2 years old heifer	12 00
2d do	8 00
3d do	5 00
4. Best one year old heifer,	10 "
2d do	6 00
3d do	4 00
5. Best heifer calf (under 1 year	6 00
2d do	4 00
3d do	2 00

THE FERGUS CUP

6. Best grade heifer, not more than two years old on March 1, 1863, the produce of a pure bred Durham Bull, having a recorded pedigree, and of a cow of any breed, not more than one remove from thorough bred. Prize presented by Hon. J. A. Fergusson Blair, SILVER CUP.

7. Extra entries.

DIPLOMAS will be awarded to the Breeders or Importers of bulls and stallions which take First Prizes, when their names and residences are given.

The Judges shall ascertain, in deciding on bull calves in any of the foregoing classes, whether the animal has been suckled or raised by his dam, and make allowances accordingly. The exact age of young animals must be stated on the cards, and will be taken into consideration by the Judges in making their awards; and any person understating the age of an animal will forfeit the premium to which he might otherwise be entitled.

A statement to be produced to show the breeding of animals in class xi.

Young cattle may compete, if the exhibitor thinks fit, in an older class than that to which they properly belong; but no animal will be allowed to compete in more than one of the foregoing sections, except for the Medals, or where all classes and ages compete together, or in the herds.

Cows in any of the above classes must be giving milk at the time of exhibition, or be evidently well gone in calf.

An animal will not be allowed to compete as a three year old cow unless she has had a calf, or is evidently in calf, but a two-year old animal having had a calf will be allowed to compete as a two-year old heifer, if the owner thinks fit.

Prizes will be awarded to animals of other breeds than those above mentioned, if deemed worthy.

CLASS XII.—FAT AND WORKING CATTLE, ANY BREED.

Sect.	Prize	C.
1. Best fat ox or steer	30 00	
2d do	20 00	
3d do	12 0	
2. Best fat cow or heifer	3 0	
2d do	2 0 0	
3d do	12 00	
3. Best yoke of working oxen	20 0	
2d do	12 00	
3d do	8 00	

4. Bes yoke 3 year old steers.....	16 00
2d do.....	14 00
3d do.....	6 00
5. Best team of oxen, not less than ten yoke from one township, the property of any number of persons. ...	40 00

Fat Cattle and Fat Sheep can be exhibited only by persons who have owned and fed them at least six months previously.

SHEEP, LONG WOOLLED.

CLASS XIII.—LEICESTERS.

1. Best ram, two shears and over.....	16 00
2d do.....	1 00
3d do.....	5 00
2. Best shearing ram.....	16 00
2d do.....	10 00
3d do.....	5 00
3. Best ram lamb.....	8 00
2d do.....	4 00
3d do.....	2 00
4. Best 2 ewes, two shears and over ..	16 00
2d do.....	11 00
3d do.....	6 00
5. Best 2 shearing ewes.....	12 00
2d do.....	8 00
3d do.....	4 0
6. Best 2 ewe lambs.....	6 00
2d do.....	4 00
3d do.....	2 00

CLASS XIV.—COTSWOLDS

Prizes the same as in Class XIII.

CLASS XV.—OTHER LONG WOOLLED SHEEP, NOT LEICESTERS, OR COTSWOLDS.

Prizes the same as in Class XIII.

SHEEP,—MEDIUM WOOLLED.

CLASS XVI.—SOUTH DOWNS.

Prizes the same as in Class XIII.

CLASS XVII.—CHEVIOTS.

Prizes the same as in Class XIII.

CLASS XVIII.—OTHER MEDIUM WOOLLED SHEEP, NOT SOUTHDOWNS OR CHEVIOTS.

Prizes the same as in Class XIII.

SHEEP—FINE WOOLLED.

CLASS XIX.—MERINOS AND SAXONS.

Prizes the same as in Class XIII

CLASS XX.—OTHER FINE WOOLLED SHEEP, NOT MERINOS OR SAXONS

Prizes the same as in Class XIII.

CLASS XXI.—FAT SHEEP.

Sect.	Prize	\$ c.
1. Best two fat wethers	12 00	
2d do	8 00	
3d do	4 00	
2. Best two fat ewes.....	12 00	
2d do	8 0	
3d do	4 00	
3. Extra entries in sheep.		

Sheep that have been shown in any other classes cannot compete as fat sheep.

Sheep will not be allowed to compete in any class with more than the present season's growth of wool upon them

If necessary, to decide the merits of different sheep satisfactorily, the judges shall have the power of causing them to be shorn upon the ground.

PIGS—LARGE BREEDS.

CLASS XXII. YORKSHIRES.

1. Best Boar, 1 year and over.....	15 00
2d do	10 00
4d do	6 00
2. Best Boar, under 1 year.....	10 00
2d do	6 00
3d do	4 00
3. Best Breeding Sow, 1 year and over. 10 00	
2d do	7 00
3d do	4 00
4. Best sow, under 1 year old.....	5 00
2d do	4 00
3d do	3 00

CLASS XXIII—LARGE BERKSHIRES.

Prizes the same as in Class XXII.

CLASS XXIV.—ALL OTHER LARGE BREEDS.

Prizes the same as in Class XXII.

PIGS—SMALL BREEDS.

CLASS XXV. SUFFOLKS.

Prizes the same as in class XXII.

CLASS XXVI. IMPROVED BERKSHIRES.

Prizes the same as in class XXII.

CLASS XXVII—ALL OTHER SMALL BREEDS.

Prizes the same as in class XXII.

In the classes of Pigs, the precise age of the animal is to be stated on the cards

With a view of encouraging largely the importation of improved stock, the exhibitor of any male animal imported into this Province from Europe since the last Exhibition, which shall take the first prize in any of the above classes, will be paid three times the amount of the premium offered in the list; the exhibitor of any female animal imported from Europe within the same time, taking the first prize, will be paid double the amount offered; the exhibitor of any male animal imported into the Province from any part of America within the same time, taking the first prize, will be paid double the amount of prize offered; and of any female animal imported within the same time, and taking the first prize, one-half addition to the amount of prize offered in the list. Such animals to be the *bona fide* property of persons residing in Upper Canada. Satisfactory evidence must have been given at the time of making the entry that the animal has been imported within the time named, or the increased prize will not be paid.

CLASS XXVIII.—POULTRY, &c.

Sect.	\$ c.
1. Best pair white dorkings.....	4 00
2d do	2 00

2. Best pair of spangled do.....	4 00
2d do	2 00
3. Best pair of black Polands.....	4 00
2d do	2 00
4. Best pair of white Polands.....	4 00
2d do	2 00
5. Best pair of golden Polands.....	4 00
2d do	2 00
6. Best pair of silver Polands.....	4 00
2d do	2 00
7. Best pair of game fowls.....	4 00
2d do	2 00
8. Best pair of Jersey blues	4 00
2d do	2 00
9. Best pair of Cochon China, Shanghai, Canton, or Bramah Pootra fowls.	4 00
2d do	2 00
10. Best pair of black Spanish fowls....	4 00
2d do	2 00
11. Best pair of Java fowls	4 00
2d do	2 00
12. Best pair of Bolton bays	4 00
3d do	2 00
13. Best pair of Bolton grays.....	4 00
2d do	2 00
14. Best pair of Famburg fowls.....	4 00
2d do	2 00
15. Best pair of Dominique.....	4 00
2d do	2 00
16. Best pair of feather-legged bantams.	2 00
2d do	1 00
17. Best pair of smooth-legged bantams	2 00
2d do	1 00
18. Best pair of turkeys, (white).....	4 00
2d do	2 00
19. Best pair of turkeys, coloured)....	4 00
2d do	2 00
20. Best pair of wild turkeys.....	4 00
2d do	2 00
21. Best pair of large geese.....	4 00
2d do	2 00
22. Best pair of Bremen geese.....	4 00
2d do	2 00
23. Best pair of Chinese geese	4 00
2d do	2 00
24. Best pair of Muscovy ducks.....	4 00
2d do	2 00
25. Best pair of common ducks	4 00
2d do	2 00
26. Best pair of Aylesbury ducks.....	4 00
2d do	2 00
27. Best pair of Poland ducks.....	4 00
2d do	2 00
28. Best pair of Rouen ducks	4 00
2d do	2 00
29. Best pair of Guinea fowls	4 00
2d do	2 00
30. Best pair of pea fowls.....	4 00
2d do	2 00
31. Best collection of pigeons.....	4 00
2d do	2 00
32. Best lot of poultry in one pen, and owned by the exhibitor	6 00
33. Best collection of poultry entered in the various classes by one exhibitor	8 00
34. Best pair of rabbits.....	2 00
35. Best lot of rabbits	4 00
36. Other entries.	

Exhibitors will have to provide their own

coops, and are recommended to have them about three feet cub in size, for convenience of arrangement on the grounds.

AGRICULTURAL PRODUCTIONS.

CLASS XXIX. GRAINS, SEEDS, &c.

1. The Canada Company's prize for the best 25 bushels of Fall Wheat, the produce of Canada West, being the growth of the year 1873. Each sample must be of one distinct variety, pure and unmixed, of the best quality for seed, and not to be tested merely by weight. The prize to be awarded to the actual grower only of the Wheat, which is to be given up to and become the property of the Association, for distribution to the County Societies for seed 100 00
 - 2nd do by the Association.. 40 00
 - 3rd do 0 00

The winners of the 2nd and 3rd prizes to retain their wheat.

This wheat will be ready for distribution after the annual meeting. The delegates from such County Societies as desire to have a portion are requested to apply for it, and take it with them from the show ground, for immediate sowing, where practicable.

The winners of these prizes will be required to furnish the Secretary with a written statement of the nature of the soil, mode of preparation, the variety and quantity of seed, and time of sowing, manures, (if any used), produce per acre of grain, and any other particulars of practical importance, before being paid the amount of premium. Winners of prizes in the succeeding sections of this class will also be expected to furnish information when applied for.

Persons competing for the Canada Company's prize are requested to bring a sample in the straw, pulled from the ground when ripe, with the roots remaining attached.

The Board reserve the right of purchasing part or the whole of first prize samples of grain and seeds at the market value.

2. Best two bushels of white winter wheat 10 00
 - 2d do 8 00
 - 3d do 6 00
 - 4th do 4 00
3. Best two bushels of red winter wheat 10 00
 - 1d do 8 00
 - 3d do 6 00
 - 4th do 4 00
4. Best 2 bushels of white spring wheat 10 00
 - 2d do 8 00
 - 3d do 6 00
 - 4th do 4 00
- Best two bushels red spring wheat.. 10 00
 - 2d do 8 00
 - 3d do 6 00
 - 4th do 4 00
5. Best 2 bushels of barley, (2 rowed). 6 00
 - 2d do 4 00
 - 3d do 2 00
 - 4th do..... Vol. Transactions

7. Best two bushels of barley (6 rowed) 6 00
 - 1d do 0 00
 - 3d do 2 00
 - 4th do Trans
8. Best two bushels rye 6 00
 - 2d do 4 00
 - 3 do 2 00
 - 4th do Trans
9. Best two bushels of oats (white) ... 6 00
 - 2d do 4 00
 - 3d do 2 00
 - 4th do Trans.
10. Best two bushels of oats (black).... 6 00
 - 2d do 4 00
 - 3d do 2 00
 - 4th do Trans.
11. Best two bushels of field peas 6 00
 - 2d do 4 00
 - 3d do 2 00
 - 4th do Trans.
12. Best two bushels of marrowfat peas. 6 00
 - 2d do 4 00
 - 3d do 2 00
 - 4th do Trans.
13. Best two bushels of tares..... 6 00
 - 1d do 4 00
 - 3d do 2 00
 - 4th do Trans.
14. Best bushel of white field beans.... 6 00
 - 2d do 4 00
 - 3d do 2 00
 - 4th do Trans.
15. Best two bushels Indian corn in the ear (white) 6 00
 - 1d do 4 00
 - 3d do 2 00
 - 4th do Trans.
16. Best two do (yellow)..... 6 00
 - 2d do 4 00
 - 3d do 2 00
 - 4th do Trans.
17. Best bushel of timothy seed..... 6 00
 - 2d do 4 00
 - 3d do 2 00
 - 4th do Trans.
18. Best bushel clover seed 6 00
 - 2d do 4 00
 - 3d do 2 00
19. Best bushel of Alsike clover seed... 6 00
 - 2d do 4 00
 - 3d do 2 00
20. Best bushel of hemp seed..... 6 00
 - 2d do 4 00
 - 3d do 2 00
21. Best bushel of flax seed..... 6 00
 - 1d do 4 00
 - 3d do 2 00
22. Best bushel of mustard seed..... 6 00
 - 2d do 4 00
 - 3d do 2 00
23. Best Swedish turnip seed, from transplanted bulbs, not less than 20 pounds..... 6 00
 - 1d do 4 00
 - 3d do 2 00
24. Best 14 lbs white Belgian field carrot seed..... 6 00
 - 2d do 4 00
 - 3d do.....

