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**The Field**

**Thistle Seedlings.**

It will be seen by the following extract and accompanying illustration that an error somewhat prevalent in this country, and which has repeatedly been combatted in the *CANADA FARMER*, has not yet been rooted out of the old country. Our correspondent, "Publicola," will be pleased to see a confirmation of the lesson he has more than once sought to inculcate on his brother farmers, in the following communication and editorial remarks from the *Agricultural Gazette*:—

"There is a very strong opinion existing, not only here but all over England, among many intelligent and practical men, that the common corn or way-side thistle will not grow from seed, or rather that it does not produce seed. As to myself, I am satisfied that it produces seed and that its seed will grow. Any one doubtful on that head could not do better than try the experiment at once by sowing in a flower-pot, or anything at hand, as the seeds this autumn are, I find, well ripened and numerous, and I think some fine specimens are not rare. The very hot summer has seeded abundantly sainfoins, Lucerne, &c., besides weeds of all sorts."

"In response to the above suggestive letter, and in reply to several similar questions recently received, we re-produce some illustrations of experiments which we made nine years ago. These were given in the *Agricultural Gazette* of Aug. 25, 1860. On the 2nd September, 1859, ten recently-gathered seeds of the common field Thistle (*Carduus Arvensis*) were sown. By the 21st, or at the end of nineteen days, all the seeds had not only come up, but advanced to the condition shown in Fig. 1. After the first frost, the whole of the plants had apparently died, as spring came on, however, they were making roots and buds. Figures 2a and 2b show two stages of this progress; the buds bb are the growing points of

the plant, by which its multiplication by secondary buds, a a, is brought about. Figure 3 shows how one of the plants advanced between February 27th and June 28th, the time when our last drawing was made. In this the secondary bud had grown up to a large prickly, but abortive bud, while preparation was made in the tertiary buds—a, a, a, in Figure 3—for a complete plantation of Thistles."

**The Wheat Crops of East Lothian.**

To the Editor of THE CANADA FARMER :

SIR,—In your issue of July 15 there appears an article on "British versus American Farming," in which there is an extract from the *Farmer* (Scot-

cultural sinners," to whom you direct your homily, as you would have us believe.

In 1857, the latest year in which the crop statistics were taken in Scotland, the average wheat crop of East Lothian is given at twenty-six bushels and two and a half pecks per acre. In 1856 it was given at twenty-eight bushels and three pecks per acre; which, taking the average of the two years, gives about twenty-seven and a half bushels as the average wheat crop of that county.

In reading your article one would think that most of the farmers had such magnificent crops. But let us see with the average as above how the matter stands. I believe that there are about twenty thousand acres under wheat in the county in

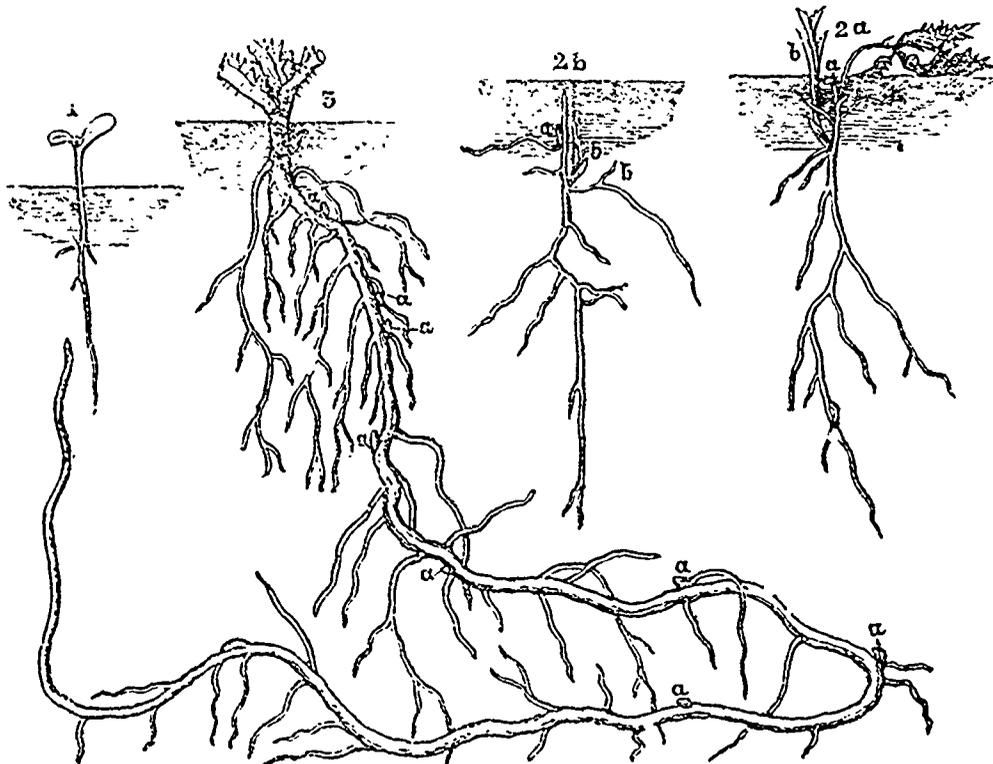
question. Now suppose we allow seven thousand of these acres to yield say fifty-five bushels per acre—equal to three hundred and eighty-five thousand bushels—(while the whole twenty-thousand acres, at the average of twenty-seven and a half, would give five hundred and fifty thousand)—leaving the other thirteen thousand acres to yield one hundred and seventy-five thousand bushels, or about thirteen and a half bushels to the acre, so that is it easily seen how far they are ahead of the "careless agricultural sinners" of Canada.

I never was in East Lothian, but know that it is always looked upon as one of the best farmed counties in Scotland—the one indeed in which improved agriculture took its first rise in that country, and I certainly

wish that their crops may never be less; but I suspect the *Farmer* was stretching them a little when he would make us believe their wheat generally yielded fifty or sixty bushels to the acre.

I can hardly agree with your own views at the close of the article, as my opinion is that the East Lothian farmers are far less subject to having their wheat crops winter-killed or seriously damaged by insects, and these I consider are about the greatest draw-back to the growth of fall wheat that the "careless agricultural sinners" in Canada have to contend with.

W. R.  
Cobourg, Sept. 12, 1868.



of this progress; the buds bb are the growing points of

(ish) that says. "The East Lothian farmer, who can enjoy the pleasure and deep satisfaction of viewing the level field of fall-eared wheat swaying in the undulated waves beneath a bright sun, giving to the grain a last golden tinge before the reaper enters on its clattering work, can almost to a nicety tell you that he will 'rush from that field his fifty or sixty bushels an acre.'" Now, sir if such is the case if some of the East Lothian farmers can look down on such magnificent crops, there must be others of them that have to look down on wheat crops very much less—indeed, not so far ahead of the "careless agri-

Farm Weights and Measures.

At the request of a correspondent, we subjoin the rules for measuring various agricultural commodities in the bulk, also for measuring land, and the standard weights of the principal grains, &c. The information thus condensed may have appeared at different times in former numbers of this journal, but, as our correspondent suggests, it will be convenient for many farmers to have it collected in a convenient form for reference. With regard to some of the matters, no infallible rule can be given, and much is necessarily left to the judgment. In such cases as estimating the weight of cattle by measurement, for instance, the results are not always correct, and it is by the practised eye and experienced judgment, rather than by any arithmetical calculation, that the most successful drovers and butchers form their opinions and regulate their operations.

TO MEASURE LAND.

To find the area of a square or oblong piece of land, measure the length and breadth in rods (16 1/2 ft.); multiply the two together, and divide the product by 160, which will give the number of acres in the lot. If the shape of the land be triangular, with one corner square, to use a common expression, proceed as above, and take one-half the product as the area of the triangle. In measuring irregular fields, divide the space into parallelograms and triangles, ascertain the area of each, and the sum of the whole will give the total area.

The following rules also embrace a large number of the cases requiring surface or land measure.

To find the area of a triangle.—Multiply the base by half the altitude, and the product will be the area. By the altitude is meant a line from one angle drawn perpendicular to the opposite side as a base.

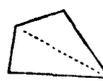


To find the area of a parallelogram.—(A four-sided figure with opposite sides parallel.)—Multiply the base by the altitude, and the product will be the area. By the altitude, in this instance, is meant the perpendicular distance between any two opposite sides.

To find the area of a trapezoid.—(A four-sided figure with only two sides parallel.)—Multiply half the sum of the parallel sides by the altitude, and the product is the area.



To find the area of a Trapezium.—(A four-sided figure which has no two sides parallel.)—Divide the trapezium into two triangles by a diagonal, or line drawn between two opposite angles; then find the areas of these triangles; the sum will be the area of the trapezium.



The following table, clipped from the New England Farmer, will be found very convenient for ascertaining the area of small square or oblong plots of land. The larger figures on the margin and diagonal, represent the measurement in feet, as taken on the ground. The area given in smaller figures is expressed in square rods by the upper number, and in acres by the lower number.

There are two tables given below, having no connection with each other, except that the darker figures in the lower are in continuation of those in the upper at corresponding intervals. In the first table the width of the piece of land, expressed in feet, must be looked for in the diagonal row of darker figures, the length in the horizontal row of darker figures at the top. In the second table the width must be looked for in the diagonal row of darker figures, and the length in the vertical column of darker figures at the left. The area will be found below the one and opposite the other.

To illustrate the use of the table:—Suppose we wish to know the contents in rods and in acres of a piece of land 140 feet long by eighty feet wide. We look in the upper table for 140 in the top row of dark figures, and find it at the top of the last column but one. Following that column down opposite to 80 in the upper diagonal row of dark figures, and we find it contains 41.14 square rods, or .2571 acres. Suppose we have another piece just twice as long and twice as wide; we look in the lower table for the length, 280 feet, in the vertical column of dark figures, and for the width, 160 feet, in the lower diagonal row, and find them at the head of the second column; then following that column down opposite 280, we find the area to be 164.55 rods, or 1.065 acres.

TO MEASURE HAY IN THE STACK OR MOW.

If it be a square or oblong stack, with a pitched roof, measure the height in feet from the base to the eaves, add to this half the height from the eaves to the ridge, to find the mean height; multiply the height by the breadth, and the product by the length. Divide the gross product by 27, and the quotient will be the number of cubic yards in the stack. The estimate of the total weight must depend upon the supposed weight of a cubic yard; this will necessarily vary according to the time allowed for the stack to settle. In an old stack the hay is much more compact than in one recently built. A pretty correct estimate will be gained by allowing 85lbs. to the cubic yard in the new stack, and 100lbs. in one that has stood a few months, and 112lbs. if it has stood more than a year. To ascertain the weight of hay in the stack, multiply the number of cubic yards by the number of pounds allowed, and the product will give the contents of the stack in pounds; divide by 2,000, and the quotient will give the number of tons. To ascertain the weight of hay in a round stack with a conical top, find the height to the eaves, and add one-third of the remainder to obtain the mean height of the whole. Measure the girth; square this dimension (that is, multiply it by itself), and multiply the product by the decimal .0795. This will give the area of the base. Multiply the area by the mean height, and the product will be the contents of the stack, in cubic feet, divide by twenty-seven and we obtain the number of cubic yards. Multiply this as before, by the number of pounds allowed to the yard, and the product will give the gross weight in pounds. To estimate the contents of a mow where the top surface of the hay is level, the process is the same as with the square stack, or rick, omitting the allowance for the sloping roof.

TO MEASURE GRAIN IN THE BIN.

Multiply the length by the width, and their product by the height in inches; divide by 2,150 (the number of square inches in a bushel), and the product will give the number of bushels in the bin.

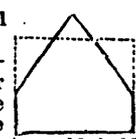
TO MEASURE CORN IN THE CRIB.

Measure the length, width, and depth of the crib in feet; multiply these three dimensions together, and the product by 4; cut off the last right hand figure; those to the left express the number of bushels of unshelled corn. If measured in inches multiply the three dimensions together, and divide the product by 4,300; the quotient will be the number of bushels.

TO MEASURE ROOTS IN THE PIT OR ROOT-HOUSE.

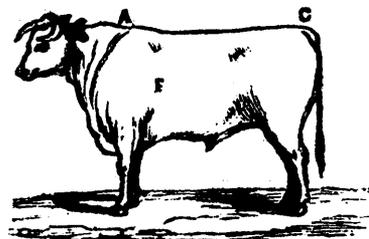
To estimate the quantity of potatoes, turnips, or other roots in a pit, or bin, or root-house, ascertain the cubic dimensions, either in inches or feet, as in the case of small grain or corn, making allowance for the slope of the ridge by measuring only half the height, or so much of it as would be required to level the top and have a solid cubic heap:

Of the amount estimated as for small grain take three-quarters, which will give the quantity of roots; or if measured in feet according to the rule for corn in the crib, add one-half the amount, and the sum will be the quantity of roots. Thus a space that would hold twenty bushels of corn in the ear, would hold thirty bushels of roots, and forty of grain.



TO ESTIMATE THE WEIGHT OF CATTLE BY MEASUREMENT.

In making use of the following rules, the regularity of the shape and the condition of the animal must be taken into account. A deduction must be made if the flank is poor, and something over may be allowed in the case of very fat cattle. The mode prescribed will be more readily understood by the aid of the accompanying figure:



Measure, with a tape line, from the top of the shoulder c, to the tail head o, and mark this for the length; then measure round the body at f, immediately behind the shoulder, and mark this for the girth. Multiply the square of the girth in inches by the length in inches, and divide the product by 7,344, and the quotient is the weight in imperial stones (eight pounds). Or, square the girth in feet, and multiply it by the length in feet; multiply again by the decimal .238, and the sum is the weight in imperial stones.