25	Best 12 lbs long red mangel wurzel seed.....	6 00
	2d do.....	4 00
	3d do.....	2 00
26.	Best 12 lbs yellow globe mangel wurzel seed.....	6 00
	2d do.....	4 00
	3d do.....	2 00
27.	Best bale of hops, not less than 112 pounds.....	20 00
	2d do.....	12 00
	3d do.....	8 00
28.	Best bushel of horse or tick beans..	6 00
	2d do.....	3 00
	3d do.....	Trans.
29.	Best bushel of buckwheat.....	4 00
	2d do.....	2 00
	3d do.....	Trans.
30.	Best bushel of Millet.....	4 00
	2d do.....	2 00
	3d do.....	Trans.
31.	Best bushel of Hungarian grass seed	4 00
	2d do.....	2 00
	3d do.....	Trans.
32.	Extra entries.	
CLASS XXX.—ROOTS AND OTHER FIELD CROPS.		
1.	Best bushel of pink-eyed potatoes .	3 00
	2d do.....	2 00
	3d do.....	1 00
2.	Best bushel cup potatoes.....	3 00
	2d do.....	2 00
	3d do.....	1 00
3.	Best bushel garnet Chilis,.....	3 00
	2d do.....	2 00
	3d do.....	1 00
4.	Best bushel white potatoes.....	3 00
	2d do.....	2 00
	3d do.....	Trans.
5.	Best bushel red do.....	3 00
	2d do.....	2 00
	3d do.....	Trans.
6.	Best bushel blue.....	3 00
	2d do.....	2 00
	3d do.....	Trans.
7.	Best bushel of any other sort.....	3 00
	2d do.....	2 00
	3d do.....	Trans.
8.	Best collection of Field Potatoes, a peck of each sort named.....	4 00
	2d do.....	3 00
	3d do.....	2 00
9.	Best bushel Swede turnips.....	3 00
	2d do.....	2 00
	3d do.....	1 00
10.	Best bushel white globe turnips.....	3 00
	2d do.....	2 00
	3d do.....	Trans.
11.	Best bushel Aberdeen yellow turnips	3 00
	2d do.....	2 00
	3d do.....	Trans.
12.	Best 20 roots red carrots.....	3 00
	2d do.....	2 00
	3d do.....	1 00
13	Best 20 roots white or Belgian carrots	3 00
	2d do.....	2 00
	3d do.....	1 00
14.	Best 12 roots mangel wurzel(long red)	3 00
	2d do.....	2 00
	3d do.....	1 00

15	Best 12 roots red globe mangel wurzel	3 00
	2d do.....	2 00
	3d do.....	Trans.
16	Best 12 roots yellow globe mangel wurzel.....	3 00
	2d do.....	2 00
	3d do.....	1 00
17.	Best 12 roots long yellow mangel wurzel.....	3 00
	2d do.....	2 00
	3d do.....	Trans.
18.	Best 12 roots of khol rabi.....	3 00
	2d do.....	2 00
	3d do.....	1 00
19.	Best 12 roots of sugar beet.....	3 00
	2d do.....	2 00
	3d do.....	1 00
20.	Best 20 roots parsnips.....	3 00
	2d do.....	2 00
	3d do.....	Trans.
21.	Best 20 roots of chicory.....	3 00
	2d do.....	2 00
	3d do.....	Trans.
22.	Best 2 large squashes for cattle.....	3 00
	2d do.....	2 00
	3d do.....	1 00
23.	Best 2 mammoth field pumpkins....	3 00
	2d do.....	2 00
	3d do.....	Trans.
24.	Best 4 common yellow field do.....	3 00
	2d do.....	2 00
	3d do.....	Trans.
25.	Best 20 lbs of tobacco leaf, growth of Canada West.....	3 00
	2d do.....	2 00
	3d do.....	Trans.
36.	Best broom corn brush, 28 lbs.....	3 00
	2d do.....	2 00
	3d do.....	Trans.

The Canada Company's Prize for Flax.

27.	Best 112 lbs of flax, scutched.....	24 00
	2d do by the Association.....	16 00
	3d do do.....	8 00

The Canada Company's Prize for Hemp.

28.	Best 112 lbs of Hemp.....	16 00
	2d do by the Association.....	12 00
	3d do do.....	6 00

29. Other entries.

[The roots in the above class to be certified as of field culture by the Exhibitor]

Roots of other varieties than those above named will receive prizes if worthy

The names of the different varieties of wheat or other grain, roots, &c, must be inserted by each exhibitor in his list of entries.

HORTICULTURAL PRODUCTS.

CLASS XXXI.—FRUIT.

Nurseryman's List. Canada only. Competitors can receive a premium only in one section of each fruit.

1.	Best 30 varieties apples, correctly named, six of each.....	8 00
	2d do.....	6 00
2.	Best 20 varieties do, correctly named, six of each.....	5 00
	2d do.....	3 00

3. Best 15 varieties do, correctly named, six of each	3 00
2d do	2 00
4. Best 20 varieties pears, correctly named, three of each	8 00
2d do	6 00
5. Best 10 varieties do, correctly named, three of each	5 00
2d do	3 00
6. Best 10 varieties plums, correctly named, six of each	5 00
2d do	3 00
7. Best 3 varieties do correctly named, six of each	4 00
2d do	2 00
8. Best 10 varieties peaches, correctly named, grown in open air, six of each	4 00
2d do	3 00
9. Best 6 varieties do, correctly named, grown in open air, six of each	3 00
2d do	2 00
10. Best collection grapes, grown in open air, two bunches each, named	5 00
2d do	4 00
11. Best display of fruit, the growth of exhibitor, distinct from other entries, three specimens of each sort	8 00
2d do	6 00
3d do	4 00

Fruit Growers' List. Canada only. Nurserymen excluded from this Class. Competitors can receive a premium only in one section of each fruit.

2. Best 20 varieties apples, correctly named, six of each	\$6 00
2d do	4 00
3d do	2 00
3. Best 10 varieties do., correctly named, six of each	\$4 00
2d do	3 00
3d do	2 00
4. Best 6 varieties dessert apples correctly named, six of each	3 00
2d do	2 00
3d do	Vol. Trans.
5. Best 6 varieties, cooking do., correctly named, six of each	3 00
2d do	2 00
3d do	Vol. Trans.
6. Best 10 varieties pears, correctly named, three of each	5 00
2d do	3 00
3d do	2 00
7. Best 6 varieties do., correctly named, three of each	5 00
2d do	3 00
3d do	Vol. Trans.
8. Best 12 pears of one variety	3 00
2d do	2 00
3d do	Vol. Trans.

19. Best collection plums, correctly named, six of each	4 00
2d do	3 00
3d do	2 00
20. Best 12 plums, one variety, correctly named	2 00
2d do	1 00
3d do	Vol. Trans.
21. Best 6 varieties peaches, correctly named; grown in open air, 6 of each	4 00
2d do	3 00
3d do	2 00
22. Best 12 peaches one variety, correctly named, grown in open air	2 00
2d do	1 00
3d do	Trans.
23. Best collection grapes, grown in open air.	6 00
2d do	4 00
3d do	2 00
24. Best 3 bunches do, one variety, correctly named	3 00
2d do	2 00
3d do	Trans.

General list of Fruits, Canada, open to all.

25. Best 12 Nectarines, one variety, named correctly, grown in open air	3 00
2d do	2 00
26. Best 12 Quinces	2 00
5d do	1 00
27. Best peck Cranberries, domestic cultivated	2 00
2d do	1 00
28. Best collection grapes, grown under glass, one bunch each, correctly named	6 00
2d do	4 00
2d do	2 00
29. Best 2 bunches black grapes, grown under glass, correctly named	4 00
2d do	3 00
3d do	2 00
30. Best 2 bunches white grapes, grown under glass, correctly named	4 00
2d do	3 00
3d do	2 00
31. Best green flesh melon	2 00
2d do	1 00
32. Best red or scarlet flesh melons	2 00
2d do	1 00
33. Best water melon	2 00
2d do	1 00

Domestic pure Wines

34. Best Isabella wine	Diploma.
35. Best Delaware wine	"
36. Best native Canadian grape wine	"
37. Best grape wine from any other sort	"
38. Best currant wine	"
39. Best raspberry wine	"
40. Best strawberry wine	"

- 41. Best blackberry wine..... “
- 42. Best perry..... “
- 43. Best cider..... “

Foreign Class.

- 44. Best collection of apples..... 5 00
 - 2d do..... 4 00
- 45. Best collection of pears..... 5 00
 - 2d do..... 4 00
- 46. Best collection of plums..... 5 00
 - 2d do..... 4 00
- 47. Best collection of peaches..... 5 00
 - 2d do..... 4 00
- 48. Best collection of open air grapes. 5 00
 - 2d do..... 4 00
- 49. Extra entries, fruits

DR. BEADLE'S PRIZES :

Special prizes offered by the late Dr. Beadle of St. Catharines, and to be given by Mr. D. W. Beadle.

To any person, not a professional nurseryman, residing within the County of Ontario, or Durham, Victoria, Northumberland, Peterborough, Prince Edward, Hastings, Lennox, Addington, Frontenac, Leeds, Lanark, Grenville, Dundas, or Stormont, who shall exhibit the largest collection of really valuable pears, not more than six specimens of each variety, nor less than three varieties in each collection, each variety named, and shall with the entry make the written statement required below; a premium of *thirty five pear trees* of suitable size for planting, grown either upon the pear or quince stock, at the option of the exhibitor, and of such kinds as the exhibitor may select from the list of pear trees cultivated at these nurseries.

To the exhibitor of the second best collection, upon the same conditions, a premium of *fifteen pear trees*, with like privilege of choice to exhibitor.

The exhibitor of the third best collection, upon the same conditions and with the same privileges, a premium of *five pear trees*.

Each exhibitor to send with his entry a written statement, shewing the township, lot and concession where the fruit exhibited by him was grown; the nature of the soil; the stock, whether pear or quince; the hardihood of each variety and probable ability to endure the climate of his locality, and which of the varieties the exhibitor values most highly; such statement to be signed by the exhibitor, giving also his post office address.

The collections to be exhibited at the Provincial Fair, to be held in 1863, subject to the rules and regulations of the Agricultural Association, such entries to be distinct from all other entries. The Board of Agriculture to appoint two of the judges to decide upon the merits of the several entries, the third judge to be subject to appointment by Mr. Beadle.

CLASS XXXII—GARDEN VEGETABLES.

- 1. Best 12 roots of salsify..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 2. Best 3 heads brocoli..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 3. Best 3 heads cauliflower..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 4. Best 3 heads cabbage (summer).... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 5. Best 3 heads cabbage (winter)..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 6. Best 4 sorts winter cabbage, including savoy, 1 of each sort..... 3 00
 - 2d do..... 2 00
 - 3d do..... 1 00
- 7. Best 3 heads red cabbage..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 8. Best 12 carrots for table, long red.. 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 9. Best 12 early horn carrots..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 10. Best 12 table parsnips..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 11. Best 6 roots of white celery..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 12. Best 6 roots of red celery..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 13. Best dozen capsicums (ripe)..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 14. Best collection of capsicums (ripe) 6 of each sort..... 3 00
 - 2d do..... 2 00
 - 3d do..... 1 00
- 15. Best 3 egg plant fruit, purple..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 16. Best 12 tomatoes (red)..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 17. Best 12 tomatoes (yellow)..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 18. Best assorted collection of tomatoes, 3 each of large sorts, and 6 each of small sorts..... 3 00
 - 2d do..... 2 00
 - 3d do..... 1 00
- 19. Best 12 blood beets, long..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 20. Best peck of white onions..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00
- 21. Best peck of yellow onions..... 2 00
 - 2d do..... 1 50
 - 3d do..... 1 00

22. Best peck of red onions	2 00	14. Best floral ornament or design	5 00
2d do	1 50	2d do	4 00
3d do	1 00	3d do	3 00
23. Best 12 white turnips (table)	2 00	15. Best collection of verbenas, not less than 12 varieties	3 00
2d do	1 50	2d do	2 00
3d do	1 00	3d do	1 00
24. Best 12 yellow turnips (table)	2 00	16. Best 6 petunias	2 00
2d do	1 50	2d do	1 50
3d do	1 00	3d do	1 00
25. Best 12 ears sweet corn	2 00	17. Best collection perennial phloxes ..	2 00
2d do	1 50	2d do	1 50
3d do	1 00	3d do	1 00
26. Best and greatest variety of potatoes, half peck of each sort, named	3 00	18. Best 6 hardy shrubs, spikes in flower ..	2 00
2d do	2 00	2d do	1 50
3d do	1 00	3d do	1 00
17. Best 3 squashes (table)	2 00	19. Best collection of Hollyhocks	2 00
2d do	1 50	2d do	1 50
3d do	1 00	3d do	1 00
20. Best and greatest variety of vegetables, (distinct from other entries) each kind named	4 00	20. Best display of plants in flower, distinct from other entries	10 00
2d do	3 00	2d do	6 00
3d do	2 00	3d do	4 00
19. Extra entries.		21. Best collection of native plants, dried and named	5 00
CLASS XXXIII.—PLANTS AND FLOWERS.			
1. Best dozen dahlias, named	2 00	2d do	3 00
2d do	1 50	3d do	2 00
2. Best and largest collection of dahlias ..	5 00	22. Best specimen of useful and ornamental rustic work for the garden ..	4 00
2d do	4 00	2d do	3 00
3d do	3 00	3d do	2 00
3. Best bouquet of cut flowers (for table) ..	2 00	23. Extra entries	
2d do	1 50	Competitors in classes 30, 31, and 32, are requested to deliver their various productions in a clean and proper state for exhibition.	
3d do	1 00	CLASS XXXIV.—DAIRY PRODUCTS, HONEY, BACON, &c.	
4. Best hand bouquet	2 00	1. Best firkin of butter, in shipping order, not less than 56 lbs.	12 00
2d do	1 50	2d do	1 00
3d do	1 00	3d do	8 00
5. Best collection of green-house plants, not less than 12 specimens, in flower	10 00	4th do	6 00
2d do	6 00	2. Best butter, not less than 28 lbs, in firkins, crocks, or tubs.	8 00
3d do	4 00	2d do	6 00
6. Best 12 pansies	2 00	3d do	4 00
2d do	1 50	4th do	2 00
3d do	1 00	3. Best cheese, not less than 3 lbs	10 00
7. Best 6 fuchsias, in flower	4 00	2d do	8 00
2d do	3 00	3d do	6 00
3d do	2 00	4th do	4 00
8. Best collection of annuals in bloom ..	2 00	4. Best two Stilton cheeses, not less than 12 lbs each	10 00
2d do	1 50	2d do	8 00
3d do	1 00	3d do	6 00
9. Best 6 cockscombs	2 00	4th do	4 00
2d do	1 50	5. Best honey, in the comb, not less than 10 lbs.	3 00
3d do	1 00	2d do	2 00
10. Best 6 balsams in bloom	2 00	3d do	1 50
2d do	1 50	4th do	Trans.
3d do	1 00	6. Best jar of clear honey	4 00
11. Best collection of asters	2 00	2d do	2 00
2d do	1 50	3d do	1 50
3d do	1 00	4th do	Trans.
12. Best collection of 10 weeks' stock ..	2 00	7. Best 30 lbs maple sugar	3 00
2d do	1 50	2d do	2 00
3d do	1 00	3d do	1 00
13. Best collection of hybrid perpetual roses, not less than 12 blooms ..	3 00		
2d do	2 00		
3d do	1 00		

8. Best side of cured bacon.....	3 00
2d do	2 00
3d do	1 00
9. Best ham, cured.....	3 00
2d do	2 00
3d do	1 00

10. Extra Entries.

Persons taking premiums on dairy products will be required to furnish statements of the mode of manufacture, including the breed and number of cows, size of farm, description of dairy premises, treatment of milk, salt used, quantity of produce, and any other practical information that they may be able to afford, before being paid the amount of premium.

CLASS XXXV.—AGRICULTURAL IMPLEMENTS,
WORKED BY HORSE OR OTHER POWER.

Sect.		\$	c.
1. Best iron plough, diploma and.....		12	00
2d do		8	00
3d do		4	00
2. Best wooden plough, diploma and ..		12	00
2d do		8	00
3d do		4	00
[The ploughs to be tested in the field, on the Tuesday, by a Committee appointed for the purpose, at the Exhibition; ease of draught, efficiency of work, and price, to be considered.]			
3. Best subsoil plough, diploma and ..		12	00
2d do		8	00
3d do		4	00
4. Best double shear trench plough....		19	00
2d do		6	00
3d do		4	00
5. Best double mould plough.....		10	00
2d do		6	00
3d do		4	00
6. Best pair of harrows.....		6	00
2d do		4	00
3d do		2	00
7. Best horse-power thresher and separator, diploma and.....		20	00
2d do		12	00
3d do		8	00
8. Best grain drill, diploma and		12	00
2d do		8	00
3d do		4	00
9. Best straw cutter.....		5	00
2d do		4	00
3d do		3	00
10. Best smut machine		6	00
2d do		3	00
3d do		3	00
11. Best portable grist mill.....		12	00
2d do		8	00
3d do		4	00
12. Best grain cracker.....		8	00
2d do		6	00
3d do		4	00
13. Best corn and cob crusher		4	00
2d do		3	00
3d do		2	00
14. Best clover cleaning machine.....		12	00
2d do		8	00
3d do		4	00

15. Best cider mill and press	12	00
2d do	8	00
3d do	4	00
16. Best two-horse team waggon....	12	00
2d do	8	00
3d do	4	00
17. Best two-horse spring market waggon	10	00
2d do	7	00
3d do	4	00
18. Best one-horse light market waggon	9	00
2d do	6	00
3d do	3	00
19. Best horse cart.....	6	00
2d do	4	00
3d do	2	00
20. Best farm sleigh	8	00
2d do	4	00
3d do	2	00
21. Best horse rake	4	00
2d do	3	00
3d do	2	00
22. Best metal roller	11	00
2d do	8	00
23. Best wooden roller	10	00
2d do	5	00
24. Best stump extractor.....	8	00
2d do	4	00
25. Best reaping machine, diploma and	20	00
2d do	12	00
3d do	8	00
26. Best mowing machine, diploma and	20	00
2d do	12	00
3d do	8	00
27. Best combined mower and reaper, diploma and.....	20	00
2d do	12	00
3d do	8	00
28. Best potato digger.....	3	00
2d do	2	00
3d do	Trans	
29. Best field or two-horse cultivator...	12	00
2d do	8	00
3d do	4	00
30. Best horse hoe, single horse cultivator.....	4	00
2d do	3	00
31. Best post hole borer	12	00
2d do	8	00
32. Best brick-making machine	10	00
2d do	6	00
33. Best flax-dressing machine	30	00
2d do	20	00
3d do	10	00
34. Best machine for sinking field drains and laying in and covering tiles..	60	00
2d do	40	00
35. Best portable steam engine, for agricultural purposes, 6 to 10 horse power	50	00
2d do	30	00
3d do	20	00
36. Best steam plough or cultivator, in operation on the ground (open to foreign competition).....	100	00

37. Best improved liquid manure drill, for drilling two or more rows of liquid, with turnips, mangels, &c., either on the ridge or flat.....	25 00
2d. do	15 00

38. Extras.

CLASS XXXVI.—AGRICULTURAL TOOLS AND IMPLEMENTS, CHIEFLY FOR HAND USE.

1. Best fanning mill, diploma and	6 00
2d do	4 00
3d do	2 00
2. Best seed drill, or barrow.....	4 00
2d do	3 00
3d do	2 00
3. Best straw cutter	5 00
2d do	4 00
3d do	3 00
4. Best machine for cutting roots for stock.....	6 00
2d do	4 00
3d do	2 00
5. Best cheese-press.....	8 00
2d do	6 00
6. Best churn.....	3 00
2d do	2 00
7. Best garden, walk, or lawn roller	4 00
2d do	2 00
3d do	1 00
8. Best thistle extractor.....	2 00
2d do	1 00
3d do	Trans.
9. Best farm gate.....	3 00
2d do	2 00
3d do	Trans.
10. Best specimen farm fence, wood... ..	3 00
2d do	2 00
3d do	Trans.
1. Best specimen wire fencing, not less than two rods, erected on the ground	8 00
2d do	6 00
2d do	4 00
2. Best wooden pump.....	4 00
2d do	3 00
3d do	2 00
3. Best half-dozen hay rakes.....	3 00
2d do	2 00
3d do	1 00
4. Best half-dozen manure forks.....	3 00
2d do	2 00
3d do	1 00
5. Best half-dozen hay forks.....	4 00
2d do	2 00
3d do	1 00
6. Best half-dozen scythe snaiths.....	3 00
2d do	2 00
3d do	1 00
7. Best ox-yoke and bows.....	2 00
2d do	1 00
3d do	Trans.
8. Best grain cradle.....	2 00
2d do	1 00
9. Best half-dozen grain shovels.....	3 00
2d do	2 00
3d do	1 00

20. Best half-dozen iron [flat] shovels..	3 00
2d do	2 00
3d do	1 00
21. Best half-dozen spades.....	3 00
2d do	2 00
3d do	1 00
22. Best half dozen steel hoes.....	3 00
2d do	2 00
3d do	1 00
23. Best half-dozen grass scythes.....	3 00
2d do	2 00
3d do	1 00
24. Best half-dozen cradle scythes.....	3 00
2d do	2 00
3d do	1 00
25. Best machine for making drain tiles, diploma and.....	20 00
2d do	10 00
26. Best set of draining tools.....	6 00
2d do	4 00
3d do	2 00
27. Best assortment of drain tiles.....	6 00
2d do	4 00
8d do	2 00
28. Best straw fork, wood.....	2 00
2d do	1 00
3d do	Trans.
29. Best implement or machine for cutting pulling, or otherwise harvesting peas, hand or horse power... ..	10 00
2d do	5 00
30. Best 6 chopping axes.....	3 00
2d do	2 00
31. Best set horse shoes.....	2 00
2d do	1 00
32. Extra entries.	

CLASS XXXVII.—CATTLE FOOD—MANURES, AND MISCELLANEOUS.

1. Best specimen oil cake.....	4 00
2d do	2 00
2. Best specimen prepared food for cattle	4 00
2d do	2 00
3. Best specimen ground bones, for manure	4 00
2d do	2 00
4. Best specimen other artificial manure.....	4 00
2d do	2 00
5. Extra Entries.	

ARTS AND MANUFACTURES DEPARTMENT.

(Competition open to Canadian Exhibitors only.)

CLASS XXXVIII.—CABINET WARE, AND OTHER WOOD MANUFACTURES.

Cabinet Ware.

Sect.		\$	c.
1. Best Bed Room Furniture, set of, ..	10 00		
2d do	6 00		
2. Best Centre Table.....	7 00		
2d do	4 00		

3	Best Drawing Room Sofa	7 00
	2d do	4 00
4.	Best Drawing Room Chairs, set of..	7 00
	2d do	4 00
5.	Best Dining Room Furniture, set of	8 00
	2d do	4 00
6.	Best Side Board	6 00
	2d do	3 00
7.	Best Wardrobe	5 00
	2d do	3 00

Miscellaneous.

8.	Best Coopers' Work	4 00
	2d do	3 00
9.	Best Corn Brooms, 1 doz.	2 00
	2d do	1 00
10.	Best Curled Hair, 10 lbs.	3 00
	2d do	2 00
11.	Best Handles for Tools for Carpenters, Blacksmiths Gunsmiths, Watchmakers, &c., collection of.	8 00
	2d do	4 00
12.	Best Joiner's Work, assortment of	8 00
	2d do	4 00
13.	Best Machine-wrought Moulding, and Flooring, 100 feet of each.	6 00
	2d do	4 00
14.	Best Shingles, two bundles of split.	2 00
	2d do	1 00
15.	Best Turning in Wood, collection of specimens..	6 00
	2d do	4 00
16.	Best Turned Hollow Wooden Ware, assortment of.	4 00
	2d do	3 00
17.	Best Veneers from Canadian Woods, undressed	8 00
	2d do	4 00
18.	Best Veneers from Canadian Woods, dressed and polished.	8 00
	2d do	4 00
19.	Best Wash Tubs and Pails, three of each, Factory made.	4 00
	2d do	2 00
20.	Best Willow Ware, six specimens..	4 00
	2d do	2 00
21.	Extra Entries	

CLASS XXXIX.—CARRIAGES AND SLEIGHS, AND PARTS THEREOF.