Table of Measures of Land: A large grid with columns for length (1st to 150) and rows for width (10 to 310). The table contains numerical values for area in square rods and acres.

TABLE OF MEASURES OF LAND.

STANDARD WEIGHTS OF THE BUSHEL

The following table shows the standard weight of the bushel of various and other agricultural products:

CEREALS	WEIGHT	UNIT	WEIGHT
Wheat	60	Potatoes	60
Corn	56	Turnips	60
Rye	48	Carrots	60
Barley	48	Beets	60
Oats	34	Onions	60
Peas	48	Green Apples	35
Beans	48	Red Apples	35
Buckwheat	48	Malting	58
Clover Seed	48	Salt	58
Timothy "	48		
Blue Grass Seed	48		
Flax	44		
Hemp	44		

Rust in Wheat.

An elaborate report on the occurrence of rust in wheat, and other diseases, has been published by a commission appointed for the purpose in Australia. In reference to the document the *Mark Lane Express* has the following notice.

The enquiry into the nature and causes of the red rust, by the Commission appointed for the purpose by the Governor of South Australia, has elicited a vast fund of information from the collected report of eight hundred agriculturists, and, although the statements are in many respects very contradictory, the committee was enabled from them to obtain general results, which, while they showed the fallacy of the opinions advanced, established the fact that no condition of soil or climate is free from its ravages, nor will any precautions taken by the farmer prevent these. "The rust-spores," says Dr. Muecke, "are located and spread over the whole world; neither oceans nor mountains will stop them. They do not commence to grow and multiply until they meet the circumstances favourable to their existence and nourishment." The following statement is given in the report as the evidence collected by a member of the Legislative Council:

- The red rust is caused by—
1. By the exhaustion of the soil.
  2. By late sowing.
  3. By manure.
  4. White ash on the soil.
- Red rust also prevails—
1. On lowly cultivated lands.
  2. By early sowing.
  3. Manure prevented.
  4. Heavy straw is the best.

Such are the contrary opinions—doubtless all adopted from observation and experience; but only proving that other influences than those adduced have operated, and will constantly operate, to neutralize general theories on this and many other subjects of natural history; more especially those relating to endemic and epidemic disease, in either the animal or vegetable economy. There is not a doubt that climatic conditions have the greatest share in the production of the red rust. A moist, warm season causes a florid development of vegetation, and opens the breathing pores of the plant, and so gives passages to the spores of the parasites which are continually held suspended in the air. These, entering the openings thus left, throw out their rootlets (*mycelia*), and by intercepting the sap between the stem and ear, impoverish the grain and destroy the crop. Dr. Muecke is of the opinion that the red rust never attacks the wheat plant unless it is otherwise diseased in fact, that it is an effect and not a cause, or at least, a second, rather than a first cause, being itself superinduced by the corrupted state of the juices of the plant. "Where the rust destroys," he says, "we may safely infer that the plants were in a suffering state before they were attacked. Nature does not allow morbidness to exist." "The red rust has not destroyed our crops; it has merely furnished the eruption thereto." "But, on the other hand," he says further, "it is equally true that on vast surfaces the red rust has been the main cause of the destruction of plants in regard to the formation of the grain." A remarkable case in proof of this theory is stated in his letter. Part of a field of wheat in which wild oats had prevented the wheat from growing was cut for hay. Immediately the wheat sprung up healthy and vigorous, and developed full ears and fully grown grains; not a particle of rust was perceptible on these parts of the field, whilst the surrounding thick and high wheat was completely covered with it. The cause assigned is, that the wheat, in the one instance, did not grow till the time was past in which the influences supervened that predisposed the plants; consequently they became strong and healthy. While the red rust spores passed over them they were not infected, because the spores did not find the conditions of their existence—that is, diseased sap and weak cells—upon them. This is clear enough; because, surrounded as these mown spots must have been by the wheat on which the rust prevailed, the former could not have escaped if the same conditions had prevailed in them as in the other.

Salt for Crops.

A SUBSCRIBER sends us the following clipping from the *Wisconsin Herald*, with a request that we would publish it in this journal:

"I have been reading with very great interest the account of the Proceedings of the Chemical Department," given by Dr. Anderson, in the Transactions of the Highland Agricultural Society of Scotland of February last, and I wish to state what that account has suggested to me. The account is devoted chiefly to field experiments, under the auspices of the Highland Society, in various districts, for determining the comparative effects of different manures in the production of turnips.

1. It appears from the account that in several plots drought delayed or prevented a general blaird, so as to make the experiments unsatisfactory, and not sufficient for affording beneficial deductions. Why not endeavour to secure a blaird by salting the land, and thus attracting moisture from the atmosphere? My turnips were sown this season when the land was utterly dry. The blaird came quickly and without a manure, and the plants continue growing rapidly with rich glistening blades. The land, just before being drilled, was sown over with salt at the rate of good twelve cwt per imperial acre. Years ago I commenced with four cwt., and the quantity of salt has been increased year after year, till this season it amounted to fully twelve cwt.

2. It appears further that finger-and-toe interfered with results, so as to render comparison all but valueless. Why not have it as a condition that the land should be well dressed with hot lime? I have had no finger-and-toe since I adopted this practice.

The salting of the experimental ground would ensure a blaird, and the liming of it would prevent finger-and-toe; and the application of both would affect the experiments favourably, inasmuch as there would then be sound turnips to test the virtues of the several manures. But I believe that a proper quantity of salt is itself a preventive. My turnips are past the stage for finger-and-toe, and although the land has not been limed, they are not affected with the disease.

In the garden the results from "salt" and "no salt" are worthy of notice.

1. No salt. The turnips quite a failure.
2. Salt. The swedes and turnips alike excellent. Part of the turnips got a double quantity, and they are twice as forward as the others, good as these are. I may mention that, in this instance, the salt was not mixed with the soil, but scattered on the surface immediately after the seed was sown. The quantity was at the rate of about four cwt. per acre, except where the swedes are best, which got at the rate of about eight cwt.

3. In this garden hitherto there never was raised anything like a crop of carrots or leeks. The soil and not the treatment of it was blamed. It is a heavy soil. This season, when the ground was, according to the practice of former years, ready to be manured and seeded, I had it salted and dug over. Farmyard manure was then spread over it, salt scattered over the manure, and the whole dug in Parsnip, carrot, leek, and onion seeds were then sown on several plots, and the result is that each crop is as rich as could be desired, to the astonishment of those who had long known the garden. I should state that one plot of carrot ground was not salted, and the result is that of former years—not the fourth of a crop. This has been interplanted with transplants from the swede ground, and when the transplants stand up coarse salt will be spread between the rows, care being taken not to touch the plants with salt.

I may mention that between the rows of my field cabbages salt was put on at the rate of fully twelve cwt. per imperial acre, and they are doing remarkably well; and that as soon as my potatoes were planted and covered, salt was sown across the drills at the same rate per acre. These are a fine crop, with good stems and dark glossy leaves.

When I think of the severe loss occasioned by the "worming" of oat crops, I am led to remark that my crops never suffer from this destructive plague. Salt, at the rate of four cwt. per acre, is broadcast immediately after the sowing of the oat seed, and harrowed in; or if that has not been done on account of rain, and if "worming" appear, salt is applied without delay to the "worming" parts, and the "worming" at once ceases, but the crop is generally better on these parts than on the rest of the field where salt had not been sown."

A Large Yield.

To the Editor of THE CANADA FARMER:

Sir,—Thinking it might not be uninteresting to your agricultural readers to know something of the crops their fellow-farmers are raising, I send you the subjoined account of the quantity produced this harvest and last, from a single field situated on Lot 33, 2nd Range, in the township of Pickering.

From this field, containing 11 acres, I raised, this year, 560 bushels 45 lbs of barley,—lacking only 3 lbs. of making an average of 51 bushels per acre.—some 480 bushels of which were sold to Mr. White side, of Frenchman's Bay, at 96½ cents per bushel, the remainder being kept for seed for the ensuing year, and other purposes. But taking the whole quantity at this price, and the entire value of the crop nets \$511 30. The quality of the grain may best be estimated from the fact that 46½ lbs. was the average weight of each bushel by measurement.

The same field was under spring wheat last year, and produced 385 bushels, or an average of 35 bushels per acre. The price realized was \$1 63 per bushel, and consequently the whole crop was worth \$627 53.

We often hear it said that farming in Canada does not pay, and that people in Canada had better not invest their money in real estate, as the return realized from the crops scarcely rewards the husbandman for the labour of tilling and reaping; but \$1,168 85 ought surely to be enough to pay well for the cultivation of 11 acres for two years, and still leave a large margin of "clear gain," much larger, in your correspondent's humble opinion, than can be obtained from any other investment equally safe.

WILLIAM COWAN.

Improvement of Worn-out Lands with Grass and Clover.

A correspondent of the *New York Times* writes to that paper as follows:

I will tell my experience on a poor farm in Rhode Island, of 150 acres, and too poor to keep a yoke of oxen, one cow and one horse in good condition. This farm was worth at that time about \$4,000 or \$5,000. But a new man came along who thought he could raise grass where none grew before. He tried, with perfect success every time; so that in a few years he kept about fifty head of cattle, mostly cows, on the place, and sold annually as many tons of hay.

The *modus operandi* was this:

1. Plough the land.
2. Harrow.
3. Spread 200 bushels ashes per acre.
4. Harrow.
5. Sow millet and clover.
6. Harrow.
7. Roll.

8. Cut half ton of millet to the acre in six weeks from sowing time, enough to pay expenses first year. He then had a good stand of clover, which was cut twice the two years. The next year he ploughed under the clover, harrowed, applied fifty bushels ashes to the acre, harrowed it in, again sowed millet and clover, harrowed and gave it a good rolling. In six weeks he had a good growth of millet, say two tons per acre, and another good stand of clover. The next year he cut two crops of clover again. The next year he turned under the clover, applied his barn-yard compost of manure and cow manure, which he had been four years preparing, and raised eighty bushels shelled corn per acre. on land that, before he commenced, was called barren, and land that the neighbours said, when he was applying the ashes, was not worth, ashes and all, after it was mixed, what the ashes cost.

Now, there are a great many inquiries about how to raise clover. This man never failed; he never thought of it, and never dreamed of it, and never knew any failure. He had a system in his head (for he did not get it from books) which he carried out like "clock work," and his farm was beautiful to look at. He said the land was not fit for manure, so he took four years to get it ready.

He thought ashes would produce millet and clover, and millet would protect the young clover from the scorching sun until it would need no protection.

The harrowing and rolling were indispensable. He commenced in May, and sowed millet and clover every day as fast as the land was ready, for two or three months, and knew no such word as fail.

## Stock Department.

### Digestion.

ALL the functions of the living body are most intimately connected with each other, and the relations they mutually bear must be borne in mind, in order fully to understand any one of them. This reciprocal dependence is clearly manifest in those vital processes that have already been briefly described in former numbers of this journal—in those, namely, of the circulation of the blood, the breathing, and the temperature of the body. Closely related to these is the important function of digestion—which comes next under consideration. This is the prime agent in supplying the waste of the system, resulting from those constant and active changes that are going on in all living bodies during the continuance of life.

By digestion is meant not merely the process that is carried on within the stomach, but all the series of operations by which the crude material taken as food becomes gradually converted into blood,—the fluid that is more immediately concerned in repairing the loss and disintegration of the tissues. We will first give a brief summary of the various stages in this process, and afterwards consider them in detail.

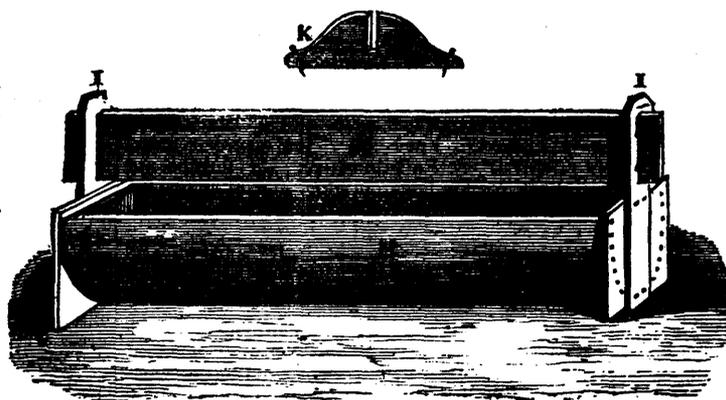
In the first place, then, the food is taken into the mouth, and more or less divided and crushed by mastication. This preliminary operation is more requisite in some cases than in others; accordingly we observe considerable and well-marked diversities in the apparatus employed, corresponding to the nature of the food, and the wants of the animal. Indeed the exact adaptation of the teeth to the peculiarities of various animals is so well defined and constant, as to afford the readiest and most reliable index to their general habits and structure, and has become, therefore, an important basis in all systems of zoology, for the classification of animals. The food, after being subjected to the action of the teeth and of certain secretions in the mouth, passes into the stomach, where it is acted on by a powerful solvent—the gastric juice—and is softened and partially dissolved, so as to be reduced to a pulpy mass, which receives the name of *chyme*. In some vegetable feeders, the food, before being submitted to the action of the gastric juice in the stomach proper, is returned to the mouth and re-masticated—a process familiarly known as chewing the cud. Next, the *chyme* passes into the intestines, where it is further acted on by various secretions, is more completely dissolved, the indigestible and effete matters separated, and the nutritive and soluble portion at length reduced to a milky fluid, which receives the name of *chyle*. This is taken up from the intestines by certain absorbent tubes, called, from the colour and character of their contents, *lacteal vessels*. The *chyle* bears a close resemblance to blood, in many particulars, and may be regarded as the last stage in the conversion of crude food into that fluid. The intestinal tube varies greatly in length in different animals, being longer or shorter according as the food more or less approximates to animal tissues. For example, it is shortest of all in those who live on the blood of other animals, and longest in those who feed on grasses and vegetable materials, the nutritive elements of which are least concentrated. It is comparatively short in exclusively carnivorous creatures, and of medium length in those whose diet is of a mixed nature, as in man.