1.	Best Axe, wrought iron	3 00
	2d do	2 00
2.	Best Bent Shafts, half a dozen	3 00
	2d do	2 00
3.	Best Bows, for carriage tops, two sets	3 00
	2d do	2 00
4.	Best Buggy, double seated	8 00
	2d do	4 00
5.	Best Buggy, single seated	7 00
	2d do	4 00
6.	Best Buggy, trotting	6 00
	2d do	4 00
7.	Best Carriage, two-horse, pleasure..	12 00
	2d do	7 00
8.	Best Carriage, one-horse, pleasure..	8 00
	2d do	4 00

9.	Best Child's Carriage	4 00
	2d do	3 00
10.	Best Dog Cart, single horse.	6 00
	2d do	4 00
11.	Best Express Wagon.	6 00
	2d do	4 00
12.	Best Hubs, two pairs carriage	3 00
	2d do	2 00
13.	Best Rims or Fellos, two pairs carriage	2 00
	2d do	1 00
14.	Best Spokes, 1 dozen machine made carriage	3 00
	2d do	2 00
15.	Best Sleigh, two horse, pleasure	10 00
	2d do	6 00
16.	Best Sleigh, one-horse, pleasure.	8 00
	2d do	4 00
17.	Best Springs, one set steel carriage.	4 00
	2d do	3 00
18.	Best Sulky, trotting.	5 00
	2d do	3 00
19.	Best Wheels, one pair of carriage, unpainted.	3 00
	2d do	2 00
20.	Extra Entries.	

CLASS XL.—CHEMICAL MANUFACTURES AND PREPARATIONS.*

1.	Best Essential Oils, assortment of..	6 00
	2d do	4 00
2.	Glue, 14 lbs	3 00
	2d do	2 00
3.	Best Isinglass, 1 lb	3 00
	2d do	2 00
4.	Best Medical Herbs, Roots and Plants, native growth.	12 00
	2d do	7 00
5.	Best Oils, Linseed and Rape, and other expressed kinds.	6 00
	2d do	4 00
6.	Best Oil—Coal, Shale, or Rock.	6 00
	2d do	4 00
7.	Best Oil, Neats' foot, half gallon..	2 00
	2d do	1 00
8.	Best Printing Inks, an assortment..	3 00
	2d do	2 00
9.	Best Varnishes, assortment of.	6 00
	2d do	4 00
10.	Extra entries	

CLASS XLI.—DECORATIVE AND USEFUL ARTS DRAWINGS AND DESIGNS.

1.	Best Architectural Design, with complete detail Drawings.	10 00
	2d do	6 00
2.	Best Carving in Wood	6 00
	2d do	4 00
3.	Best Drawing of Machinery, perspective.	5 00
	2d do	3 00

* All parties exhibiting in competition for prizes in this class, must deliver their goods to the Secretary of the Board of Arts and Manufactures, Toronto, by the 1st September, with a view to having a proper analysis made prior to the Exhibition.

4.	Best Decorative House Painting.....	5 00
	2d do	3 00
5.	Best Decorative Sign Writing, on Glass.....	4 00
	2d do	2 00
6.	Best Engraving on wood, with proof	5 00
	2d do	3 00
7.	Best Engraving on Copper with proof	5 00
	2d do	3 00
8.	Best Goldsmith's Work	5 00
	2d do	3 00
9.	Best Geometrical Drawing of Engine or Mill work, coloured.....	5 00
	2d do	3 00
10.	Best Lithographic Drawing.....	5 00
	2d do	3 00
11.	Best Lithographic Drawing, coloured	6 00
	2d do	4 00
12.	Best Mantlepiece in Marble.....	10 00
	2d do	6 00
13.	Best Map of Canada, Lithographed.	6 00
	2d do	4 00
14.	Best Mathematical, Philosophical and Surveyor's Instruments, collection of.....	15 00
	2d do	10 00
15.	Best Modelling in Plaster.....	5 00
	2d do	3 00
16.	Best Monumental Headstone	5 00
	2d do	3 00
17.	Best Picture Frame, ornamented gilt	5 00
	2d do	3 00
18.	Best Penmanship, business hand...	4 00
	2d do	2 00
19.	Best Penmanship, ornamental.....	4 00
	2d do	2 00
20.	Best Seal Engraving, collection of impressions	5 00
	2d do	3 00
21.	Best Sign Writing.....	4 00
	2d do	2 00
22.	Best Silversmith's Work.....	5 00
	2d do	3 00
23.	Best Stained Glass, collection of specimens	10 00
	2d do	6 00
24.	Extra entries	

CLASS XLII.—FINE ARTS.

Professional List—Oil.

1.	Best Animals grouped or single.....	12 00
	2d do	7 00
2.	Best Historical Painting.....	12 00
	2d do	7 00
3.	Best Landscape, Canadian subject..	12 00
	2d do	7 00
4.	Best Landscape or Marine Painting, not Canadian subject	10 00
	2d do	6 00
5.	Best Marine Painting, Canadian subject.....	12 00
	2d do	7 00
6.	Best Portrait.....	10 00
	2d do	6 00

In Water Colours.

7.	Best Animals grouped or single.....	7 00
	2d do	5 00
8.	Best Flowers, grouped or single.....	7 00
	2d do	5 00
9.	Best Landscape, Canadian subject..	7 00
	2d do	5 00
10.	Best Landscape or Marine Painting, not Canadian subject.....	7 00
	2d do	5 00
11.	Best Marine Painting, Canadian subject	7 00
	2d do	5 00
12.	Best Portrait.....	6 00
	2d do	4 00

Pencil, Crayon, &c.

13.	Best crayon, coloured.....	6 00
	2d do	4 00
14.	Best crayon, plain.....	6 00
	2d do	4 00
15.	Best crayon or Pencil Portrait	6 00
	2d do	4 00
16.	Best pencil Drawing	6 00
	2d do	4 00
17.	Best pen and Ink Sketch.....	6 00
	2d do	4 00

Amateur List—Oil.

18.	Best animals grouped or single...	8 00
	2d do	5 00
19.	Best historical Painting	8 00
	2d do	5 00
20.	Best landscape, Canadian subject...	8 00
	2d do	5 00
21.	Best landscape or Marine Painting, not Canadian subject	8 00
	2d do	5 00
22.	Best Marine Painting, Canadian subject.....	8 00
	2d do	5 00
23.	Best Portrait	7 00
	2d do	5 00

In Water Colours.

24.	Best Animals grouped or single.....	7 00
	2d do	5 00
25.	Best Flowers, grouped or single...	5 00
	2d do	3 00
26.	Best Landscape, Canadian subject...	7 00
	2d do	5 00
27.	Best Landscape, or Marine Painting, not Canadian subject	7 00
	2d do	5 00
28.	Best Marine View, Canadian subject	7 00
	2d do	5 00
29.	Best Portrait	6 00
	2d do	4 00

Pencil, Crayon, &c.

30.	Best Crayon, coloured.....	5 00
	2d do	3 00
31.	Best Crayon, plain	5 00
	2d do	3 00
32.	Best Crayon or Pencil Portrait	5 00
	2d do	3 00

33. Best Pencil Drawing.....	5 00
2d do.....	3 00
34. Best Pen and Ink Sketch	5 00
2d do.....	3 00

Photography.

35. Best Ambrotypes, collection of....	6 00
2d do.....	4 00
36. Best Photograph Portraits, collection of, in duplicate, one set coloured.....	10 00
2d do.....	6 00
37. Best Photograph Portraits, collection of, plain.....	8 00
2d do.....	5 00
38. Best Photograph Landscapes and Views, collection of.....	8 00
2d do.....	5 00
39. Best Photograph Portrait in Oil ...	8 00
2d do.....	5 00
40. Extras	

CLASS XLIII.—GROCERIES AND PROVISIONS.

1. Best Barley, Pearl.....	3 00
2d do.....	2 00
2. Best Barley, Pot	3 00
2d do.....	2 00
3. Best Biscuits, an assortment of....	6 00
2d do.....	4 00
4. Best Bottled Fruits, an assortment, manufactured for sale.....	6 00
2d do.....	4 00
5. Best Bottled Pickles, an assortment, manufactured for sale.....	6 00
2d do.....	4 00
6. Best buckwheat flour.....	3 00
2d do.....	2 00
7. Best cayenne pepper from capsicums grown in the Province.....	2 00
2d do.....	1 00
8. Best chickory, 20 lbs. of.....	3 00
2d do.....	2 00
9. Best Indian corn meal.....	3 00
2d do.....	2 00
10. Best mustard, one jar.....	2 00
2a do.....	1 00
11. Best oatmeal.....	3 00
2d do.....	2 00
12. Best sauces for table use, an assortment, manufactured for sale.....	6 00
2d do.....	4 00
13. Best soap, one box of common.....	4 00
2d do.....	3 00
14. Best soaps, collection of assorted fancy.....	6 00
2d do.....	4 00
15. Best spices, ground, and assortment of.....	2 00
2d do.....	1 00
16. Best starch, 12 lbs. of corn.....	2 00
2d do.....	1 00
17. Best starch, 12 lbs. of flour.....	2 00
2d do.....	1 00
18. Best starch, 12 lbs. of potato.....	2 00
2d do.....	1 00

19. Best sugar, 20 lbs. of beet root....	3 00
9d do.....	2 00
20. Best sugar, 20 lbs. of sorghum	3 00
2d do.....	2 00
21. Best sugar, one loaf of refined.....	5 00
2d do.....	3 00
22. Best tobacco, 14 lbs. Canadian manufactured.....	4 00
2d do.....	3 00
23. Best wheat flour.....	5 00
2d do.....	3 00
24. Extra entries.....	

CLASS XLIV.—LADIES' WORK.

1. Best bead work.....	3 00
2d do.....	2 00
3d do.....	1 00
2. Best braiding.....	3 00
2d do.....	2 00
3d do.....	1 00
3. Best crochet work.....	3 00
2d do.....	2 00
3d do.....	1 00
4. Best embroidery in muslin.....	3 00
2d do.....	2 00
3d do.....	1 00
5. Best embroidery in silk.....	3 00
2d do.....	2 00
3d do.....	1 00
6. Best embroidery in worsted.....	3 00
2d do.....	2 00
3d do.....	1 00
7. Best gloves, three pairs.....	2 00
2d do.....	1 00
3d do.....	0 50
8. Best guipure work.....	3 00
2d do.....	2 00
3d do.....	1 00
9. Best hair work.....	3 00
2d do.....	2 00
3d do.....	1 00
10. Best knitting.....	3 00
2d do.....	2 00
3d do.....	1 00
11. Best lace work.....	3 00
2d do.....	2 00
3d do.....	1 00
12. Best mittens, three pairs of woollen.....	2 00
2d do.....	1 00
3d do.....	0 50
13. Best needle work, ornamental.....	3 00
2d do.....	2 00
3d do.....	1 00
14. Best netting, fancy.....	3 00
2d do.....	2 00
3d do.....	1 00
15. Best plait for bonnets or hats, of Canadian straw.....	3 00
2d do.....	2 00
3d do.....	1 00
16. Best shirt, gentleman's.....	3 00
2d do.....	2 00
3d do.....	1 00

1.	Best socks, three pairs of woollen	2 00
	2d do	1 00
	3d do	0 50
2.	Best stockings, three pairs of woollen	2 00
	2d do	1 00
	3d do	0 50
3.	Best tatting	3 00
	2d do	2 00
	3d do	1 00
4.	Best wax fruit	6 00
	2d do	4 00
	3d do	2 00
5.	Best wax flowers	6 00
	2d do	4 00
	3d do	2 00
6.	Best wax shells, a collection of	6 00
	2d do	4 00
	3d do	2 00
7.	Best worsted work	3 00
	2d do	2 00
	3d do	1 00
8.	Best worsted work (fancy) for framing	3 00
	2d do	2 00
	3d do	1 00
9.	Best worsted work (raised)	3 00
	2d do	2 00
	2d do	1 00

6. Extra entries.

XLV.—MACHINERY, CASTINGS, AND TOOLS.

1.	Best blacksmith's bellows	4 00
	2d do	00
2.	Best castings for general machinery	10 00
	2d do	6 00
3.	Best cast wheel, spur or bevel, not less than 50 lbs. weight	8 00
	2d do	5 00
4.	Best castings for railways, railroad cars and locomotives, assortment of	12 00
	2d do	7 00
5.	Best hand power weaving loom	6 00
	2d do	4 00
6.	Best edge tools, an assortment	15 00
	2d do	10 00
7.	Best engine, steam, stationary, of one to four horse power, in operation	15 00
	2d do	10 00
8.	Best engine, steam, stationary, five horse power and upwards, in operation	25 00
	2d do	15 00
9.	Best engine, hot air, one to four horse power, in operation on the ground	15 00
	2d do	10 00
10.	Best pump, in metal	5 00
	2d do	3 00
11.	Best refrigerator	6 00
	2d do	4 00
12.	Best saws, an assortment	3 00
	2d do	5 00

13.	Best saw mill, in model or otherwise	6 00
	2d do	4 00
14.	Best sewing machine, manufacturing	8 00
	2d do	5 00
15.	Best sewing machine, family	8 00
	2d do	5 00
16.	Best scales, platform	5 00
	2d do	3 00
17.	Best scales, counter	3 00
	2d do	2 00
18.	Best shingle-splitting machine	6 00
	2d do	4 00
19.	Best skates, an assortment of	6 00
	2d do	4 00
20.	Best smoke-consuming furnace, in operation on the ground	12 00
	2d do	7 00
21.	Best tools, for working in metals, assortment of	12 00
	2d do	7 00
22.	Best turning lathe	5 00
	2d do	3 00
23.	Best valves and gearing for working steam expansively, either in model or otherwise, principle of working to be the point of competition	12 00
	2d do	7 00
24.	Extra entries.	

CLASS XLVI.—METAL WORK, (MISCELLANEOUS)

INCLUDING STOVES.

Miscellaneous.

1.	Best coal oil lamps, an assortment	8 00
	2d do	5 00
2.	Best cooper's work, an assortment	7 00
	2d do	4 00
3.	Best engineer's brass work, an assortment	6 00
	2d do	4 00
4.	Best fire arms, an assortment	7 00
	2d do	5 00
5.	Best files, collection of cast steel	3 00
	2d do	2 00
6.	Best fire proof office safe	8 00
	2d do	5 00
7.	Best gas fittings, an assortment	7 00
	2d do	5 00
8.	Best iron fencing and gate, ornamental	7 00
	2d do	5 00
9.	Best iron work from the hammer, ornamental	6 00
	2d do	4 00
10.	Best Iron work, ornamental cast	6 00
	2d do	4 00
11.	Best locksmith's work, an assortment	7 00
	2d do	5 00
12.	Best malleable hardware manufactures, an assortment	7 00
	2d do	5 00
13.	Best nails, 20 lbs. of pressed	6 00
	2d do	4 00
14.	Best nails, 20 lbs. of cut	6 00
	2d do	4 00

15. Best plumber's work, an assortment	6 00
2d do	4 00
16. Best screws and bolts, an assortment	6 00
2d do	4 00
17. Best sheet brass work, an assortment	7 00
2d do	5 00
18. Best tinsmith's work, an assortment	6 00
2d do	4 00
19. Best tinsmith's lacquered work, an assortment of	6 00
2d do	4 00
20. Best wire work, an assortment	6 00
2d do	4 00

Stoves.

21. Best cooking stove, for wood	6 00
2d do	4 00
22. Best cooking stove, for coal	6 00
2d do	4 00
23. Best furniture for cooking stove, one sett	4 00
2d do	3 00
24. Best hall stove, for wood	5 00
2d do	3 00
25. Best hall stove, for coal	5 00
2d do	3 00
26. Best parlour stove, for wood	5 00
2d do	3 00
27. Best parlour stove, for coal	5 00
2d do	3 00
28. Best parlour grate	5 00
2d do	3 00
29. Best parlour fire place complete, including setting of grate so as to economise fuel; and arrangement for ventilating room	6 00
2d do	4 00

30 Extra entries.

CLASS XLVII.—MISCELLANEOUS, INCLUDING POTTERY AND INDIAN WORK.

Miscellaneous.

1. Best artificial leg	6 00
2. Best artificial arm	6 00
3. Best brushes, an assortment	6 00
2d do	4 00
4. Best model of a steam vessel	6 00
2d do	4 00
5. Best model of a sailing vessel	6 00
2d do	4 00

Pottery.

6. Best filterer for water	3 00
2d do	2 00
7. Best pottery, an assortment	8 00
2d do	5 00
8. Best sewerage pipes, stoneware, assortment of sizes	10 00
2d do	6 00
9. Best stoneware, an assortment	10 00
2d do	6 00
10. Best slates for roofing	8 00
2d do	5 00

Indian Work.

11. Best buckskin mittens, one pair	2 00
2d do	1 00

12. Best clothes basket	2 00
2d do	1 00
13. Best fruit basket	2 00
2d do	1 00
14. Best hand basket	2 00
2d do	1 00
15. Best mocassins, one pair of plain	2 00
2d do	1 00
16. Best mocassins, worked with beads or porcupine quills, one pair	3 00
2d do	2 00

17. Extra entries.

CLASS XLVIII.—MUSICAL INSTRUMENTS.

1. Best harmonium	10 00
2d do	6 00
2. Best melodeon	6 00
2d do	4 00
3. Best organ, Church	20 00
2d do	12 00
4. Best piano, square	15 00
2d do	10 00
5. Best piano, grand	15 00
2d do	10 00
6. Best piano, cottage	10 00
2d do	6 00
7. Best violin	3 00
2d do	2 00
8. Best violin, double bass	3 00
2d do	2 00

9. Extra entries.

Sect. CLASS XLIX.—NATURAL HISTORY.

1. Best Collection of Stuffed Birds of Canada, classified and common and technical names attached	\$5 00
2d do	5 00
2. Best collection of Native Fishes, stuffed or preserved in spirits, and common and technical names attached	8 00
2d do	5 00
3. Best collection of Native Insects, classified, and common and technical names attached	8 00
2d do	5 00
4. Best Mammalia and Reptiles of Canada, stuffed or preserved in spirits, classified, and common and technical names attached, a collection	8 00
2d do	5 00
5. Best collection of Minerals of Canada, named and classified	8 00
2d do	5 00
6. Best collection of Native Plants, arranged in their natural families, and named	8 00
2d do	5 00
7. Best stuffed Birds and Animals of any country, collection of	8 00
2d do	5 00
8. Best collection of the Woods of Canada, in boards two feet long, one side polished; also a portion of the tree cut in sections, showing the bark	8 00
2d do	5 00

9. Extra entries		13. Best Saddle, Ladies' quilted safe..	6 00
CLASS I.—PAPER, PRINTING, BOOKBINDING, AND TYPE.		2d do	4 00
1. Best Bookbinding (blank book), as- sortment of	5 00	14. Best Saddle, Gentleman's full quilted	7 00
2d do	3 00	2d do	4 00
2. Best Bookbinding (letter-press), as- sortment of	5 00	15. Best Saddle, Gentlemen's plain	
2d do	3 00	shaftoe	5 00
3. Best Letter-press Printing, plain..	5 00	2d do	3 00
2d do	3 00	16. Best Trunks, an assortment.....	5 00
4. Letter-press Printing, ornamental.	5 00	2d do	3 00
2d do	3 00	17. Best Valises and Travelling Bags, an assortment	5 00
5. Paper hangings (Canadian paper), one dozen rolls, assorted.....	6 00	2d do	3 00
2d do	4 00	18. Whips and Thongs, an assortment.	6 00
6. Best Papers—Printing, Writing, and Wrapping, one ream of each.	6 00	2d do	4 60
2d do	4 00		
7. Best Papers—Blotting and Colored, one ream of each	6 00	<i>Leather.</i>	
2d do	4 00	19. Best Belt Leather, 30lbs.....	3 00
8. Best Pocket books, Wallets, &c., an assortment	6 00	2d do	2 00
2d do	4 00	20. Best brown Strap and Bridle, one side of each	3 00
9. Best Printing type, an assortment.	6 00	2d do	2 00
2d do	4 00	21. Best Carriage cover, two skins...	3 00
0. Extra Entries		2d do	2 00
CLASS II.—SADDLE, ENGINE HOSE, AND TRUNK MAKERS' WORK, AND LEATHER.		22. Best Deer Skins, dressed.....	2 00
<i>Saddlery, &c.</i>		2d do	1 00
1. Best Engine Hose and Joints, 2½ inches diameter, 50 feet of copper rivetted.....	6 00	23. Best Harness Leather, two sides..	3 00
2d do	4 00	2d do	2 00
2. Best Harness, set of double carriage	8 00	24. Best Hog skins, for saddles, three.	4 00
2d do	5 00	2d do	3 00
3. Best Harness, set of single carriage	6 00	25. Best Patent Leather, for carriage or harness work, 20 feet.....	6 00
2d do	4 00	2d do	4 00
4. Best Harness, set of team.....	5 00	26. Best Skirting for Saddles, two sides	4 00
2d do	3 00	2d do	3 00
5. Best Harness, set of Express.....	5 00	27. Extra entries.	
2d do	3 00	CLASS III.—SHOE AND BOOT MAKERS' WORK, LEATHER, &c.	
6. Horse Collars, an assortment.....	3 00	<i>Boots, &c.</i>	
2d do	2 00	1. Best Boots, Ladies', an assortment.	7 00
7. Best Hames, four pairs of iron car- riage or gig	3 00	2d do	4 00
2d do	2 00	2. Best Boots, Gentlemen's sewed, an assortment	7 00
8. Best Hames, three pairs of iron cased team or cart.....	3 00	2d do	4 00
2d do	2 00	3. Best Boots, pegged, an assortment.	5 00
9. Best Hames, six pairs of wooden team.....	3 00	2d do	3 00
2d do	2 00	4. Best Boot and Shoemakers' Tools, an assortment	8 00
10. Best India rubber belting, Engine Hose, &c., an assortment.....	6 00	2d do	5 00
2d do	4 00	5. Boot and Shoemakers' Lasts and Trees, an assortment.....	8 00
11. Best Leather Leggings for Volun- teers	3 00	2d do	5 00
2d do	2 00	6. Best Shoemakers' Pegs, an assort- ment.....	4 00
12. Best Saddle, Ladies' full quilted..	8 00	2d do	3 00
2d do	5 00	7. Best Shoes, India Rubber, an assort- ment.....	6 00
		2d do	4 00
		<i>Leather.</i>	
		8. Best Calf Skins	3 00
		2d do	2 00
		9. Best Calf Skins; grained.....	3 00
		2d do	2 00

10. Best Calf Skins, two morroco.....	3 00	16. Best Flannel, scarlet, one piece....	5 00
2d do	2 00	2d do	3 00
11. Best Cordovan, two skins of	3 00	17. Best Fur Cap and Gloves	4 00
2d do	2 00	2d do	3 00
12. Best Dog skins, two dressed	3 00	18. Best Fur Sleigh Robes, buffalo, wolf,	
2d do	2 00	and raccoon (an assortment)....	5 00
13. Best Kip Skins, two sides	3 00	2d do	3 00
2d do	2 00	19. Best Gloves and mits of any leather,	
14. Best Kip Skins, grained	3 00	an assortment	4 00
2d do	2 00	2d do	3 00
15. Best Linings, six skins,	3 00	20. Best Horse Blankets, two pairs....	5 00
2d do	2 00	2d do	3 00
16. Best Patent Leather for bootmakers,		21. Best Kersey for horse clothing, one	
20 feet	6 00	piece	5 00
2d do	4 00	2d do	3 00
17. Sheep Skins six colored	3 00	22. Best Linen Goods, one piece	5 00
2d do	2 00	2d do	3 00
18. Best Sole Leather, two sides	3 00	23. Best Oxford Grey Cloth, one piece....	5 00
2d do	2 00	2d do	3 00
19. Best Upper Leather, two sides	3 00	24. Best Overcoat of Canadian cloth....	4 00
2d do	2 00	2d do	3 00
20. Best Upper Leather, grained, two		25. Best Satinet, black, one piece	6 00
sides	3 00	2d do	4 00
2d do	2 00	26. Best Satinet, mixed one piece....	5 00
21. Extra entries.		2d do	3 00
CLASS LIII.—WOOLLEN, FLAX, AND COTTON		27. Best Sheep Skin Mats. dressed and	
GOODS; AND FURS AND WEARING APPAREL.		colored, an assortment	6 00
1. Best Bags, from flax or hemp, the		2d do	4 00
growth of Canada, one dozen... ..	5 00	28. Best Shirts, factory made, 3 each	
2d do	4 00	woollen and Angola	5 00
2. Best Bags, one dozen cotton	4 00	2d do	3 00
2d do	3 00	29. Best Silk and Felt Hats	5 00
3. Best Blankets, woollen, one pair....	6 00	2d do	3 00
2d do	4 00	30. Best Stockings and Socks, factory	
4. Best Calico, unbleached, one piece....	5 00	made, woollen, three pairs of each	4 00
2d do	3 00	2d do	2 00
5. Best Carpet, woollen, one piece....	8 00	31. Best Stockings and Socks, factory	
2d do	5 00	made, mixed woollen and cotton	
6. Best Carpet, woollen stair, one piece....	6 00	three pairs of each	4 00
2d do	4 00	2d do	2 00
7. Best Cassimere cloth, from Merino		32. Best Suit of cloths of Canadian cloth	
wool, one piece	6 00	2d do	5 00
2d do	4 00	33. Best Tweed, winter, one piece....	6 00
8. Best Cloth, fulled, one piece	6 00	2d do	4 00
2d do	4 00	34. Best Tweed, Summer, one piece....	6 00
9. Best Cloth, broad, one piece	6 00	2d do	4 00
2d do	4 00	35. Best Twine, linen and cotton, an	
10. Best Counterpanes, two	5 00	assortment	3 00
2d do	3 00	2d do	2 00
11. Best Cordage, and Twines, from Can-		36. Best Winsey, checked, one piece....	5 00
adian flax or hemp, assortment of	10 00	2d do	3 00
2d do	6 00	37. Best woollen Cloths, Tweeds, &c.,	
12. Best Check for horse collars, one		an assortment	10 00
piece	4 00	2d do	6 00
2d do	3 00	38. Best woollen Shawls. Stockings,	
13. Best Drawers, factory made, woollen,		Drawers, Shirts, and Mits; an	
one pair	4 00	assortment	10 00
2d do	3 00	2d do	6 00
14. Best Flannel, factory made, one piece	5 00	39. Best Yarn, white and dyed, one	
2d do	3 00	pound of each	2 00
15. Best Flannel, not factory made, one		2d do	1 00
piece	5 00	40. Best Yarn, fleecy woollen, for knitt-	
2d do	3 00	ing, one pound	2 00
		2d do	1 00

41. Best Yarn, cotton, two pounds.	2 00
2d do	1 00

42. Extra entries.

CLASS LIV—FOREIGN MANUFACTURES.