The consideration of the first process of mastication, including the structure, growth, and peculiarities of the teeth, a subject of much interest and importance, as it will require the aid of illustrations, and would extend this paper to inconvenient length, must be deferred to the next article in this physiological series.

## Sheep Farming in Turkey.

THE British consul at Adrianople gives some interesting details of the sheep and goat farming in that vilayet. He gives the number of sheep at 4,512,000, and of goats at 778,000, the tax on which, at the rate of four piastres each, yielded £171,297 in 1867. Nevertheless it is estimated that 20 per cent. profit is obtained by sheep husbandry. The tax produced £10,596 more in the year 1867 than in the previous year, and for the last ten years there appears to have been a steady increase in the number of sheep. The peculiarity of the shepherd's work in this district is the process of milking the sheep and the goats, large quantities of butter and cheese being made from the milk of these animals and sent into Constantinople, whence also the sheep and lambs are sent from the district or vilayet of Adrianople for local consumption. The total cost of a flock consisting of 1,800 ewes, 150 rams and 50 goats, is stated to be 90,500 piastres, the cost of keep, &c., being 31,000 piastres, and the total value of produce, exclusive of the skins, 56,910 piastres—112 piastres being equal to the £1 sterling. There is an active market for the skins of the lambs and goats, which are salted and packed for the French and English market.

The two prominent breeds, which are considered by the natives as distinctly local, are the Kavirjik, which bear some affinity to the demi-Merinos, and the Karabash, which are black-faced, and not unlike the sheep in Macedonia and Thessaly. The wool of the former is most esteemed, being long, soft, and elastic, and twisted in ringlets, which gives the name to the breed.—*London Field*.



### Feeding Trough.

WE copy from the *American Agriculturist* the following description and the above cut of a convenient feeding trough for hogs and sheep.

Sheep and hogs will put their feet into the troughs if they can. They will even stand and lie in them, and defile them in every possible way. This may be prevented by various means, but we think that no one has suggested a simpler remedy than Mr. Jacob Nixon, of Van Buren Co., Iowa, who sends us a sketch and description of an appliance he has put upon his troughs, which is seen in the accompanying engraving. Neither hog nor sheep can feed from such a trough with both fore feet in at once, and it would be difficult for any but a very young animal to stand or lie in the trough. The improvement consists of a board set up edgewise, lengthwise over the middle of the trough, kept in place by standards at the ends, and a brace, if necessary, in the middle. The trough, *H*, is represented as ten inches high and twenty inches wide; the standards, *I I*, are inch boards, four inches wide, and the board, *J*, over the trough is of inch stuff, eight inches wide. If the trough is more than ten feet long, a brace, *K*, is needed; otherwise not. This contrivance is equally applicable to log (dug out) or plank troughs.

The filthy condition which pig troughs especially are often allowed to attain, must be injurious to the appetite even of a hog, and will affect the health and economical fattening of the animals to a more serious extent than is generally supposed.

## To Manage a Rearing Horse.

WHENEVER you perceive a horse's inclination to rear, separate your reins and prepare for him. The instant he is about to rise, slacken one hand, and bend or twist his head with the other, keeping your hands low. This bending compels him to move a hind leg, and of necessity, brings his fore-feet down. Instantly twist him completely round, two or three times, which will confuse him very much, and completely throw him off his guard. The moment you have finished twisting him round, place his head in the direction you wish to proceed, apply the spurs, and he will not fail to go forwards. If the situation be convenient, press him into a gallop, and apply the whip two or three times severely. The horse will not, perhaps, be quite satisfied with the defeat, but may feel disposed to try again for the mastery. Should this be the case, you have only to repeat the discipline.—*Ex.*

## Acclimation in Australia.

By a late number of the *Australasian*, a weekly paper of general information, and which consists of thirty-two pages of closely printed matter, it appears that English sparrows are now thoroughly established near Melbourne, and have assumed all their English habits, breeding rapidly, tearing the thatch of roofs and ricks into holes, and generally making themselves obnoxious; their good deeds in destroying insects to supply the calls of their broods, are not prominently seen; whereas their fruit-robbing, seed-destroying,

bud-picking, and general sins of commission, are patent to all. The inhabitants speak of removing protection from them. If they are like English sparrows they can protect themselves.

It having been found by some speculative members of the Acclimation Society that an ostrich in full health and condition would yield feathers to the value of twenty-five pounds annually, the society state that they have fenced in a "PANDOCK"!!! of ten thousand acres, and imported a flock of ostriches which are doing well.

The English hare is now thoroughly established near Melbourne,—they breed

often, and produce two and three (ofteneast three) at a birth.

Rabbits introduced, and wild, now swarm in many parts of the province. They seem to do wonderfully well.

English Pheasants do not seem to succeed, or at all events they have not done as well as many other birds. Chinese pheasants and the various kinds of partridges are now well established and increasing fast. Sky larks are now plenty around Melbourne, having been introduced.

Black Hamburgh, Chasselas, and all our greenhouse grapes, come to splendid perfection in the open air, and without shelter, in Australia.

FOWLS IN THE HORSE STABLE.—Fowls should never be permitted to have access to the horse stable, nor the feed room, nor the hay mow. Their roost should be entirely separate from the stable, so that they may not always be ready to slip in whenever a door is opened, and that the vermin which infest poultry may not reach horses and cattle. It is a well known fact that fowls of all kinds frequently drop a very sordid, offensive, clammy, viscous odor, and when allowed to go on the hay mow, or in the feeding room, or anywhere in the barn, they damage more fodder than we are wont to suppose. We would as soon allow fowls to live in the kitchen, and hop on the dinner table while we are eating, and to roost on the bedstead, as to allow them to have free access to the horse stable and barn. Some horses are always afraid of fowls, and when one enters the manger, or rack, the timid horses will immediately surrender their entire right, however hungry they might be, to these lawless marauders.

## Veterinary Department.

### The Drugging of Farm Horses.

ALL descriptions of horses are apt to suffer from the ignorance, prejudice, and quackery of their attendants. Farm horses have certainly more healthful surroundings than their town brethren; they are seldom subjected to the fast pace which tells so severely on the lighter description of horses; their feeding and labour are usually tolerably regular; but much of their ill-health results from the mismanagement and the meddling medical treatment of the attendants.

Ploughmen and carters in many parts of Scotland are, unfortunately, following the evil example of their English brethren in giving the animals under their charge frequent doses of various sorts of medicine. It is poured down in season and out of season; whether the horse is well or ailing; without any knowledge either of the state of the animal's health, or of the effects of the nostrum; and without the owner's being at all aware that his horses are thus ignorantly tampered with. It is sad to think of the rubbish which the poor horse is thus compelled to swallow. Amongst the favourite articles exhibited are dragon's blood, black antimony, sulphur—and the blacker it is the more it is thought of—spices and condiments of all kinds, and innumerable unsavoury concoctions of things animate and inanimate, hurtful and harmless. In some parts of England, and especially in the southern and western counties, the horse keepers collect various herbs, and cunningly preserve them by drying, salting, boiling, or other processes. Thus prepared, these medicaments are used either regularly with the notion of improving condition, or at rarer intervals as a means of curing particular disorders. These preparations of herbs are seldom, however, very potent or hurtful. But carters and farm servants also use strong mineral poisons. In many of the provincial towns the chemists retail enormous quantities of these noxious articles. The mineral acids, preparation of antimony, arsenic, and mercury, are commonly used, or, we ought rather to say, abused. The infatuated mortals have such blind faith in the efficacy of their nostrum, that they will purchase it regularly, even with their own hard-earned money. A scrupulous chemist often decries about supplying dangerous poisons which he well knows are to be given without the master's knowledge to his valuable horses, and given too by ignorant and often unskilful hands; but the man is not to be diverted from his purpose, and usually has little difficulty in finding a less particular or more complaisant physic monger. Indeed, the physic is, we know, occasionally obtained in barter for grain, hay, straw, or roots, or for a cart or two of coals or other commodities surreptitiously drawn for the drug merchant.

A case illustrating the danger of horses being drugged by their attendants recently came under our observation. On a large farm where sixteen horses were worked several were reported "out of sorts." One had died several days before, after about a week's illness, and with symptoms and *post mortem* appearances which pointed to gastric derangement. Three more horses were unable to eat, and were daily losing flesh; they were slightly feverish, and the digestive organs somewhat out of order, but there was no evidence of cold nor of any acute ailment. The food had consisted of clover and grass, with a few split beans. The stabling was commodious and comfortable. No admission could be got that any medicine or anything besides the ordinary food had been given. The cases appeared puzzling. A careful examination discovered that the back teeth were blackened, and in places softened and decayed; the throat was sore; the stomach irritable. It was evident that the horses had recently been having some corrosive substance. On suspicion of giving such noxious matters, the principal carter was at once discharged. His fellow-workmen's tongues were soon unloosed, and it appeared that anxious to get his horses eat and thrive, the fellow had been in the habit of giving them their corn and chaff wetted with spirit of salt or hydrochloric acid. Weeks elapsed, and demulcents, weak alkalies, and other remedies were freely used; but still the horses remained in a low, thriftless state, from which they only very slowly recovered.

Cases such as these are more numerous and frequent than are generally supposed. When a change of horse-keepers occurs, how often do we find a whole lot of horses fall away in condition, and lose all spirit and endurance, no matter what food they receive. In such cases, if the truth can be got at, it will generally be found that the waygoing fellow has for months, and perhaps for years, been giving acids and other drugs, and that under such tonics, condition medicines, or pick-'em-ups, the horses

looked and worked very fairly. The evil of the system only comes out with all its force when the unnatural drugging is stopped. None but professional men should, under any pretence, prescribe poisons or any potent medicines. The handling of edged tools is a dangerous pastime to those unused to such weapons. Untrained practitioners, if they will dabble in physic, should confine themselves to simples and harmless medicaments, which, even if used ignorantly or carelessly, can do little detriment. No sensible horse proprietor should permit any servant, whether he be groom, coachman, ploughman, or carter, to give on his own responsibility any sort of physic to any horse. By such a dictum peremptorily enforced, he will prevent much sickness and loss; he will have no horses dying, as we have repeatedly known them, from balls given surreptitiously sticking in the wind-pipe, or from injuries of the fauces inflicted by the sharp weapons on which the balls are often administered. He will not have his horses dying from super-purgation, or dangerously reduced by depressing remedies, or shelved for a few days because their attendant has in his wisdom conceived that they will be better of "a little physic." Many and ingenious are the excuses often advanced in favour of this time-honoured practice of giving medicine to horses: the animal is too fat or too poor, he has been on soft or on hard food; he is going to or returning from the country; he is the better of a good dose of medicine in spring, or summer, or in autumn, or, as we also often hear sagely stated, "he wants the London dust got out of him!" With suitable food, properly regulated exercise or labour, roomy stables, and good grooming, horses can be kept in admirable condition and health without much medicine.—*North British Agriculturist.*

### Open Synovial Cavities.

THE primary cause of these fearful accidents is the pride of mankind; gentility is always striving to impose upon credulity. It loves to be mistaken for something better than it really is. After all, this vice of society is nothing more than the child's game of "Lords and Ladies," played by grown up persons. A horse having a naturally defective neck is obtained; no barbarity is too abhorrent to repress the hope of making people believe the steed, thus deformed, is a creature of extreme value. The animal, if ridden, has the chin pulled in close to the neck; if driven, the free carriage of the body is prevented by the cruel bearing-rein. The horse progresses in agony, while gentility sits smiling at the result of its artifice. The horse cannot see the ground before it, because of the constraint imposed upon the head; it cannot fix attention upon its duty, because of the agony which the cunning of gentility inflicts upon the lips. The pace is always rapid; the action is high, as in the case of blindness; and the animal, generally, comes to earth with violence. The skin upon the knees is divided, and the structures beneath are penetrated. One or more synovial sheaths are opened, while the cavities, formed by the junction of the separate bones, may be lacerated.

Sheath or joint may not be immediately opened by the fall, but either may have their integrity destroyed, through the slough, induced by the contusion consequent upon a broken knee. Moreover, various accidents will occasionally happen—misfortune is of infinite variety. The synovial bursae, sheaths or cavities of the hind legs, are occasionally punctured by the quadruped kicking violently, while in harness. The capsule, embracing the tendon of the flexor brachii, upon the point of the shoulder, has been opened by the animal drawing a vehicle being run into; or by the horse running away and coming in contact with some obstacle. Any synovial cavity within the body may be penetrated by an unfortunate combination of circumstances; or by the unbridled passion of the groom, who may have a pitch-fork near at hand. So, also, they have been cut into by the arrogance of unskilful operators. However, it matters not how the misfortune may arise, the mode of treatment and the manner of cure is in all such cases exactly the same.

Neither, as regards the primary effect, is it of subsequent importance whether air be admitted into an opened bursa or sac, a synovial sheath, or the interior of a joint. All of these structures are formed into bladders or closed cavities. They all contain a similar secretion, which is a transparent, albuminous fluid, resembling white of egg. They all are of one use, or all serve to facilitate motion. The bursa is the smallest; the synovial sheath is the next in magnitude; and joints may be much the largest. The secondary effects are proportioned to their size; but, in the first instance, much constitutional disturbance will attend the opening of each.

These structures are not formed to endure the presence of atmosphere; air is admitted a short time after each displays inflammation. This creates

symptoms of irritability; and air will enter before we see the wound. The secondary effect is, however, most to be dreaded. Bursae are small bladders, or closed sacs, distributed over the body, and located wherever the natural motions possibly might originate friction. Sheaths always embrace tendons, being essentially closed sacs. The secondary effects of tendinous sheaths are so much more to be dreaded than those attending a punctured bursa, because the last generally lie loose between highly organized parts; whereas, a sheath is partly fixed upon a tendon, and tendon, being lowly organized, is more difficult to cure, when it is diseased. However, joints are much worse than the preceding two; because in these the synovial membrane is partly spread over the cartilage, which lies upon the articular surfaces of bones. Now, cartilage is the most lowly organized substance in the entire body. When disease fixes upon it, the morbid condition is so low, so irritating, and so difficult to eradicate, that science almost despairs of the issue.

The results indicated show that every effort should be made to ward off the secondary effect. Therefore, when an accident of this nature occurs, proceed with the utmost gentleness. Having procured a large sponge and a pail of milk-warm water, saturate the sponge and squeeze it dry, above the injury. Do not touch the sore, but allow the fluid, as it gravitates, to wash off all or any foreign matter. With regard to the wound, dirt seldom enters that. When it does, the suppuration, which must ensue upon the accident, will more effectually remove it than could hogheads of water, however unfeelingly it might be employed.

The part having been rendered clean, the wound is to be attentively observed. When nothing but blood or serum, or thin discolored fluid can be seen, this argues the more important structures are entire. Should there be among, and yet distinct from those discharges, a transparent glary liquid flowing forth, such is absolute proof some synovial membrane has been severed. The size of the current and the abundance of the secretion are, also, evidences not to be despised. Probabilities may be inferred from these circumstances. If the amount of synovia is small, there is hope that a bursa only has been interfered with; when the amount is large, it demonstrates that either a sheath is punctured, or the joint itself may have been opened. Synovial cavities, between bones, may be larger, and are much more active than the sheaths of tendons; therefore, the magnitude of the current should be observed; although when the integrity of many parts has been destroyed little absolute dependence will be placed upon the comparative quantity of the synovial secretion.

[The conclusion of this article from the *Turf, Field, and Farm*, must be deferred to another issue.]

### Ring-Bone.

To the Editor of THE CANADA FARMER.

SIR,—About two years ago I had a valuable half-blood mare, then nine years old, affected with ring bone on the high or left fore foot. I blistered it with the following mixture:—Spanish flies, 1 oz; spirits turpentine, 1 gill; high wines, 1 pint; I applied the same twice a day for ten days, and she was then better until the summer of 1867, when the swelling began and grew very rapidly; and she got very lame. I then applied to a farrier, who cut her in the heel and took out the feeder of the ring-bone, and cut three gashes with an inch chisel and filled the cuts with some white powder, and bound it up for three days, after which I blistered with the following compound for about fifteen days:—Spanish flies, 1 oz; corrosive-sublimate,  $\frac{1}{2}$  oz; euphorbium,  $\frac{1}{2}$  oz; spirits of turpentine, 1 gill; high wines, 1 pint. The farrier asserted that the ring-bone could not grow again after that treatment. The mare was better from that time until the past month (Sept., 1868); when the affection appeared again, also one on the off or right fore foot. If you know of any means of destroying the ring-bones and saving the mare, let me know, and you will greatly oblige

Ramsay, Oct. 5, 1868.

W. W.

NOTE BY ED. C. F.—We have before had occasion to remark on the uselessness of the practice above referred to as "cutting out the feeder," a practice which is based on entirely erroneous views of the nature of ring-bone, which is altogether a bony deposit, and cannot be affected by the removal of a small portion of cellular tissue. For ring-bone of long standing "firing" is sometimes resorted to with advantage; but in a majority of cases great benefit is derived from the use of an ointment made of biniodide of mercury and lard, in the proportion of one part of the former to six or eight of the latter.

### The Dairy.

#### Philadelphia Butter.

If there is one department of the Dairy in which more than any other, there is deficiency among Canadian farmers, it is in the process of butter making. So, at least, one must judge from the quality of the article called butter that finds its way into our city markets, and much of which is nothing less than a disgrace to any rural community. It is simply offensive to any but the coarsest taste, and can neither be a wholesome nor palatable article of diet. Since the introduction of the factory system of cheese-making into this country the scarcity of good butter has increased, and the high price which this produce of the dairy now commands, has not in the least degree improved its general quality. We are persuaded that a prime article would bring a very remunerative return to the maker, and that any firm or private individual who could establish a good reputation in this business would realize prices considerably above the ruling market rates. There are places in the States where the quality of butter is especially excellent, and perhaps no part of the country can boast a better name in this respect than the neighborhood of Philadelphia. An interesting account appeared recently in *Cobden's Royal World*, of the butter-making process in this beautiful region of Pennsylvania. The account is given by a party of farmers who visited the locality to learn by what special means the high character of "Philadelphia Butter" was attained. The cattle on the farm described were of the Jersey breed, and to this circumstance the excellence of the dairy produce was in a measure attributed, but the punctilious cleanliness, the fresh air, the equal and moderate temperature, and the general arrangements of the establishment, no doubt contributed mainly to the successful results. We commend to the attention of Canadians the following description of a Pennsylvania dairy:

"The milking house is a light wooden structure, with so many open doors and windows that it is hardly more than a shed. In winter it is closed up and used as a stable for young stock. In size it is about twenty-two feet by thirty-six, with a row of stanchions on each side, and with mangers in which a little bran is put at each milking time. Each cow has her own place, with her name, age and pedigree over her manger, and she always goes to it as though she could read. Their names have been put up in the order in which they come from the pasture. The 'master' cow entering first, and the less plucky last. The milking is done by women, the same one always attending to each cow, and it is done rapidly and quietly, no unnecessary talking and no skylarking being allowed. We measured 'Niobe's' yield and found it to be eleven quarts (she gave nine the next morning—making twenty for the two milkings), not bad for a butter-making Jersey cow. The others gave less—the smallest not more than eight quarts at two milkings—but the whole herd of eighteen cows could not have given less than two hundred quarts a day, and this of milk that yields over twenty per cent of cream.

"Near by the milking house is the 'spring-house,' the institution of this region, about twenty-four feet long and eighteen feet wide, built of stone set deeply in the hill-side and its floor about four feet below the level of the ground at the down hill-side. The site is that of a plentiful spring, which is allowed to spread over the whole of the enclosed area to a depth of about three inches above the floor of oak laid on sand or gravel. At this height there is an over-flow by which the water passes to a tank in an open shed at the down hill end of the house. On the floor of the spring-house there are platforms or walks to be used in moving about the room, but probably three-quarters of the space is occupied by the slowly-flowing spring water. The walls are about ten feet high, and at the top, on each side, are long, low windows, closed only with wire cloth, which gives a circulation of air at the upper part of the room. The milk is strained into deep pans of small diameter, that are kept well painted on the outside, and are provided with bails by which they are handled. The depth of

the milk in the pans is about three inches, and they are set directly upon the oak floor; the water, which maintains a temperature of fifty-eight degrees Fahrenheit, surrounding them to about the height of the milk.

"The cream is taken off after twenty-four hours, and is kept in vessels having a capacity of about twelve gallons. These vessels are not covered, and as the room is scarcely warmer than the water, the cream is kept at about fifty-eight degrees or fifty-nine degrees until it is put in the churn.

#### CHURNING.

"The next morning we rose at half-past four to see the churning and butter making. The churn is a barrel (bulging only enough to make the hoops drive well) with a journal or bearing in the centre of each head, so that it may be revolved by horse-power. This barrel has stationary short arms attached to the inside of the staves, so arranged as to cause the greatest disturbance of the milk as it passes through them in the churn. At one side is a large opening secured by a cover that is screwed firmly into its place—this is the cover or lid of the churn. Near it is a hole less than an inch in diameter, for testing the state of the churning and for drawing off the buttermilk. This is closed with a wooden plug.

"The churning lasted about an hour, at the end of which time it was necessary to add a little cold milk to cause the milk to gather. This being secured, and the buttermilk drawn off, cold water was twice added, a few turns being given each time to the churn, and when the last water was drawn off it came nearly free of milkiness. A crank was then put on to an arm of the churn, the horse-power thrown out of gear, and a gentle rocking motion caused the butter to be collected at the lower side, directly over the small hole, through which the remaining water escaped. It was left in this condition about two hours. After breakfast we returned to see the working of the butter.

#### BUTTER-WORKER.

"In one corner of the spring-house stands the butter-worker, a revolving table about three feet in diameter. The centre of this, for a diameter of twelve inches, is an iron heel with a row of coggs on the upper side of its rim. From its rim to the raised outer edge the table (made of wood) slopes downward, so that as the buttermilk is worked out it passes into a shallow groove and is carried away through a pipe which discharges into a pail standing below. Over the sloping part of the table there works a corrugated wooden roller, revolving on a shaft that is supported over the centre of the table, and has a small cog wheel that works in the cogged rim of the centre wheel, and causes the table to revolve under the roller, as this is turned by a crank at its outer end. Of course the roller is larger at one end than at the other, so as to conform to the slope of the table, and its corrugations are very deep, not less than two inches at the larger end. Supported at each end of the roller and on both sides are beveled blocks, which, as the table revolves, force the butter from each end toward the centre of the slope. About twenty pounds of butter is now put on the table, and the roller is turned, each corrugation carrying through a long narrow roll, which is immediately followed by another and another, until the whole table is covered. The roller does not quite touch the table, and there is thus no crushing of the particles. The beveled blocks slightly bend these rolls and crowd them toward the centre of the sloping part, so that when they reach the roller again they are broken in fresh places, and by a few revolutions are thoroughly worked in every part.

#### FINAL PROCESSES.

"Then follows a process that was new to all of us—the 'wiping' of the butter. The dairy maid (in this instance a lusty young man) turning the roller backward, with the left hand, so that the butter comes through all the right hand side, presses upon every part of it a cloth which has been wrung dry in cold spring water, and which he frequently washes and wrings out. This is continued until not a particle of water is to be seen in the butter as it comes from the roller, to which it begins now to adhere. If there is any secret in the making of Philadelphia butter, this is it; and it has much to do with its uniform waxiness of texture, whether hard or soft.

"After this, the butter is salted (an ounce of salt to three pounds of butter)—still by this machine, and any lurking atom of moisture is in this way prevented from becoming a cause of rancidity.

"When the salt is thoroughly worked through the whole mass, the butter is removed to a large table, where it is weighed out and put up into pound prints.

"The working, wiping and salting of over one hundred pounds of butter occupied about an hour, and before ten a.m., the entire churning, beautifully printed, as fragrant as the newest hay, and as yellow

as pure gold, such butter as only Jersey cream will make, was deposited in large tin trays and set in the water to harden. The next morning it was wrapped in damp cloths, each pound by itself, put in a tin case, each layer having its own shelf, with two compartments of pounded ice to keep it cool, and surrounded by a well-coopered and securely-locked cedar tub, was sent to the Continental Hotel, where we found it on our return as delicious as when it left the farm."

#### Soiling Milch Cows.

A correspondent of the *Farmer* (Scottish), in an article on several subjects, thus incidentally alludes to his experience in soiling milch cows:

"For thirteen or fourteen years I have had a dairy of about ten cows. I was confident that they could be kept with more economy, and in a better condition in the house, than by the common way of turning out to grass. I had a capital byre, built seventy years ago, and I think on a better plan than any new ones that I have seen. It could hold nineteen cows, but I only put in ten. It is lofty, though the hay loft is over, but I keep no hay there. The cows are all tied up by the neck, the chains being long enough for them to lick themselves, and there are no divisions, so that they can all lie down at their ease. I use no litter, but a little sawdust, and I find I can keep them far cleaner than with straw.

"I began, according to the custom of the country, to turn them out for an hour to get a drink and lick themselves. I found that they knew, as well as the byemen, the hour they were to get out, so they were fidgety and restless for half an hour before the time. They had not been out a quarter of an hour when they stood at the gate wanting to get in again, so I said, as they did not know their own minds, they should not get out again, and they never have since.

"I have four cows that I reared as calves that have never had their foot in a grass park—indeed, have never been out of the byre except to go about a mile to the bull. I have fed a great many fat—and the best beef I ever tasted—some *exclusively* on grass *cul from a tender meadow*, and some got cake; but I have not made up my mind which is cheapest; those that got cake may be somewhat fatter, but as to quality there is no difference."

#### Poultry Yard.

### Standard of Excellence in Exhibition Poultry.

#### TURKEYS.

*Head and Face*—Very bright and rich in colour.  
*Eyes*—Bright and clear.  
*Body*—Long and deep.  
*Wings*—Powerful and well carried.  
*Breast*—Broad, very long, and perfectly straight.  
*Thighs*—Muscular, straight and strong.  
*Legs*—Very strong and perfectly straight.  
*Plumage*—Sound, hard, and glossy.  
*Colour*—Each the birds matching in the pen.