Foreign Articles will be admitted for exhibition only; but Certificates will be awarded to any article of worth or peculiar merit

GUELPH MAY FAIR.—It has got to be almost a proverb in town that May Fair never passes without a storm of some kind. This year was no exception to the rule for on Tuesday it snowed and rained without intermission and on Wednesday it was cold and bleak with sleety showers in the morning. It was therefore a poor fair in point of numbers, though, as might be expected from the small turn out of cattle, prices were good. About 120 were entered at the gate, some of them in prime condition, others only passable. Several yoke of good working oxen were brought in, and a few changed hands. Geo Hood bought from Mr. Evan Macdonald a steer for \$55; Mr. John Laidlaw sold to Lemon 2 cows for \$80 Mr. Jas. Laidlaw to the same 2 three year old steers for \$95; Mr. Jas Elliott 2 heifers to the same for \$84.50, Mr. Jas. Hasson to the same 8 head for \$460; Mr. Wilson 1 steer to Wald for \$50. Mr. Geo Hood bought 80 head of cattle from Mr. David Allan, but we did not learn the price. Mr. John West bought a cow for \$16, a cow and heifer for \$34. He sold three head for \$100, a yoke of oxen for \$100 and one steer for \$34. Mr. Tyson bought 2 from Mr. W. Jackson, Paisley Block \$94, 3 from Alex Mackie for \$100, 1 from Abram Wright, Jr. for \$33, one from Mr. Clements, Guelph, for \$34, one from Mr Newman, Pilkington, for \$25. He sold to Lemon 7 head for \$307.50.—Prices were generally very good, one cow being sold by Mr. Peters, Bramosa, for \$5 a hundred live weight. The average price would be from \$4 to \$4.50 hundred. Mr. Alexander of Bramosa, sold one yoke of oxen for \$100. Five car loads of cattle went off by the Grand Trunk on Wednesday night, and a large drove was shipped on Thursday morning. The Fair at Elora was poor, the day being so bad. Good prices were paid however and quite a lot of cattle were bought down by the drovers. The turn out of people was better than might have been expected, though far short of what it would have been, had the weather been fine. Several agricultural implements were exhibited, chief among them being Cosset's Buck eye reaper and mower, and a sample of the same machines from Hamilton, Ackerman's and Thain's washing machines, Thain's new churn, which is on the lever principle, and Ackerman's churn which can be worked by dog power.

THE HORSE SHOW.

The show of stallions took place about 2 o'clock on the Fair ground. Entries were

made by the following proprietors of horses. R. Adams, Acton, Geo. Jefferson, Amaranth, Neil, McPhatter, Puslinch, Thos. Dunn, do., D. McTavish, Nassagaweya. P. Murphy, Guelph R. S. Geddes, Weston, John Hewer, Guelph. N. Davis, do., Alex. McBain, Beverley. W. Sallows, Guelph, Jos Black, Fergus. The Judges were Messrs Geo. Murton, Thos. Hood, Jas. Cowan, Jas. Laidlaw, and Henry Smith. After a careful examination of the different animals the Judge awarded the prize of \$40 to the stallion owned by D. McTavish, Nassagaweya. —*Wellington Mercury.*

FLAX SCUTCHING.—The Flax machines lately invented in New England are sold at \$350, and will scutch from 2000 to 2500 lbs. of flax straw per day of 10 hours.

A new machine for scutching has recently been invented by Messrs. Mallory & Sanford, corner of Center and White Streets, New York, which is said to have been used in the flax mill at Union Village, Rensselaer Co., N. Y., with the following results:

"500 lbs. of flax straw gave 110½ lbs. dressed flax. 16 lbs. fine tow."

From this result a ton of straw, the ordinary produce of an acre in this country, will give 442 lbs. of dressed flax, worth \$110.50 at present prices, besides tow. The expense of scutching a ton, to the owner of a machine run by water power, is only the wages of two men for a day. —*Rural New Yorker.*

Horticulture.

TORONTO GARDENERS' IMPROVEMENT SOCIETY.

The Monthly Meeting of this Society was held in the Agricultural Hall, on the evening of April 20th. Present: Messrs. J. Fleming, Chairman; J. Gray, G. Vair, S. Ashby, C. W. Lawton, E. Townsend, C. Young, E. Lewis. S. Turner, J. Monaghan, and J. Forsyth.

The subject discussed was the pot culture of the grape vine.

Mr. Lawton, in introducing the subject, said, for pot culture, the vines ought to be raised from eyes, which may be had of well ripened wood of the previous year, cut in lengths of 3 inches, and struck in a propagating pan, placed in a good heat. When well rooted, he would put them in pint pots, and keep them growing as strong as possible, shifting them into eight-inch pots, and from that into ten-inch, which would be the last shift for the season. The soil he would recommend, would be a rich turfy loam or sod, with a mixture of well-decomposed manure, charcoal, and bone-dust. The following year, which would be the season for fruiting, he would re-pot, without shaking the ball, or

disturbing the roots, into 12 or 15 inch pots, and water occasionally with manure water, until the fruit is swelled, avoiding, if possible, growing them under other vines. Regular attention to watering and good drainage, he considered very important to success. He would raise a fresh stock every year, and fruit but one season. When growing, it is necessary to keep the house as close as practicable, avoiding, especially, drafts of cold air. He believed the pot culture of the vine to be equally as profitable as any other method.

Mr. Ashby remarked that he thought it would be better to have the vines established in the fruiting pots the first season. To re-pot them, the year of fruiting, he considered opposed to the popular theory relative to the pot culture of other orchard trees, which are admitted to fruit best when the pots are full of roots.

Mr. Gray recommended propagating from layers, as an easier, quicker, and cheaper method of obtaining plants, which is often an object in Canada with amateurs and others, who may not have all desired conveniences at their command. If the operation of layering is successfully performed about the month of June, they will be well rooted and fit for separation from the parent stem in five weeks from the time of layering. The plants would be strong, and little difficulty could be had in getting the wood well ripened. He (Mr. G.) believed that many would be successful with layers who would fail in producing good plants from eyes.

Mr. Townsend, who has had some experience in fruiting the vine in pots, gave a statement of his general treatment, and attendant success. He struck the vine from single eyes, in bottom heat, in the month of February, using, in pottin^g, a rich soil, but no manure, growing them in open spaces between other vines in the grapey. He had them shifted into the fruiting pots, which was half bushel size, in the month of July. When well established, and had attained a good growth, he exposed them on a south wall, where the wood hardened and ripened nicely, before severe frosts in the Fall. In pruning, he cut them back to six or eight feet, according to strength, and trained them round three stakes, placed in a triangular form, in the pot. When started the second or fruiting season, he fed them well with liquid manures. Eleven vines, thus treated, showed 170 bunches of fruit; those he reduced to 70. One of nine bunches grown on the Victoria Hamburgh weighed 2lb 13oz. This variety he considered one of the best for pot culture. The Black Hamburgh and Black Spanish he had also found to be good varieties for this purpose.

Mr. Young believed the system of propagating by eyes far preferable to that of layers. If struck in a hot bed, where that is practicable, in the month of February, they will do well. His system is to strike in pure sand, and move them first into pint pots; from that to half-gallons,

and then into the fruiting pots, which, if so treated, may be done in the month of May.

THE CULTURE OF HYBRID PERPETUAL ROSES.

Mr. J. Gray read a paper upon the subject, which will be resumed at next monthly meeting. Also, the successful raising of cauliflowers.

After which the meeting adjourned.

J. FORSTH, Sec.

FRUIT PLANTING.

TO THE EDITOR OF THE AGRICULTURIST.—Sir: As the season for planting trees is approaching, it may not be amiss for farmers, or those who have experience in fruit culture, to make the results of their experience known to each other, through your valuable *Journal*. A large number of fine trees, chiefly from the Hamilton Nurseries, were planted out in the vicinity last Spring. I planted about thirty Apples, Plum, Pear, &c. They all grew well except three Apple trees, which had no appearance of putting forth buds, though they were watered and treated in the same way as the others. Hearing my brother say that he had done one in a similar state last year, which he raised and planted again in the same place, though in a different position, and it grew well afterward I thought I could loose nothing by trying the experiment. I first took up one, and watered it well in putting it in again, and in a few days it put forth buds; and in a week the leaves were partly spread out, though the others which had not been moved, were apparently, almost dead. I then moved the others, and in a week they were also putting forth leaves, and in a few weeks could not be distinguished from the others. Probably in putting them in again they were turned round to a different position; though I did not pay particular attention to this. I would like, Sir, to hear from you or some of your correspondents, the cause of the above.

Yours truly,

JAMES TISDALE

Wawanosh, April, 14th, 1863.

P. S. I may just say that the spring has opened up here. On the 11th inst., by the late through the day and the very heavy rain in the evening, the snow that remained in the hills disappeared; and people are now plowing. Some are yet busy in the manufacture of Map sugar. The season for this branch of industry has not been very favourable.

J. T.

[The above letter came to hand too late for our last number. Eds.]

THE STRAWBERRIES IN SESSION.

TO THE EDITOR.—It was my good fortune to happen unexpectedly upon the unique gathering of many varieties of strawberries, and

watch with deep interest this singularly beautiful and instructive affair.

Yours, REPORTER.

On May day, in a quiet glade, on the southern side of the New Forest, the strawberries, according to previous decision, held their annual assembly. Its purpose was to compare notes, and to receive suggestions for the promotion of the general good. The attendance was large. I note particularly Triomphe de grand, Jenny Lind, Sir Harry, Hovey, McAvoy Superior, Boston, Brighton Pine, and Longworth's Prolific. By previous order Triomphe de grand presided.

He addressed the meeting, to the following effect. My friends, by your good will I fit the chair at this our annual meeting, an honor I duly appreciate. We are here to learn with what success we have weathered the wintry season, and what are the prospects of yielding a good supply of our delicious fruit the coming summer. I congratulate you my friends, upon the evidences of health and vigor I see around me. The verdure of your leaves and plumpness of your crowns shew sufficiently that you have borne uninjured the trying posts. No former meeting has been so numerously attended—none so promising. I miss however the presence of one, who was with us on several former occasions. Our friend Hooker is not here, and lest his absence may give rise to sinister suggestions, I beg leave to say, that from good authority I have it, that the wintry cold has almost destroyed his vitality. His physicians are of opinion that an instant removal to a more genial clime, is all that can save him. You know how severe the winter's cold is here, and none but strawberries of the strongest constitutions can survive it. We ought my friends indeed to protest against being left in a state of nakedness as we generally are, to rough it as best we may. I would suggest the passing unanimously of a strongly worded resolution against his practice. Why even a thin blanket, in the shape of a light covering of cut straw, or leaves would be to us most acceptable, (Hear, Hear), and it is certain that without it we cannot bring forth a full cup. The best cultivators, who are ready to acknowledge how countifullly we repay any like kindness or attention, do not think of exposing us unclodded to every blast of an hyperborean winter. They could not be so barbarous. But I will not just now occupy your attention.

Mr. Albany Seedling, rose, and said,—Mr. President, before proceeding to the ordinary business of the session, I rise to a point of order. We must have regard to our dignity, and I hold it is unseemly for one of the male sex, to adopt a female cognomen. Jenny Lind is known to be of the harsher sex, yet he calls himself, by a female name. This sort of thing should be put down; it causes confusion in men's minds. As to what you have said about

covering, I agree. My constitution is supremely hardy, people even say, slanderously of course, sour, yet I would not object to a little shelter. I should feel the better for it, and my fruit would be larger.