#### POINTS.

Size	6
Symmetry	4
Richness of colour, and matching in the pen	5
Condition	2
	<hr/>
	15

#### DISQUALIFICATIONS.

Crowded breasts, lacks, or legs, or deformity in any part.

#### DUCKS

#### AYLESBURY.

#### GENERAL SHAPE AND COLOUR.

*Bill*—Long and broad, when viewed sideways, nearly straight from the top of the head to the tip of the bill, of a delicate pale flesh color, perfectly free from black or dark marks.  
*Head*—Long and the  
*Neck*—Long, slender, and gracefully curved.  
*Body*—Long and deep  
*Back*—Long and broad.  
*Wings*—Strong, carried well up and not drooping.  
*Tail*—Feathers small and hard, with hard curled feathers in the drake.  
*Thighs*—Short  
*Legs*—Short and strong, brilliant light orange colour.  
*Plumage*—Pure white throughout.

#### POINT IN AYLESBURY DUCKS.

Party of colour and shape of bill	3
Size	4
Symmetry	3
Party of colour in plumage	3
Condition	2
	<hr/>
	15

**DISQUALIFICATIONS.**

Birds so fat as to be down behind, bills deep yellow, or marked with black, plumage of any colour except white.

**BOUEN DUCK.**

**GENERAL SHAPE AND COLOUR—THE DRAKE.**

**Bill**—Long, broad, and rather wider at the tip than at the base; when viewed sideways, nearly straight from the crown of the head to the tip of the bill; the longer the better. Colour, greenish yellow, without any other colour except the black bean at the tip.

**Head**—Long and fine; rich lustrous green.

**Eye**—Dark hazel.

**Neck**—Long, slender, and neatly curved; colour, the same lustrous green as the head, with a distinct white ring on the lower part not quite meeting at the back.

**Breast**—Broad and deep; the front part very rich purplish brown, or claret colour; free from grey feathers, the claret colour extending as far as possible towards the legs.

**Back**—Long; higher part ashy grey mixed with green, becoming a rich lustrous green on the lower part and rump.

**Shoulder Coverts**—Grey, finely streaked with waving brown lines.

**Wings**—Greyish brown, mixed with green, with a broad ribbon mark of rich purple, with metallic reflections of blue and green, and edged with white; the two colours quite distinct.

**Flight Feathers**—Dark, dusky brown, quite free from white.

**Under part of Body and Sides**—Beautiful grey, becoming lighter grey near the vent, and ending in solid black under the tail.

**Tail**—Feathers hard and stiff; dark ashy brown, the outer web in old birds edged with white.

**Tail Coverts**—Curled feathers hard and well curled; black, with very rich purple reflections.

**Legs and Feet**—Orange with a tinge of brown.

**THE DUCK.**

**Bill**—Broad, long and somewhat flat; brownish orange, with a dark blotch on the upper part.

**Head**—Long and fine; deep brown, with two light pale brown stripes on each side from the bill past the eye.

**Neck**—Long, slender, and neatly curved; light brown, pencilled with darker brown, and quite free from the least appearance of a white ring.

**Breast, under part of Body and Sides**—Greyish brown, each feather marked distinctly with a rich dark brown pencilling.

**Back**—Long; light brown, richly marked with green.

**Wings**—Greyish brown, mixed with green, with a broad ribbon mark of rich purple, edged with white, the two colours quite distinct.

**Flight Feathers**—Brown, perfectly free from white.

**Tail Coverts**—Brown, beautifully pencilled with broad distinct pencilling of dark greenish brown.

**Tail**—Light brown, with distinct broad wavy pencilling of dark greenish brown.

**Legs and Feet**—Orange; or brown and orange.

**POINTS IN BOUEN DUCKS.**

Shape and colour of bill.....	3
Size.....	4
Colour of plumage.....	3
Symmetry.....	3
Condition.....	2
	<hr/> 15

**DISQUALIFICATIONS.**

Bills clear yellow, dark green, blue or lead colour; any white in the flight feathers of either sex; birds so fat as to be down behind.

**GEESE.**

**TOULOUSE.**

**Carriage**—Tall and erect; bodies nearly touching the ground.

**Colour**—Breast and body, light grey; back, dark grey; neck darker grey than back; wings and belly, shading off to white, though but little white visible.

**Bill**—Pale flesh colour.

**Legs and Feet**—Deep orange, inclined to red.

**EMBDEN.**

**Plumage**—Uniformly pure white.

**Bill**—Flesh colour.

**Legs and Feet**—Orange.

**POINTS IN GEES.**

Size and weight.....	6
Symmetry.....	4
Colour.....	3
Condition.....	2
	<hr/> 15

**WILD TURKEY--CANADA WEST. \***

**Head and Face**—Clean and game-like, with less excrecence than in the tame bird,—Neck, where bare of feathers, of a darker blue.

**Eyes**—Dark, very bright, full of intelligence.

**Body**—Broad shouldered and deep-chested.

**Breast**—Deep; hair tuft long.

**Wings**—Bow of same colour as body, with broad bar of bronze feathers across. Secondaries, light brown grey, pencilled with white—the upper four or five feathers that meet over the back being darker, less pencilled, and shot with emerald green. Primaries black, pencilled with white.

**Thighs**—Dark greyish brown.

**Legs**—Long—bright red.

**Tail**—Long, rich deep brown pencilled with black; carried rather horizontally; no tendency to white or white-brown admissible; bar at end black.

**Plumage**—Hard and close.

**Carriage**—Very elegant, majestic, and game-like.

\* The Points of the Wild Turkey given above have been furnished by Col. Hassard

**Colour**—General tints purple and rich deep brown, and shot with various shades of gold, violet, vermilion and green, very lustrous in sunshine. White in any part of body except pencilling of wings inadmissible.

**POINTS.**

Colour of Legs.....	4
Plumage.....	5
Size.....	4
Condition.....	2
	<hr/> 15

**DISQUALIFICATIONS.**

Deformity in any part. Legs any colour but red. White at end of tail feathers, or anywhere except in wings. A very light white-brown at end of tail must be regarded with great suspicion.

**HEN.**

Familiar in plumage to Gobbiers; less brilliant, and smaller in size.

**The Wild Turkey.**

To the Editor of THE CANADA FARMER :

SIR,—Presuming that you would shortly conclude your extracts from the "Standard of Excellence," and that among the few remaining varieties of poultry the Turkey would shortly be noticed, I have endeavoured, in imitation of that valuable publication, to give the description and points of the wild bird, and send them to you, that you might append them to the corresponding account of the domesticated breed. I am afraid I have but imperfectly described the bird, but I may say that, having submitted the description to several parties who are perfectly acquainted with the bird, they all agree in its general correctness. I may further state, that I took the description from a splendid living specimen, now in my possession, which is exactly similar to those sent by me to Mr. Fowler, of Aylesbury, last December, and from which I am glad to hear he has most successfully raised a large brood. This specimen has been inspected by sportsmen and others, all of whom pronounce the bird to be the correct thing. I have also compared the points set down by me with dead specimens, seen plentifully in our markets in the winter, and also with stuffed and live specimens from the States. I therefore think that, until some abler pen portrays the bird, the description may be accepted as correct.

I have been thus particular in giving my authority, as I have reason to suppose that at the last Provincial Exhibition, at which I had the honour of being one of the judges in the Poultry Department, some dissatisfaction was manifested at the awards in this class (Wild Turkey). Some of the exhibitors assured me that their birds had to be trapped to enable them to show them. I do not doubt this for one moment, but it does not prove that these were not a cross between the domesticated and wild species, as their plumage evidently pointed them out to be. A considerable number of the Turkeys in Canada have a cross of the wild bird, and it is perfectly possible to shoot, in the localities where the wild birds are found, birds with the "bar sinister"—white, or white-brown, at the end of the tail. The farmers allow their birds to roam in the woods, and crosses thus occur. Indeed, no later than yesterday, a distinguished fancier and exhibitor informed me that two splendid wild hen Turkeys had come into his yard a short time since, and joined their domesticated congeners, but on his trying to catch them they had immediately taken wing. Under these circumstances, I think it more essentially necessary that the true birds should be properly described, so that no mistake can occur in the award of premiums for the different classes.

I may perhaps add further, that I have seen practical proof in two instances of the cross of the so-called wild birds, bred from birds trapped, and bought from Indians, and about which I was assured there could be no possible mistake, and that they were the genuine wild Turkey. In both cases alluded to, white birds were hatched among others from the eggs of these birds—pretty conclusive evidence that mistakes do occur. There were no white birds near these birds in the breeding season; they have the white-ended tail and other feathers, but were splendid in plumage;

and from the respectability of the parties no deception could have been intended; they firmly believed they had the correct thing. I have seen, continually, similar birds exhibited in the Wild Turkey classes at every exhibition which I have attended in Canada. It does not therefore follow, that because your pigs take a six months' roam in the woods they become wild boars—nor your tame turkeys wild, although in one sense wild enough, and difficult to catch.

F. C. HASSARD.

Toronto, Oct. 1, 1868.

**The Apiary.**

**Will Bees Build Straight Combs in a Frame Hive?**

THIS question is often asked by bee-keepers who have never used a frame hive. We would answer, they will build both straight and crooked combs; but as it is very desirable that they should always build straight, it is well to understand how we may secure such. First, it is absolutely necessary that we use a properly constructed hive—a hive in which especially the frames are properly adjusted. If the lower edges of the top-pieces of the frames upon which the bees are to build their combs are not at proper distances from each other, it will be almost impossible to get them to build straight. But when the frames are properly adjusted there is not much difficulty. A little attention will secure combs straight enough for all practical purposes. If a hive be examined four or five days after a swarm is put into it, any inclination to build crooked may then be remedied by simply pushing them back to their places with the hand. The combs are soft, and will not easily break. If very much inclined to be crooked, they may require another examination. Or if bee-keepers would take the trouble to rub a piece of bees-wax over the edges of the comb frames before the bees are put in, they would have but little trouble with crooked combs.

**Securing Combs in Movable Frames.**

It has long been a fixed rule with us that the less bees are meddled with the better. Hence whatever we do to them we would wish to do quickly, and in no case is this more urgent than in the transferring of comb and bees from the old-fashioned hive to the Langstroth hive. One of the operations that has always taken us some time is the securing of the comb in the frames until the bees have had time to fasten them. At first we used twine. Then it occurred to us that annealed wire, which required no tying of knots with gloved hands, would be better, and we, in common with others, have used it freely. Having occasion the other day to transfer a stock from the old box hive to one with movable frames, we prepared a few little articles which we found to be of great convenience.

Out of well annealed iron wire (No. 12) we made a dozen oblong loops or links, 1 1/2 inches wide, and long enough to go over the outside of the frames and leave half an inch to spare. As soon as a sheet of comb had been cut to fit a frame, it was slipped into its place, and then the loop was slipped on and made tight, by giving it a slightly diagonal direction across the frame. In one or two cases we fixed it more securely by means of a small wedge. The construction and operation of these loops are so simple that no further explanation can be necessary. With one on each frame we found that the comb was secured from all danger of falling out. Two or more might be used, however, in special cases. We applied ours horizontally—that is, lengthwise of the frame—but we have since made some of such a length that they fit over the frame vertically, and are secured at the bottom by means of a small wedge. On trying these with some loose comb and frames that we happened to have by us, we think that in some cases—especially where the comb is thick and irregular—the vertical loops fastened with a wedge are the best. Both forms can easily be removed, as the sides can be readily sprung apart so as to clear the comb, and even with gloves on it is but the work of a moment to apply or to remove them.—Cor. Co. Gent



### Social Disadvantages of Farm Life.

To the Editor of THE CANADA FARMER :

SIR,—So much has been written and said about the beauties and pleasures of rural life, that some people hardly believe that it has any disadvantages: but like everything else, agriculture has two sides, a dark and a bright one; and although the advantages preponderate, still there are disadvantages which should not be overlooked. Farmers often reside a considerable distance from the school-house, and the children are frequently kept at home by distance, muddy roads or snow-drifts; thus in their early years losing the time when their parents can the better spare them from the farm-work. If a farmer wishes to give his children a liberal education he has to send them away from home—where they will be beyond the reach of home influences—to the village grammar school, or town academy. But the obstacles in the way of an early education might be overcome to some extent by the parents or older brothers and sisters taking an interest in teaching the children, when prevented from attending school. And although farmers' children may be older than those of mechanics and dwellers in cities before they get their education, yet when sent to higher schools, they generally make better proficiency during their attendance. Much also may be done in after life by self-education during the long winter evenings. But after all that can be said, the education, or rather want of education of farmers' children is to be lamented, and is one of the disadvantages attending their calling.

Farmers are also often distant from the church and sabbath school. For although people in the country may not have those peculiar temptations to vice and wickedness incident to towns and cities, yet they cannot live as they ought without worshipping the Almighty in His sanctuary, or having the sabbath school as a nursery for the church. But if farmers during inclement weather are deprived of these means they are not deprived of the sabbath, and should have proper books and papers for reading for themselves and household.

The distance which most farmers necessarily live apart gives each family a degree of seclusion, not only from each other, but from mankind generally. This often gives rise to a dread of going into society. The young folks feel very awkward and bashful when they appear before "company," and indeed often are awkward; they cannot carry on an intelligent conversation for any length of time with any degree of ease, even supposing they have a tolerable English education; their manners are neither polished nor easy; they may be guileless and affectionate, but from want of politeness they may appear very rude to the more polished part of society. If a person has ever been at an evening party in the country he will see that the time is occupied in frivolous plays, while no time is allowed for profitable conversation. Suppose some "city" cousins drive out with a few friends to visit some of their friends or relations, whenever they get in sight of the farmer's residence there is a general scamper among the children, the elder ones trying to get good places for viewing the visitors without any danger of being seen; the garret and dog-kennel have to be general hiding places for the time being; there is confusion in the house, the mother looks at her dress, then in the glass, then at the parlour, to see if everything is in order; the father looks up at the sky so as to have a few words ready about the weather. The visitors arrive, are received rather nervously by the mother, and are hurried off to the cold "north room" without much ceremony; the children come back one by one, when there is a

general "cleaning up" from head to foot so as to be ready when the meal time comes; the mother busies herself cooking and baking for tea, leaving the company to entertain themselves as best they can; and it is not until after tea that there is a feeling of sociability, when it will be soon time for the company to return home. The above picture has many a counterpart in the families of the farmers through the country, and is often repeated. The children have to be well into their teens before they are able to keep their ground when their "city cousins" come. But there are families where the reverse is the case; the mother can receive company with ease and grace; the father can talk fluently on religion, politics, the topics more immediately and directly relating to our country, and probably also on different scientific subjects, evincing altogether no mean acquaintance with the literature of the day; and the children are intelligent and refined. Ignorance and boorishness are no necessary concomitants of farm life.

Again, there is often not that air of neatness about the dress of the farmer's family, or the furniture of the house, or the plan of their flower gardens that we find in or near cities. Farmers and their families have to work very hard, although not so hard as their forefathers have done. They are also said to be given to grumbling,—are never satisfied—the crops are either too light or too heavy—the weather too hot or too cold—the land too wet or too dry—the prices too low—he has bad fortune with his stock—or indeed anything is a fit subject for grumbling. Now there may be some truth in this accusation, and this discontented spirit should be avoided by the farmer. The foregoing are some of the disadvantages of the farmer's lot, and others might be mentioned—enough to convince those people of their error who believe there are no toils, nor hardships, nor inconveniences attending rural life.

All that has been said of the pleasures of farm life is true; and how inconsistent is the empty praise of those poets and sentimentalists who write so much about the beauties of farm life, and yet do not engage in it themselves, nor educate their children for agriculturists. What can we get in this world, or what pursuit can we follow that has no disadvantages? There are few callings, on the whole, more healthful, pleasant and noble than that of the farmer. As for the writer—

"A farmer's life is the life for me,  
I own I love it dearly."

CULTIVATEUR.

York, Sept. 1st, 1868.

## The Canada Farmer.

TORONTO, CANADA, OCTOBER 15, 1868.

### The Western Fair.

THE above fair, held under the auspices of the East Middlesex and City of London Associations, came off on the 29th and 30th ult., at London, and must be pronounced a decided success, although the weather, especially on the second day, was far from favourable. Owing to the Crystal Palace being occupied by the military, the Drill Shed was used for such articles as required to be placed inside a building, while the live stock was shown on the ground adjacent to the Palace. Of course a local fair must not be judged by the standard of a Provincial exhibition; yet it must be confessed that in some departments the London show was no way inferior to its great predecessor at Hamilton, while as a whole it was every way creditable to its projectors and promoters. In horticultural products, with the single exception of grapes; in ladies' work, in carriages, and in poultry, the display was fully equal to that to which the entire Province contributed. The attendance of visitors was large, and financially, as well as otherwise, the exhibition was a success.

In briefly mentioning the leading features of the show, it may be well to begin with

#### THE LIVE STOCK.

The horse classes were well filled, especially the heavy draught, general purpose, carriage and blood horses. Two heavy draught stallions are particularly worthy of mention: "Farmer's Glory," owned by A. McTavish, of Lobo, and the imported horse "Phen-

omenon," owned by A. Laurie, of London. Robt. Murray, of Westminster, Wm. Saddler, of Dorchester, J. W. Lurg, and T. McLean, of Lobo, showed some fine-looking horses and mares for general purposes. In carriage and buggy horses the competition was keen, there being over sixty entries. Beautiful blood horses were shown by Messrs. Monger, of Lobo, and McArthur, of Westminster. Some very nice farm teams were on the ground. Of cattle there were fine specimens in the Durham, Devon, and Galloway classes. Messrs. Peters and Pincombe were the chief exhibitors of Devons, but it would require a much longer list to enumerate the Durham exhibitors. At all our fairs, whether provincial or local, this choice breed of cattle takes the lead. Mr. George Robson got the largest share of the honours in this department. Some fine Durham and Devon Grades were shown, and gave proof of the improvement that may be effected in our native cattle by the infusion of a little better blood into them. A few yokes of working oxen were shown, Mr. Geo. Robson having the best pair. Some good specimens of fat cattle were also exhibited by Messrs. Simmons, Pincombe, and Walker. A large number of sheep were on the ground, the Leicesters greatly predominating, and comprising some as fine samples of the breed as can be found anywhere in Canada. We cannot say as much for the Cotswolds, though some fair animals were exhibited. The Southdowns were rather inferior in quality and limited in quantity. The porcine tribe was not largely represented, and consisted almost wholly of large and small Berkshires and Suffolks. Some of them were extremely well-bred, and showed that the farmers of the West understand the difference between land-pikes and hogs properly so called. London is noted for its first-class poultry, and in this department there was a truly magnificent display. Messrs. Peters, Boyne, and Routledge, were the chief exhibitors. For some reason or other, Mr. Lamb did not show any of his choice collection of fowls. A few pairs of pigeons were on the ground.

#### IMPLEMENTS.

The show of these was hardly so extensive as we expected to see, though it was considerably larger than any other local fair we have attended. Specimens of Ball's Ohio Combined Reaper and Mower, were shown by J. Elliott, of the Phoenix Foundry, London, and F. W. Glen, of the "Joseph Hall Works," Oshawa, those from the latter establishment having a raking attachment. The "Ayr Combined" was shown by Mr. J. Watson. Grain drills and cultivators of superior workmanship were shown by various parties. Among the cultivators was "Anderson's Patent Vibrating Cultivator," exhibited by Stewart, Bruce & Co. "Anderson's Combined Pea Harvester and Hay Rake" attracted much attention. This implement was not long since subjected to thorough trial on a farm in London Township. It will pull from eight to ten acres of peas per day, and is also a most effective hay rake. Its cheapness is no small recommendation to it. The price is only \$20. Seed drills of different sizes were exhibited by Messrs. Wm. and Jas. Walker, of Westminster. Mr. George Murray, of Westminster, had a hand grass sower, and a one-horse combined grain and grass seed sower, which, though not highly finished, seems to do its work well. Messrs. Maxwell & Whitelaw, of Paris, exhibited a seed drill for sowing all kinds of seed; also, a powerful cider mill. Hon. E. Leonard had one of his noted wood-sawing machines, which is, we believe, second to none for efficiency and economy of power. Some beautifully made ploughs were on the ground, the chief competitors being Geo. Grey, of London, and J. McSherry, of Iona. Two ploughs, one wooden and the other of iron, made by R. Hornsley & Sons, of England, were exhibited. A ditching machine was shown by Robt. Robson, a horse hay fork by Eliot Grieve, harrows by Jacob Metzger, pumps by Nelson Reynolds and J. M. Cousins, lumber waggons by Plum-mer & Pacey, and Hull and Kennedy, a farm cart by

Robt. Murray, and straw cutters by J. M. Cousins. Cradles, rakes, scythe snaths and tool handles, were shown by T. Bryan, an exhibitor who got no less than seven premiums at the Provincial Fair for these articles.

#### FIELD AND GARDEN PRODUCTS.

The show of grain was exceedingly good, including fine samples of wheat—fall, spring, and midge-proof; together with barley, peas, oats, and Indian corn, that looked as if the season had been anything but the unfavourable one it has. Good samples of clover, timothy, and flax seed were shown. A splendid display of turnips, carrots, mangolds and potatoes, was on the ground. The vegetables were much better than could have been expected after such a dry, hot summer as we have had. Two fine sheaves of flax were shown with the seed on. Several bales of hops, of excellent colour, were exhibited. Very fine cabbages were shown by several parties; tomatoes, of all sorts and sizes, were conspicuous among the garden products; particularly good cauliflowers made the mouth water; and specimens of the egg plant, looked like shiny bladders of purple snuff. A superior collection of fruit was exhibited, consisting mainly of apples, pears, peaches, plums and grapes. The array of flowers was varied and attractive, and a very fine collection of green-house plants attracted much attention. Foliage plants of rare beauty were especially conspicuous in this department. Some very tasteful floral designs were to be seen, one of which, representing a huge cornucopia, was particularly pretty. It is pleasing to see evidences of a love of the beautiful in nature, going hand in hand with regard to the necessary and useful.

#### MISCELLANEOUS.

Under this head we must dispose very summarily of a great variety of things on which it would be easy to dilate, and that are well worthy of especial mention. As already intimated, there was a fine show of carriages, among them a splendid cab, made by Mr. J. Campbell of London. Beside him, Abbot Brothers, Thompson & Moran, Smith & Gordon, McKeller & Stewart, Pavey & Sons, Messrs. Shotwell, & Hodgins, showed vehicles of various kinds and of superior workmanship. The fine arts, fancy work, and home manufactures, were well-filled departments, but we cannot attempt details respecting them. Beautiful specimens of hand weaving in carpets, coverlets and shawls, were shown by Mr. Wm. Patrick, of London Township, and attracted much notice. A very fine collection of marble work was exhibited by Messrs. Teale & Wilkins; also, some very nice modellings, and a piece of sculpture representing a figure of "Grief," which was much admired. A beautiful assortment of furniture was shown by Mr. Moorhead, and a large assortment of stoves by the Messrs. McClary and M. Anderson. Washing machines and wringers, hubs, spokes, and bent stuff for carriages, were quite conspicuous articles. A patent horse-shoe, contrived to prevent balling with snow in the winter time, was shown by Mr. Cooper, of Strathroy, and a lever spring wheel by Mr. McLaren, of the same place. A superb collection of furs drew many observing and admiring eyes. Musical instruments; sewing machines; silver ware; crockery; fire-arms; plain and fancy bread and biscuit; cheese, both dairy and factory; leather goods; specimens of book-binding; samples of vinegar, currant wine, and perfumery; articles of brass foundry; collections of brushes; dressed skins; gloves and mitts; sugar-cured hams and bacon; starch from the Ontario starch works; selected grocery goods; live bees, hives, and honey, made up a miscellany deserving of close attention, and presenting many features of special interest.

The London people deserve much praise for the spirited manner in which they have sustained this fair, as do the farmers of the surrounding country for the efforts they have made to present a display of stock and farm products worthy the great fame of the Western peninsula. Though we have no idea

that this Exhibition was got up in any improper spirit of rivalry, yet there seems to be an idea entertained by the people of London and the surrounding country, that they are not appreciated by the rest of the Dominion as they deserve to be, and certainly such demonstrations as the one we have been chronicling will do much to impress outsiders with the great resources and high pitch of agricultural improvement characteristic of this part of the province. We regretted to find a notion prevalent in some minds that the CANADA FARMER is unduly jealous of the reputation of Toronto and the adjacent region, and disposed to slight the claims of the young sister city at the west, and its neighbourhood. We can most honestly declare that there is no such feeling entertained by us, but that, on the contrary, we are always glad to record whatever is of interest to the farming community, wherever it may transpire, so far as we have information and can spare space. As one evidence of this, we attended, at considerable inconvenience, the recent Western Fair, and have with great cheerfulness bestowed the meed of commendation on those concerned in its origination and management. We beg our London friends to drop all suspicion of local jealousy, and to believe that we are always ready to co-operate with them for the good of our whole country, and any part thereof.

### New York State Fair.

THE twenty-eighth annual fair of the New York State Agricultural Society, was held this year at Rochester, from Sept. 29th to Oct. 2nd. In no other city of the State are these exhibitions so successful as at Rochester. It is central, has convenient, spacious, pleasant grounds, and is, withal, easy of access. We journeyed to this favourite point with "great expectations," and they were not disappointed, for the show was all that could be desired. When the New-Yorkers get up a State exhibition, they mean business, and lay aside all thought of horse-racing, side shows and pleasure-taking. Their energies are honestly bent to the work in hand; hence it is not surprising that from year to year there is visible progress, while they far outshine their sister States, who have no faith in agricultural shows for agriculture's sake, but must bait their traps with tit-bits of jockeyism and gambling. Judging by the crowds who attend on these occasions, the people of New York State appreciate an agricultural exhibition, and do not require extra excitements of a foreign nature to allure their presence and patronage. Even the horses do not seem to require the impetus of a race to urge their attendance. The equine display at Rochester was quite as varied and meritorious as that brought together at New Haven a short time previously, where the race-course vied with the showing. Indeed at any American fair, whether State or County, you may count on a fine array of horses. The American citizen who is not fond of a fine horse may be set down as a *rara avis*. One of the earliest and strongest aspirations of boyhood, in the United States, is to be able to handle the ribbons; and "Young America" is in his glory with a fast horse in the thills, a cigar in his mouth, and beauty beside him on the other half of the buggy cushion.

The heavy draught and general-purpose classes were better filled on this occasion than we ever remember to have seen them at an American fair. In our view, it is one fault of the agriculture of the United States that the plough teams are too light. It is difficult to breed horses that are adapted both to the furrow and the road, because a dead pull is wanted in the one place, and at least a fair degree of speed in the other. In carriage horses the turn-out was, as usual on such occasions, very fine, and if the judges were not puzzled where to award the honours, the spectators were embarrassed where to bestow their highest commendation and preference. The entire "get up" of the "rigs," as Americans call horses, harness and vehicles, is such as to impress a stranger with the great

attention bestowed on equipages across the lines. There is a style about these turn-outs which evinces the prevailing taste of the people.