Madame Hovey, followed,—Mr. Chairman, I was very sorry to hear, the remarks of my much respected friend who has just ceased utterance upon my dear companion Jenny Lind. He is not at all to blame, it is not his fault if he is mis-called, the choice was not his. It is indeed a misfortune that so young, vigorous and handsome a gentleman should be nick named. He is so energetic, hardy, beautiful, productive that I shall like him under any name. Mr. Chairman—I am an old settler, years before your advent to this land—25 years ago I was born here. A long time sir for a strawberry—equal to centuries in other existences. And I have maintained my position in the first rank, being equal to any when properly treated. In size, beauty, excellence, productiveness, and vigor, second to none. The only one indeed on which you can rely for a full market crop. But then sir, I am often grossly abused. Other and inferior kinds are often called by my name. Of course their crop is light, and I am blamed. Again, I am frequently compelled to dwell alone. Now Sir, let men praise as they like a solitary, and hermit like life, it does not suit me. Society is essential to my welfare, I cannot thrive well without it. This is the only disadvantage under which I labor, if indeed it be a disadvantage. No one can hope to combine in himself all good qualities, Providence does not thus distribute its bounties. In the society of others I am cheerful and vigorous, I am no misanthrope. Let Mr. Albany Seedling, or Jenny Lind, or perhaps best of all Boston Pine, grow with me side by side, and I will shew what a good crop of fruit is, and what is so seldom seen. Sir, I am, under good and suitable treatment, immensely prolific. Let what I have now said be remembered.

McAvoy Superior, in evident haste rose, and said, (she had a slight defect in her speech)—Mr. Pres-president, I protest against the self-self laudation of Mistress Ho-Hovey. Why do these old dames put-put on such airs. It is to co-coquette with the gentlemen, (cries of order, amidst a general rustling of leaves). She is old, sue-she looks wrinkled (fie, fie, oh!) Well, I will say no-no-more on this point. But I pro-protect against such a jing jingling-jumbling of terms as we now-now hear. Instead of plain male and fe female plants, we hear, Stam-Staminates, Her-Hermaph-Hermaphrodites, and Pis-Pis Pistilate plants. No wonder simple folks are discouraged. It should be stop-stop-stopped.

Mr. Jenny Lind succeeded.—It is time Mr. Chairman that I spoke for myself. As to my name, none can regret it more than I do, but

the dolt with whom I first saw the light knew no better. Doubtless a little jealousy gave rise to Albany Seedling's remarks. It will be acknowledged on all hands, that I have several very good points. I am very early, rather large, light bright scarlet, beautiful good flavor, and productive. Perhaps the feminine grace and beauty of my neck had something to do with giving me a feminine name. It will be acknowledged too that I am an excellent fertilizer of other plants. Mistress Hovey, and Burr's New Pine, could testify to this. As it would not be modest for one so young to take up the time of this great assemblage, I will say no more.

The President having risen, observed,—It has been suggested to me, that as the hour is so late, it would be better, if instead of each one speaking, I would as fairly as possible, say a few words. I do so with pleasure. You, my friends, are all aware that I am not a native. I was brought from Belgium, but this climate suits me well. As to soil I am not particular, but I am so as to the mode of cultivation. I and nearly all foreign strawberries need a different treatment to that which they require who are native, to the manner born. We require to be cultivated in hills—and few are aware of the reason why. Now the true cause is that we for the most part have an entirely different habit, possessing the capacity of forming an abundance of offshoots or crowns, which swell up, make new roots, and when the runners are checked become as it were a dozen plants in one, every crown throwing up one or more fruit stems. It is different with most of the natives. They do not succeed well under the treatment of the English varieties. If grown in hills, and the runners clipped, the plants do not extend by offshoots readily, the old plant becomes stumpy, and the result is rather a scanty supply of fruit stems. The Hovey's Seedling is of this character. Grown in hills it fails. The plants do not extend by offshoots or form numerous crowns. Yet cultivated in beds it will give a very large crop. The Austin Seedling is like it, so is McAvoy Superior.

Something has been said about fertilization, and this too is all important to some—to the Hovey particularly—and lastly with regard to the soil. This has a material effect. All the English sorts like a heavy, stiff, even clayey loam, on rather a dry subsoil, otherwise they winter badly, while the American kinds will produce best in lighter earths. I shall now close my remarks, and this meeting together, by the introduction of some important strangers:—

The Empress Eugénie. A remarkable strawberry, was awarded the first prize at the Great Show at the Crystal Palace in 1860. Fruit of a deep rich red, sweet and good, of the largest size, often weighing two ounces.

La Constante. A French strawberry. One of the largest, most beautiful and productive varieties yet introduced.

Wonderful. Fruit very large, and irregular form. Flesh, white, firm, sweet, perfumed and delicious. Continues long in bearing.

May, 1863.

PEACH TREES.

TO THE EDITOR.—Will you allow me to call attention to the peach. In many parts of the Province where no attempt is made to produce this delicious fruit it could very well be grown with a little extra care. I have by pinching kept two trees so small, as to be able to cover them with a large barrel, and they have endured the cold without injury. Let it be remembered that it is not the cold, however severe, which destroys the tree, but a warm sun shining on it, while yet frozen. I have had trees bear cold so low as 33 below zero, without injury, on the north-western side of a building.

Yours, C.

May, 1863.

CULTIVATION OF HERBS.

How is it that so little attention is given to these useful, pleasing, fragrant plants by those who labor to have a good garden. That they are generally overlooked we well know. There is no difficulty in their cultivation. The Dil, the Rue, the Lemon Thyme, the Rosemary and others may be grown with little trouble. The wicked King Ahab coveted the vineyard of Naboth that he might have it for a garden of herbs. Without desiring any approach to the unlawfulness of his wish, may we not think that you, reader, would be the better possessing, if not a garden, some little nook or corner of the garden sacred, to these unpretending, but not unprofitable little affairs. If you doubt their utility and beauty, enquire of some old dame, who for years has tested their excellence. She will tell you how good they are for many ordinary ailments, and how necessary to flavor and garnish many a dish for the table. For the nursery and for the kitchen, they are alike useful. Some are annual, others biennial and perennial, and the seed is easily had at almost any seedsman's store. Take my advice, reader, and grow them, and you will cease to regard them as unworthy of notice and mayhap in time learn to esteem them valuable as many an occupant of the gay parterre.

May, 1863.

Veterinary Department.

VERTIGO OR GIDDINESS IN SHEEP.

M. Reynal considers vertigo a disease of the nervous system occasioned by a worm—the *Ceraria cerebri*, (located in the brain) belonging to the *hydatid* family.

Lambs, from the age of two months, or from six to twelve months, become the subjects of it; and it rarely effects them after the age of fifteen months. The disease is apt to end in *atrophy*—wasting of the brain and spinal marrow.

In the rank of principal causes he places, first “Hereditariness.” Secondly—“Intercourse between the sexes too prematurely, especially the employment of a ram for *tupping*, not more than six or eight months old as is the practice in some parts of the country.

To Guard against the Disease.—“Put out of the breeding fold both males and females that are shown any signs of the disorder, and not bred from the ewes under the age of thirty months, nor from rams until they have attained their second year.”

And if there be any binding conclusions to be drawn from the influence of a first foundation or necessary ones, we ought to put away from the flock females who, though in apparent health themselves, have once produced diseased stock. *Translations from the French, by W. Perrell.*

LINSEED-TEA FOR SICK HORSES.

Linseed-tea is not only a valuable *restorative* for sick horses, but it is exceedingly useful in cases of inflammation of the membranes peculiar to the organs of respiration and digestion; it soothes and lubricates the same; tranquilizes the irritable state of the parts, and favors their healthy action. We have prescribed linseed-tea in large quantities during the past month, for horses labouring under the prevailing influenza, and seemed to derive much benefit from it, and generally drank it with avidity. Aside from the benefit we derived from the action of mucilage of flaxseed oil, which the seed contains, its nutritive elements are of some account, especially when applied to animals laboring under soreness in the jaws of deglutition, which incapacitates them from swallowing more solid food. In the event of an animal becoming prostrated by inability to masticate or swallow more food, linseed-tea may be resorted to, and in cases of irritable stomach, the addition of a little honey, makes it more useful. In the latter form, it may be applied to animals laboring under acute or chronic disease of the urinary apparatus, more especially of the kidneys.

Prepare Linseed-Tea.—Put a couple of handfuls of the seed into a bucket, and pour a quart and a half of boiling water upon it.

Cover it up a short time, then add a couple of quarts of cold water, when it will be fit for use—*Prairie Farmer.*

Miscellaneous.

NATURAL HISTORY IN HOME EDUCATION.

(From the Museum.)

But an intelligent parent might admit all these inferences, and might yet fairly ask, “Supposing that my child liked these studies, what good would they do him?” In other words, what are the results they might be expected to produce?

The first and most obvious is, that the bodily organs, by means of which we take cognizance of external objects, are trained to habits of activity, promptitude, and correctness. It is to these Mr. Wyse refers in his work on education reform, where he urges that they should, “as early as possible, be prepared for use. If not, when wanted, they will be found rusty or blunt. The education of the senses neglected, all after education partakes of a drowsiness, a haziness, an insufficiency which it is impossible to cure. Educated well, they give to all knowledge and virtue a positiveness, a firmness, a vivid freshness, such as makes the difference between waking and a dream.”

The second effect is the training of the perceptive faculties, by the aid of which we are enabled to compare, examine, and discriminate. The mental powers, no less than the muscles of the body, require to be exercised, otherwise they become feeble and languid; habituated to activity, they are at all time vigorous and fit for service. The faculty which natural history pursues brings into play, are not those which are called into action in the old routine of school education. It is the more desirable, therefore, that they should be systematically exercised, and brought into full and healthy action. If this be not done, if any portion of the mental constitution be allowed, through inaction, to lapse into feebleness, the whole mind is injured, the healthy action of all its powers is precluded.

From the combined action of the bodily senses and the mental faculties, comes the acquisition of knowledge. In the case of children, the amount of such knowledge is small, but it is good so far as it goes, and it prepares the way for better. It does not consist of hard names but of facts connected with the history, powers, properties, uses, or peculiarities of the plant or animal. Such knowledge is imbibed with pleasure and restrained with ease. Thus, for example, if children be taken in the month of June to some woody spot, when the woodruff or woodruffe, is in blossom, make them observe its snowy petals, and its whorl of bright green leaves, tell them the old rhyme which embodies

the antiquated manner of spelling the name, and gather a few of the blossoms, that they may, after becoming withered, emit their delightful fragrance. Let this be done, and three children out of four will remember the flower, call to mind its perfume and, on the next opportunity, will seek to call it, and to bring it home.

If we, in our intercourse with children, be content to communicate knowledge on one subject only at one time, and to make that clear, distinct, and intelligible, much will be gradually and insensibly acquired, and each little walk will become the medium of instruction, imparted without labour, and imbibed without irksomeness. Of the good effects of such rambles, I may venture to speak from my own experience. My children at times asked permission to bring with them some of their little playfellows; and thus it has often happened, that a very useful assemblage of interrogators bore me company on the sea shore, or in the little glens of a country excursion. Their questions I was often unable to answer, but, still, enough was imparted to make all desirous of another ramble, with the sharp look-out for specimens, the merry talk, and ever-varying incidents.

But the good effects of such teaching are not to be measured by the knowledge of actual facts so acquired. When once an interest is excited about the structure or habits of any animal or plant, the imagination is roused, and the child regards it with thoughts that are essentially poetic, though they may never find utterance in words. Thus if the lapping assume the movements of a wounded bird, to draw the intruder away from her nest; if the young ant cast off her transparent wings before entering on her domestic duties; if fragile gelatinous creatures light up the depths of ocean with phosphoric splendour, the mind does not rest on the simple fact, but traces out a thousand fanciful analogies. The bright things of earth, and the rich creations of fancy, are associated, and under their refining and elevating influence, the world can never appear "a pestilent congregation of vapours." In order to show that I do not over-estimate the value of this kind of teaching, I may quote the opinion of Mr. Wyse: "All that can still nourish the heart in the midst of this barrenness; which can still keep the fresh fountains of youth in our withering existence: which can bring even a portion of its life into our life; and not permit the world, worldly as it is, to be wholly desecrated to our sense; whatever can do this is a great and good gift to any human being, and at no time, and in few countries, greater or better than in our own."

The course of instruction here advocated should not only excite the imagination, it should penetrate the heart. The pleasure with which we contemplate the animal and vegetable world prompts us not wantonly to destroy or to injure that which we admire. A child tends and feeds a caterpillar, watches with amazement its transformations, and naturally feels reluctant to de-

stroy a creature so wonderful. The same feeling is at work with regard to other tribes, and thus practically enforces the duty of—humanity to animals.