For obvious reasons, the cattle and implement departments attracted our chief attention; we shall therefore devote the greater part of the space we have at command to some notice of them.

The show of cattle of all breeds was in excess of any former exhibition that we have attended in the State of New York. Short Horns as a class were very good indeed. C. K. Ward, of Leroy, N. Y., had on exhibition a lot mainly of his "Hopes," coming from "Hopeless," by "Horatio,"—imported by the Livingstone County Company, which in Mr. Ward's hands fully sustain their high reputation. W. W. showed the bull "Monarch," by "Oxford Lad," an animal much like his sire in color and points—also, a young bull by "2nd Duke of Geneva," out of the fine cow "Constance 2nd," and as might be expected from the union of such parents, the calf is a choice one.

Hon. A. B. Conger showed a herd of cows and heifers of rich breeding, but too low in condition to do justice to their blood or breeder; also, a large, grand aged bull, bred by Mr. Thorne. Craig Wadsworth had a lot of good, useful-looking animals, evidently direct from their pastures without special preparation for a show. Messrs. Wolcott & Campbell showed some good young things, and a fine cow, "Grace Darling," much resembling the well-known show cow "Miss Belleville," from which cow "Grace Darling" remotely descends.

Hon. Ezra Cornell came out this year in great force, but for lack of a show bull did not enter for the herd prize. A light roan, "Princess," is the best of her family we have seen, an even, level beast. A red yearling of the "Lucy Ann's," a strain, Mr. C. is very partial to, descending from the cow "Caroline," by "Dashwood," imported by Walter Dun, of Kentucky, in 1836, shows the capacity of Short Horns for early maturity. She is full in all her points, and particularly good in her crops and heart. A roan "Lucy Ann," two years old, is much like the above in her general characteristics. "Kirkleavington," a rich roan, three year old heifer, by "3rd Lord of Oxford" (exported to England), is a capital specimen of the Bates' blood, with a strongly marked head, rough, but waxy horn, short fine neck, brisket wide, deep and projecting, well filled crops, with extraordinary wide loin, hips and rump, filled with flesh of first quality—as a whole one of the very best tops we recollect on a young cow. Her defects are those of her blood; she is too thick and heavy in her shoulders, and this makes a slight flatness in the fore ribs look worse than it is. All Mr. C.'s stock show evidence of careful training.

Mr. M. A. Cochrane, of Montreal, added largely to the attraction of the Short Horn show, taking, as he did, the gold medal for the best herd, with the young bull "Daron Booth," a very evenly good, red eight-teen months' beast, strongly dashed, as his name indicates, with Booth blood. The cows were, "Sanspareil," a great, strong beast, bred by Mr. F. W. Stone, of Guelph, with grand hind quarters; the beautiful, white three-year old heifer "Snowdrop"; "Maid of Athol," a red and white three-year old, very even, stylish and attractive, with promise of a distinguished career in the show-yard, if she is gone on with; "Maggie," a red two-year old, very neat and stylish, but stripped of some of her points by her calf;—but all the cows and heifers just named pale before the world-renowned cow "Rosedale," so well known on two continents as to need no description. We were glad to see that "Rosedale" gives promise of adding a calf to the Compton herd within a few weeks, by the "11th Duke of Thorndale." Mr. Cochrane also showed a yearling heifer, a good specimen of Major Duncan's breeding, and the heifer calf "Wharfedale Rose," recently imported from England.

In Ayrshires, Messrs. Wolcott & Campbell showed a herd all descending from a beautiful little short-

legged cow, "Handsome Nell;" only one, beside the old cow—"Nannie"—is in milk, and these two show the milk-veins and udders for which the breed is celebrated; altogether a neat lot of cattle. Messrs. W. & C. also showed several good Jersey cows, as did Messrs. Dinsmore & King. Each of these breeders showed very fine aged bulls of the Jersey breed.

In Devons, Joseph Hilton exhibited a lot of ten, and Walter Cole, of Batavia, twenty cows, all good, and some extra. Among the latter sort we place ten "Helenas," descending from the "Helena" importation by Gen. Wainwright. This sort of Devons are usually quite light-coloured, but are quick feeders and often good milkers.

The only Herefords were those forming the herd from Compton, and these were so good that the gold medal was awarded to Mr. Cochrane, although they had no competitors.

In Grades we saw nothing of note. A few Gallows were exhibited—our notes do not give the names of owners. In fat cattle there were no monsters, so attractive to the crowd, and we noticed but some half a dozen good, fairly fed oxen.

As a whole, the cattle show was a good one, and many useful lessons could have been learned from it. Many breeders of Short Horns, for the first time, saw in "Rosedale" a grand specimen of the Booth cow, with her immense carcass and remarkably fine bones. The Short Horns, for the first time in some years, were judged by the scale of points, which in some instances gave decisions at variance with the popular voice. We fancy the show cow that can fill the 100 points of the scale has yet to be bred. Perhaps this pitch will be reached when breeders can unite the excellencies of the two representative cows in the Rochester show ring; the grand, fine ribs, fore flank, heart and shoulders of "Rosedale," with the long, level, wide hind-quarters and flank of "Kirk-leavington."

We must not omit mention of the sheep. In this department the Merino usurpation is fast coming to an end on the other side, and the long-wooled classes are asserting their just claims to a division of honour and attention. While the Merinos were present in considerable force, there were also numerous and fine specimens of Leicesters, Lincolns, Cotswolds, and Southdowns. Mr. Cochrane, of Montreal, took first and second prizes for Leicesters and Lincolns, and made a clean sweep of the Cotswold premiums. Some very decent grade sheep were shown. The pig department was well filled, chiefly, however, by the larger breeds, Chester Whites predominating. A really good display of poultry was on the ground, Brahmans, Black Spanish, and Leghorns being especially prominent.

In the Implement Department there was of course considerable similarity between the New York and New England fairs, inventors and manufacturers very naturally making the tour of the fall exhibitions to bring their wares into public notice. We must refer our readers to the very full report of the New England fair which appeared in our issue of Sept. 15th, for an account of such implements as were exhibited on both occasions. At present we shall briefly advert to those which came under our eye at Rochester only. A number of machines were exhibited from the Rochester Agricultural Works, among which were Hubbard's double-speed mowers and self-raking reapers. The advantages claimed by the exhibitors of these machines over others of the same class on the grounds are important. For instance, both driving wheels are going continuously. Furthermore, by changing the gear shifter you increase or lessen the speed or motion of the cutter, so that in a field where the grass is thin there is no necessity for running the cutter so rapidly as to shake the machine almost to pieces. Again, it has no ratchet wheels nor extra gearing to accumulate earth and clog the working of the machinery. "Farmers' Favourite," a continuous feed, double distributor grain drill, from Bickford & Huffman's Agricultural Works,

Macedon, N. Y., attracted a good deal of notice, and we will briefly state its merits. It embraces a simple arrangement for putting the drill in gear with the tubes down for work; a double distributor; sowing coarse and fine grain alike, with accurately double and reversible points or tubes, in single row or zig zag as desired. The exhibition given of the distribution of grains by Mr. S. W. Gallup, their general agent, satisfied us that it will distribute all grains with certainty and continuously. The tube lifter accomplishes its work with ease and very little labor. The grass seed and fertilizing attachments are very simple and practical. In this department may also be mentioned McConnell & Jones' street sweeping machine. A. H. Wood had on exhibition a portable engine, which can be employed in threshing, sawing wood, cider making, &c. This engine is mounted on cast iron wheels, hubs and rims four inches wide, with a double set of wrought iron spokes. The wheels raise the boiler high enough to clear any part of the road, so that it can be moved from place to place without detaching any part of the engine. The Pioneer Stump-puller, entered by C. A. Church, of New Berlin, Chenango County, N. Y., is one of the simplest and yet the most powerful machines of the kind. Two men can raise a weight of 25,000 pounds and pull 100 stumps a day with it. The action is quick, it is portable and durable, and the price, sixty dollars, is small to any farmer who has stumps to pull or rocks to dig. Patrick's Improved pump, for watering stock, attracts a good deal of attention. Silas R. Kenyon had a patent Corn Husker, and E. B. Roberts a neat machine for cutting weeds, cultivating and hoeing. There was a good display of the Gordon Empire Feed Cutters, Grain Separators, and Smut Machines of all sizes. The hardware firm of Pollock & Weaver, had on exhibition a large number of Agricultural Implements, comprising Feed Cutters, Shovels, Rakes, Forks, &c., from their establishment in Rochester. There was a great number of Potato Diggers with their various improvements.

"The Iron Clad" is the name of a brick machine in operation on the Fair Grounds. It was exhibited by the inventor, Mr. J. A. Lafer, of Albion, and has several points of excellence. It makes three different kinds of brick; common, pressed and stock brick. Pressed brick can be made with it in rainy weather as well as in fair, and the inventor claims that the work of brickmaking can be commenced three weeks earlier with this than with any other machine. Daniels' Patent Adjustable Wheel Tire Tightener is a very simple and convenient attachment to a wheel, so concealed as never to be noticed, by which the tire can at any time be made perfectly tight by turning a nut. The tire of any waggon on which this tightener is used can be set in two or three minutes better than any blacksmith can do it in the usual way, thus saving much time and money. It can be secured by addressing—James Ort, Mechanicsville, Pa.

One of the most useful and durable things to any farmer who works or ever expects to work a mower or reaper, is the Emery Knife Grinder, manufactured by the Emery Grinder Company, Auburn, N. Y. It will grind four times as fast, and last ten times as long as a grindstone—is not affected by sun or rain, grinds out all the nicks and never draws the temper of the steel. For circulars giving full description, address E. G. Storke, Secretary of the Company, Auburn, N. Y.

Two very efficient Ditching Machines were shown, and put to actual trial. The Heth Ditching Machine is strongly-made, simple, and does good work, making a complete ditch by once going over the ground, and leaves it ready for the tiles. It dug a ditch, thirty-five feet in length, in nine minutes. The Chicago Ditching Machine is a still more efficient one. It dug a ditch, forty rods in length, in fifty-two minutes. This machine is considered the best yet known in the United States. It was exhibited by C. H. Beardsley, Secretary of the Chicago Ditching and Spading Company. "Buell's Improved Seed Washer," for washing out apple and other seeds, is worthy the attention of nurserymen and others. It is made by Messrs. Buell, Maulins, N. Y. The "Farmer's Boiler," on a new plan, cooks, heats and steams food for stock at a wholesale rate, and is especially convenient for those who keep a large number of animals. E. E. Sill, Rochester, N. Y., is the agent and

manufacturer of it. Several dairy articles may be mentioned. "Westcott's Return Butter Pail" is a contrivance for sending butter to market in the best possible trim. They are eighteen dollars per dozen, hold fifty pounds each, and are made by Cady Silsby, of Seneca Falls, N. Y. Skinner's Patent Butter Worker and Churn Power, lessens and lightens dairy labour. Price, including churn and bowl, \$15. E. H. Bancroft & Co. manufacturers, Syracuse, N. Y. "The Combined Paper Box and Bandage" is an invention worthy the attention of factorymen. It saves the expense of bandage, is lighter than the ordinary box, lessens trouble in cheese-making, diminishes the shrinkage, prevents the formation of thick rind on cheese, and retains the aroma in it, thereby making a richer and better article; at least so say the patentees, Ulley, Kimball, and Reynolds, of Watertown, Jefferson County, N. Y. Messrs. Ralph and Co., and O'Neill & Co., of Utica, exhibited a number of Dairy requisites with various improvements in them. A Grape Trellis that can be readily tightened or loosened was exhibited by T. G. Yeomans of Walworth, Wayne Co., N. Y. A Hoisting Machine for the use of merchants, having great lifting power and yet very portable, was shown by G. F. Senter, Albany, N. Y., also a modification of it for the use of farmers as a hoisting machine and a binder of loads of hay and grain, to prevent their shifting and tilting on an uneven road. Joseph H. Chadwick's Carriage Spring Brace, a contrivance to prevent buggy springs from losing the perpendicular, was shown by G. S. Farwell, North Chili, Monroe Co., N. Y. Some articles of domestic convenience were on the ground, among them "Galvanized Portable Ovens," (to surpass the old-fashioned brick oven,) made by G. S. Blodgett & Co., Burlington, Vt.; a "Vegetable Grater," for grating carrots, potatoes, apples, horse-radish, &c., warranted to grate a carrot in a quarter of a minute, made by H. Arthur, Lowville, Lewis Co., N. Y., and the "Automatic Clothes Washer and Boiler," which dispenses with friction and chemicals, drives the hot suds and steam among and through the clothes, leaving nothing to do but rinse them: patentee, W. B. Watkins, 19 Cortland St., New York.

In the mechanical department, a great variety of machinery was exhibited, and was seen to special advantage, the Society having provided ample steam power, band-wheels, &c., to enable machinists to set their machines at work. Shingle-making, planing, boring, morticing, Ventian-blind slat-splitting, stove fitting, &c., &c., rendered "Mechanical Hall" a lively and attractive place. We would suggest this as a feature that might be introduced to advantage in our own Provincial shows. It would attract both exhibitors and spectators. "Floral Hall" was gay with flowers and tempting with fruit, especially grapes, of which there was a superb collection. "Domestic Hall" was filled to repletion with a bewildering multitude and variety of articles. The display of farm waggons and carriages was very fine. Cooking, parlour, and hall stoves were shown in great diversity of size and pattern, also kitchen ranges, and furnaces for heating first-class dwellings and public buildings.