From habitually beholding the wonders of animal and vegetable life, from having them associated with pure and glowing thoughts, and with feelings of humanity towards all the inferior creatures, the mind is easily led to contemplate them with reference to their Divine Original. "The lilies of the field" become in this way vested with new beauties, and even a child can understand how true it is "that Solomon in all his glory was not arrayed like one of these." While he lisps the simple prayer, "Give us this day our daily bread," it is not difficult to make the child comprehend that the same beneficent Being he addresses provides, by His good providence, the food of every creature that has life. The child thus instructed can enter in some degree into the spirit of the passage, "Behold the fowls of the air, for they sow not, neither do they reap, nor gather into barns; yet your heavenly Father feedeth them."—*Article: Natural History in Home Education.*

THE TALLOW TREE IN CHINA.—The tall tree, called by the Chinese, *Oo Ricou*, is of the height and appearance of a pear tree, with twisted branches and a large round head. The trunk is short and thick, and the bark smooth. The leaves are alternate and resemble those of the black poplar. The blossom is yellow but the most singular part of the tree is its fruit, which is enclosed in a husk like that of chestnut. As the fruit opens the husk opens itself, showing three white grains about the bigness of a filbert. These grains contain beautiful vegetable tallow so useful to the Chinese. The fruit of the tallow tree goes through nearly the same process as the seed of the oil-plant.

The machine by which it is bruised consists of a wheel moved backward and forward in the trunk of a tree, which is shaped like a cam, lined with iron, and fixed in the ground. The axis of the wheel is attached to a long pole which is laden with a heavy weight and suspended from a horizontal beam. The berries thus bruised and divided are exposed for a considerable time to the action of steam, when they become very soft, when they are quite thrown into layers of straw, covered up again with other layers of straw, and spread about equally as possible. Men do this with their feet; and as the berries are very hot, and, of course, warily trodden upon, the operation bears a striking resemblance to dancing. The appearance of a number of men gravely performing carefully evolutions on their toes, has been described as irresistibly ludicrous—particularly as it is unaccompanied by music; by this process large cakes are formed of the mingled grains and straw. The cakes thus formed afterwards pressed.

The tallow is hard and white, and has all the properties of that obtained from animals. Three pounds of vegetable oil are mixed with every ten pounds of the tallow, and a quantity of wax is used to give it consistence.

The best candles are also coated with wax. If properly prepared they burn almost without any smoke or disagreeable smell. It often happens that candles prepared with vegetable tallow burn with a great flame, throw out much smoke, and consume quickly; but this is attributed to a slovenly and dirty mode of preparation and to the nature of the wick, which is usually made of dry and light wood—not much unlike the wick of a rushlight. Candles made of this tallow by Europeans have been found very nearly equal to those made of wax.

The tallow tree is usually planted in extensive plains and in regular order, the leaves being either of a deep purple or a brilliant red, and the blossoms of a bright yellow; the contrast is said to have a very pleasing effect; and European travelers have described the groves of these trees as the most beautiful objects of a Chinese landscape. This tree has now been successfully acclimatized in Algeria—it requires care or watering.—*Scientific American.*

A DIMINUTIVE BREED OF CATTLE.—In the report of the Secretary of the Massachusetts State Board of Agriculture for 1862, Mr. Flint gives the following description of the cows of Brittany, a province in the north of France, as observed by him at the International Exhibition in London last summer.

"The little Bretaine cows pleased me exceedingly. Standing only about three feet high on their legs—the most fashionable height, most black and white, now and then, but rarely, a band white; they are as docile as kittens, and look pretty enough to become the kitchen maids of the hard pressed mountain or hillside farmer, with pastures too short for a grosser animal. Ten pounds of hay will suffice for their limited wants for twenty-four hours, and they would evidently fill a seven quart pail as well as black and as long as any other cow."

"These pretty cows will often hold out in the winter, so the herdsmen said, from fifteen to twenty months after calving, and often begin to calve the first calf with six or seven quarts of milk. The horn is fine, not unlike the Jerseys, but smaller and tapering off gradually, and the patches of milk marks of Guenon generally of good color. Good cows are held from sixty to eighty dollars ahead, a fancy price of course, but I am not sure that they would not pay six per cent, on the investment as well as most other stocks."

Mr. McGruer, of Lancaster, C. W., sent a number of oars to the International Exhibition at Philadelphia, and as one direct result of doing so he has received an order for 2,000 pairs of oars, to be shipped on the opening of navigation.

GROWTH OF TIMBER?—It is a singular fact that what were vast treeless prairies in Illinois, twelve years ago, are now covered with a dense growth of thrifty young forest trees, comprising various species of oak, hickory, cottonwood, ash, &c.; so rapid has been this change in many localities, that where some of the early settlers located, twenty to twenty-five years ago, without a tree around them, they can now cut and hew good building timber a foot square. Prairie land, when kept from the annual fall burning formerly practiced by the Indians, rapidly produces a growth of trees. Some of the old citizens, who greedily located the timber land when they came to this country, and were careless about acquiring prairie, now find the latter of more value than the former; their timber has grown faster than they used it.

WHAT BECOMES OF THE SILVER?—It has long been known that vast quantities of silver have for centuries been carried to India, and that there it disappeared out of the circulation of the world like pebbles down a cavern. It is said that in the last twenty five years \$550,000,000 have been sent thither, of which \$450,000,000 have thus disappeared. No probable reason has ever been discovered for this mystery, except the ancient Asiatic custom of burying specie and jewelry in the ground.

EFFECTS OF EATING BETWEEN MEALS.—Among the many slight causes of impaired digestion is to be reckoned the very general disregard of eating between meals. The powerful digestion of the growing boy makes light of all such irregularities; but to see adults, and often those by no means in robust health, eating muffins, buttered toast, or bread and butter, a couple of hours after a heavy dinner, is a distressing spectacle to the physiologist. It takes at least four hours to digest a dinner; during that period the stomach should be allowed repose. A little tea or any other liquid is beneficial rather than otherwise, but solid food is a mere encumbrance. There is no gastric juice ready to digest it; and if any reader, having at all a delicate digestion, will attend to his sensations after eating muffins or toast at tea, unless his dinner has had time to digest, he will need no sentences of explanation to convince him of the serious error prevalent in English families of making tea a light meal, quickly succeeding a substantial dinner. Regularity in the hours of eating is far from necessary; but regularity of intervals is of primary importance. It matters little at what hour you lunch or dine, provided you allow the proper intervals to elapse between breakfast and luncheon and between luncheon and dinner. What are those intervals? This is a question each must settle for himself. Much depends on the amount eaten at each meal, much also on the rapidity with which each person digests. Less than four hours should never be allowed after a heavy meal of meat. Five

hours is about the average for men in active work. But those who dine late—at six or seven,—should never take food again until breakfast next day, unless they have been at the theatre, or dancing, or exerting themselves in Parliament in which case a light supper is requisite.—*Lewis's Physiology of Common Life.*

Editorial Notices, &c.

SUPER-PHOSPHATE OF LIME.

We learn that Messrs Fleming & Co., seedsmen of this City, have been appointed Agents for Coe's SUPER PHOSPHATE OF LIME, manufactured in Montreal. The testimonials of parties who have used this article, are numerous and satisfactory. Super-Phosphate of lime has of late years been very extensively employed as a manure, both for farm and garden crops. Price \$50 per ton, or in single barrels at the same rate.

CORRECTION—BUTTER MAKING.—In the article in our number of April last, on the Canadian Butter Trade, communicated by a correspondent from Leith, Scotland, we find that a typographical error occurred in regard to the quantity of sugar and nitre to be used in Butter curing, which error we now desire to correct.

The proper quantity of salt &c., &c., for every 100 lbs. of fresh butter is as follows; $3\frac{1}{2}$ lbs to 4 lbs of fine grained salt, 6 ounces of fine pounded sugar and 2 oz nitre (well pounded.) These should be minutely mixed together before curing.

THE BRITISH AMERICAN: a monthly Magazine, devoted to Literature, Science and Art, No. 1. Toronto: Rollo & Adam. May 1863.

We have here the first number of a purely Canadian Magazine, which will, judging from the literary execution of its varied articles, not fail, we trust, to gain a respectable standing among similar productions not only on this continent but also in the mother country. Professor Hind is the general editor, and the present number contains two very interesting papers from his able pen; North West British America, and sketches of Indian life, comprising salmon-spearing in Labrador, by torchlight. Among the articles which will be read with more than ordinary interest by Canadians may be mentioned the following: My Cousin Tom; A Sketch from Life, by Mrs. Moodie; Early

Notices of Toronto, by Rev. Dr. Scadding; Holiday Musings of a Worker, by Mrs. Howell; Flowers, and their Moral Teachings, by the authoress of the "Backwoods of Canada"; Insect Life in Canada, by Rev. Charles Bethune, M. A.—with two elaborate articles: The Bank of Credit Foncier; and the Post Office and the Railway.

The "getting up" of this number, consisting of 112 clearly printed pages, is exceedingly creditable, and we trust that the enterprise will receive an amount of public support that will remunerate the proprietor for his necessary heavy outlay, and ensure the continuance of the work, which, if carried on as it is begun, will reflect honor on Canada. All who feel interested in sustaining and diffusing the spirit of British institutions, and a native literature in these western parts of the Empire, should be this truly laudable undertaking by at once becoming subscribers. Terms, \$3 per annum with a liberal discount to the trade.

EDINBURGH REVIEW, April, 1863.

BLACKWOOD'S MAGAZINE, April 1863: Leona Scott & Co., New York.

We have received, through Mr. Rowsell, this city, the above reprints of these old celebrated British periodicals, which, with the Quarterly, Westminster and North British, Messrs. Scott bring out with great regularity and dispatch; and at a price which places the invaluable serials within the reach of all on this side the Atlantic who feel interested in the progress of literature, science, and the political civilization of the world. The *Edinburgh* contains nine articles, more or less elaborate: Kinglake's Invasion of the Crimea; The Black Country, (British Coal Fields); India un-Canning; The Bible and the Church; Professor Huxley on Man's place in Nature; and the Greek Revolution, will be found exceedingly interesting to general readers. *Blackwood* continues to maintain his undoubted literary ascendancy, and the articles of the current number are of the same high order as usually characterize this long established and world-renowned Magazine.

THE HORTICULTURIST: Mead & Woodcock 37 Park Row, New York.

The May number of this old established periodical is, as usual, replete with interest.

useful articles on subjects relating to Horticulture, and Rural Art and taste. No Horticulturist, professional or amateur, can afford to be without it. Price, \$2 per annum.

THE GARDENER'S MONTHLY: *W.G.P. Brinckle, Philadelphia, and C. M. Saxton, New York.*

This excellent serial continues to pursue the tenor of its way. The May number contains a variety of papers on subjects of seasonal interest to all lovers of a garden. It has several illustrations. It is refreshing to see works of this character so well sustained in the advancing republic in the midst of appalling national troubles, which, thank God, cannot obliterate the love of the pure and the beautiful from the human heart. Price, \$1 50 a year.

TORONTO MARKET PRICES.

TORONTO, MAY 23, 1863.

Wheat, per bushel.....	\$0 85 to \$0 95
Spring Wheat, ".....	80 " 87
Barley, ".....	60 " 70
Oats, ".....	55 " 60
Hay, ".....	45 " 50
Straw, ".....	56 " 60
Butter, per 100 lbs.,.....	5 00 " 6 00
" ".....	4 00 " 5 00
" ".....	4 00 " 4 50
Apples, per bushel.....	50 " 65
Pears, per barrel.....	1 50 " 1 00
Pumpkins, per bushel.....	16 " 20
Fresh Butter, per lb.,.....	15 " 20
Old Butter, ".....	12 1/2 " 15
Eggs, per doz.....	7 " 10
Chickens, ".....	40 " 60
Geese, per ton.....	18 00 " 23 00
Ducks, ".....	10 00 " 15 00
Bees, per 100 lbs.....	4 50 " 5 00
Hides, per lb.....	8 " 9
Seal-skins, each.....	1 50 " 2 00
Wool, per lb.....	30 " 32
Turnip Seed, per bushel.....	3 75 " 4 00
Mustard Seed ".....	2 00 " 2 50
Wheat of Paris, per barrel ..	95 " 1 00

THOROUGH-BRED SHORT HORN FOR SALE.

MORETON DUKE, got by Mr. Stone's Bull 3rd Grand Duke, 2292, calved 9th June, 1860.

William of Oxford, got by Mr. Stone's Bull 12th Duke of Oxford, calved 19th November 1859.

David, got by Sir Charles, a son of 3rd Grand Duke, calved 1st March 1861.

Marquis of Oxford, got by William of Oxford, calved 20th March 1863.

Warwick, got by Moreton Duke, calved 26th March 1863.

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April, 1863.

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All orders to be addressed to the Secretary of the Board of Agriculture, Toronto.

BOARD OF AGRICULTURE OFFICES.

Toronto, December, 1862.

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