For the first time at one of these exhibitions, we encountered an official dignified with the title of "Superintendent of the Press" in the person of W. H. Bogart, Esq., a veteran editor, we forgot of what paper. His business was to do the polite to visiting Editors, and we gratefully acknowledge that his treatment of us was entirely in keeping with the motto that embellished the front of his office—"None come too early, none depart too late."

### Toronto Veterinary School.

THIS valuable Institution will re-open, as will be seen by advertisement, on Wednesday, Nov. 11th, for second and third year students, and for first year students on the 6th of January, 1869. We are happy to hear of the continued prosperity of this School of Veterinary Science, the existence of which, in the Province of Ontario, is of great importance to the agricultural community. Already a large number of well-qualified practitioners have been trained by its means, who are now distributed over various parts of the country, and whose services are available to the farmer in place of the often mischievous interference of ignorant farriers. Such schools of instruction are valuable, moreover, in disseminating generally a better knowledge of the animal economy, both in health and disease. Indirectly, they educate the people as well as the profession.

The School is under the able direction of Andrew Smith, Esq., assisted by Professor Buckland, and Drs. Bovell and Thorburn.

Fall Shows.

We have devoted considerable space in the present issue to accounts of the Middlesex and London Show, and the New York State Fair, and nearly the whole of our last number was occupied with reports of the agricultural and horticultural departments of the Provincial Exhibition. It would require, in like manner, the greater portion of the present number to notice, however briefly, the numerous County and Township Shows that have been held during the past fortnight in various parts of the Province. We read of one or more in every exchange that we open, but unless some special account has been officially sent us, it has not seemed desirable to notice any one particularly. Indeed, to have done so would have involved us in a vast amount of almost unavoidable repetition, which would have been tedious to our readers. So far as we can learn, the Exhibitions have been creditable to all concerned, and give evidence of material progress. At St. Catharines, the County and Township Shows were amalgamated, and an unusually good Exhibition was the result, which will no doubt lead to a repetition of the union in that county, and perhaps to the example being followed with good effect in other sections of the Province. The Toronto Electoral Division Agricultural Society's Show, held on the 1st of the month, and which of course we visited in person, was a successful though hastily-arranged affair, and for want of suitable accommodation, destitute of any show in live stock. Throughout the country, grain and root crops have been well represented, and the quality has in general been above the average. "Superior to any previous Exhibition" has been the verdict in a large majority of the reports that have come to hand. Surely, with so much cause for congratulation, we should, after the worthy example of our neighbours in the United States, institute a day of National thanksgiving for the bountiful harvest, and other blessings of Providence, that have fallen to our lot.

THE Nova Scotia Agricultural Exhibition, of which we hope shortly to receive full accounts, is said to have been very successful.

STOCK SALE.—The attention of farmers generally and of stock-breeders is directed to the advertisement in our present issue of the important sale of stock to take place on Mr. Snell's farm, at Edmonton, on Wednesday, Oct. 28th. Mr. Snell's stock have attained a continental reputation, and we doubt not the mere announcement of the sale will secure a large attendance of buyers. The sale comprises Short-horn cattle, Leicester, Cotswold and Southdown sheep, and improved Berkshire pigs.

RUSSELL COUNTY AGRICULTURAL EXHIBITION.—We have received an interesting account of the Exhibition of the Russell Agricultural Society, which took place at the Village of Metcalfe on Friday, Sept. 25th, and was a very successful affair. There was a good show in all the departments, a large assemblage of visitors, and some capital addresses by Hon. S. L. Tilley, Hon. James Skead, Hon. Col. Gray, of New Brunswick, and Dr. Grant, M.P. for the County of Russell. A lacrosse match was added to the attractions of the day, and the annual dinner of the Society closed the proceedings, which seem to have been altogether very satisfactory.

THE AMERICAN ENTOMOLOGIST.—We would especially direct the attention of our readers to the advertisement of this new entomological journal, which we noticed in the CANADA FARMER for Sept. 15th. We would again most cordially recommend this important and useful periodical, not only to students in Natural History, but to all engaged in practical agriculture or horticulture. Persons residing in Canada can be supplied with the *American Entomologist*, postage free, by remitting one dollar to the Rev. C. J. S. Bethune (Credit P.O.), Secretary of the Entomological Society of Canada.

Agricultural Intelligence.

Meeting at Rochester—Cattle Disease.

On Wednesday evening, Sept. 30th, a meeting was held in the Osborn House, Rochester, for the purpose of considering the propriety of holding a convention with reference to the cattle plague. The following gentlemen were present:—Hon. I. S. Gould, Hon. L. F. Allen, General Patrick, Commissioners of the State of New York; Hon. C. Christie, President Board of Agriculture, Ontario; Thos. Stock, Esq., President Agricultural Association, Ontario; Hon. A. A. Burnham and Col. Denison, members of the Board of Agriculture, Ontario; and other gentlemen connected with the N. Y. State Agricultural Society.

The gentlemen from Canada attended in compliance with an invitation extended to them by Mr. Allen on the part of the Commissioners of the State of New York. The meeting was agreeable and important. There was entire unanimity of opinion as to the necessity for a Convention. It was deemed the only way to bring about uniformity of legislation with reference to this important matter. We give the following summary of the business done at the meeting.

It was resolved to recommend to the Governments of the several States and Provinces interested, that three Commissioners from each of the States and Provinces in question be appointed by them to attend a Convention to be held at Springfield Illinois, on Tuesday, the 1st December, next.

The object of the Convention is to consider the pathology, symptomatology and history of the Spanish cattle plague, and other infectious and contagious diseases to which cattle and other stock are liable, and the methods of preventing the spread of such diseases in the best possible manner, with reference to the interests of the producer and consumer, and also to consider the sanitary requirements of the community with reference to the feeding and rest of animals "in transitu," and the best methods of inspection, slaughtering and preparing for market.

The Convention will prepare the draft of a law which shall provide for the accomplishment of all these objects, to be submitted for enactment to the Legislatures of the States, Territories and Provinces represented in the Convention.

Immigration Returns.

The following figures give some interesting information relative to the number of immigrants who have arrived at Toronto since the 1st of January last. The statement is obtained from the records of the emigration office in this city an employe of which watches the arrival of the trains and boats. The large number of Germans and Scandinavians who pass here have, of course, only selected the Quebec route to reach their destination, which is arranged before starting on their journey from the old world. A large proportion of the last named were Mormons, on their way to Utah. The nationality of the immigrants was as follows:—English 1,692; Irish 964; Scotch 1,231; Germans 7,815; Norwegians 10,390; Danes 1,635; Scandinavians 437.

In this connection it is well to state that the immigrants lately sent out by the East End Society of London all found employment on their arrival. Nearly all were employed before reaching here by one or two gentlemen on the line of the Northern Railway.

The arrivals in each month and the proportions going to Canada and the United States are shown in the following table:—

	CANADIANS.	U. S.	TOTAL.
January.....	50	52	102
February....	67	26	93
March.....	100	48	148
April.....	165	310	505
May.....	465	4,408	4,873
June.....	768	6,387	7,155
July.....	765	5,625	6,390
August.....	721	2,689	3,410
	3,101	20,175	23,276

Showing a total passing this point of 23,276 in eight months.

The following show the destination of the different races:

	CANADA.	U. S.	TOTAL.
English....	1,388	301	1,692
Irish.....	602	361	966
Scotch....	1,017	181	1,231
Germans....	60	7,855	7,815
Scandinavians..	1	11,051	11,055
Danes.....	0	157	157
Other countries	0	30	30
	3,101	20,175	23,276

More than 10,000 people say, the *Times*, were present at the County of Peel Fall Fair, held last week at Brampton.

The sinking of the salt test well at Port Elgin proceeds satisfactorily. It is now nearly six hundred feet deep.

Mr. Joseph Parkinson sold a Durham cow and calf recently to Mr. Acheson, Guelph Township for the sum of \$230; also two ram lambs for \$50.

Bears are numerous and voracious around Ottawa city. Last week a fine prize cow belonging to Mr. James Armstrong, was selected out of a herd at pasture, and mangled by them.

PEPPERBUNT CULTURE.—Lyons, Michigan, has a hundred acres of pepper mint under cultivation, and has made this year a thousand pounds of pure oil, and is still at it. The oil is worth \$8 a pound.

WINTERING CATTLE IN QUEBEC.—The Montreal *Business* says that the scarcity of fodder in Ontario, as compared with the greater part of Quebec, has induced speculators to buy up droves of young cattle in the western province and take them there to winter.

CROPS IN GREAT BRITAIN.—The British Board of Trade has made known the chief results of the official Agricultural returns of Great Britain for 1868. The number of acres in wheat for the current year was 278,381 more than in 1867; an increase of 8.2 per cent. The decrease in the breadth of barley sown was 109,963 acres, or 4.9 per cent. In live stock. Cattle show an increase of 8.5 per cent; sheep of 6.1 per cent; pigs 2.2 per cent. The land under potatoes in Great Britain this year is 539,551 acres against 492,217 in 1867. The acreage under hops is slightly increased.

UNWED STATES HAY IN GREAT BRITAIN.—In consequence of the existence of the cattle disease in the States, extra precautions have been taken in Great Britain with regard to the introduction of American hay. Early in September the official *Gazette* contained an Order in Council mad, on the 15th of that month, under which hay brought from any port of the United States to any port or place in the United Kingdom is not to be landed without a license duly obtained from the Privy Council, and its use, even under these conditions, is restricted to horses.

LARGE FARMS.—Two enterprising gentlemen, of Harrison county, Ohio, have purchased a township six miles square in Nebraska, of Government land, and propose to convert the whole into one grand farm of 23,010 acres. They intend to inclose it with a hedge of osage orange 21 miles in extent, and will put up cross hedges 12 miles in length. They will hire all their labour, and use the most improved agricultural machinery, intending to put the whole farm into wheat as fast as possible. It will require 20,000 bushels for the seed of such a farm. A colony is also being formed in Chicago, under Mr. Amos Duffield, for the purchase of another township in Nebraska for the same purpose.

SHORT HORN SALES. Mr. John Sacl, of Edmonton, sends us the following list of his recent sales of Short Horns:—To Jas. S. Thompson, Whitby—"Fairy Duke," by "Duke of Bourbon," 184; dam "Fairy," by "Prince of the West," 588; and "Rose of Allendale," by Duke of Bourbon," dam "Emma," by "Cheltenham," 655.

To Mr. Jonathan Knaggs, of Bothwell—"Bell Duke of Solway," by "Duke of Bourbon," dam "Mary Grey," by "Baron Solway," 45, and "Annie Laurie," by "Duke of Bourbon," dam "Kitty Clover," by "Baron Solway," 45.

To Mr. Wm. Smith, Whitby—"Diamond Duke," the second prize bull sold at Ham on, by "Duke of Bourbon," dam "Regina," by "Prince of the West," 588.

To Mr. R. B. Ireland, Nelson—"Kentucky Baron," by "Baron Solway," dam "Queen Mary 5th," by "Grand Duke," 2933 A. H. B.

Entomology.

A Man-slaying Caterpillar !

"DEATH IN THE TOMATO PATCH.—Most persons who are familiar with the tomato plant know that it is infested—more in some localities than in others—by a huge green worm, two or three inches long, and as large as a man's little finger, its forehead armed with a stiff horn or spike. Various reports have of late been afloat in the papers with reference to the poisonous character of the 'bite' of these worms; but we suppose the danger, if there is any, lies in the sting or puncture from its horn, and not in the bite. A few days since we heard an account of a case which occurred in Red Creek, Wayne County. The family sent the hired girl to pick some tomatoes, and while so engaged she felt a sting like the sting of a bee in her hand. In a short time the poison seemed to have penetrated to every part of her system, and she was thrown into spasms, her movements representing those of the worm. In her most violent periods it required the efforts of two or three persons to hold her. She was alive at last accounts, though it was not thought possible for her to recover. So says the *Auburn Advertiser*."

Every autumn a similar wonderful story to the above goes the rounds of the newspapers, and strikes terror into the hearts of the tomato-gatherers. Upon what foundation of truth, if any, these statements rest, we have never been able to discover, and yet, from their constant recurrence, one would think that there must be something at the bottom of them. The caterpillar in question is, we believe, perfectly harmless; we have frequently handled them, and other similar larvæ, with perfect impunity. It is absolutely impossible for the insect to hurt any one with its so-called "sting," which is simply a thorn-like horn incapable of penetrating the flesh, and situated not on the forehead of the caterpillar, but quite at the other end! We have often tried to force this horn into the skin of our hands, but never found it stiff enough to make a puncture; even, how-

ever, if it were to pierce the flesh, it could do no more harm than the prick of a coarse pin, as it is furnished with no poison or "noxious distilment" of any kind. The insect referred to is the caterpillar of either *Sphinx Carolina*, which is not found in this country, or *S. quinque maculata*, common here on the potato and tomato.

It is not at all unlikely that, in the case referred to above, the girl was stung by a ground-wasp or hornet, whose sting produces sometimes very serious effects, and that the innocent tomato-worm, on account of his large size, ugly looks, and threatening horn, was pronounced the culprit instead. Before believing the latter's guilt, we should wish to hear of one single well-authenticated case that occurred in the presence of an entomologist, or one accustomed to notice the differences between small objects in nature, and who could distinguish, at any rate, between the head and tail of a caterpillar.

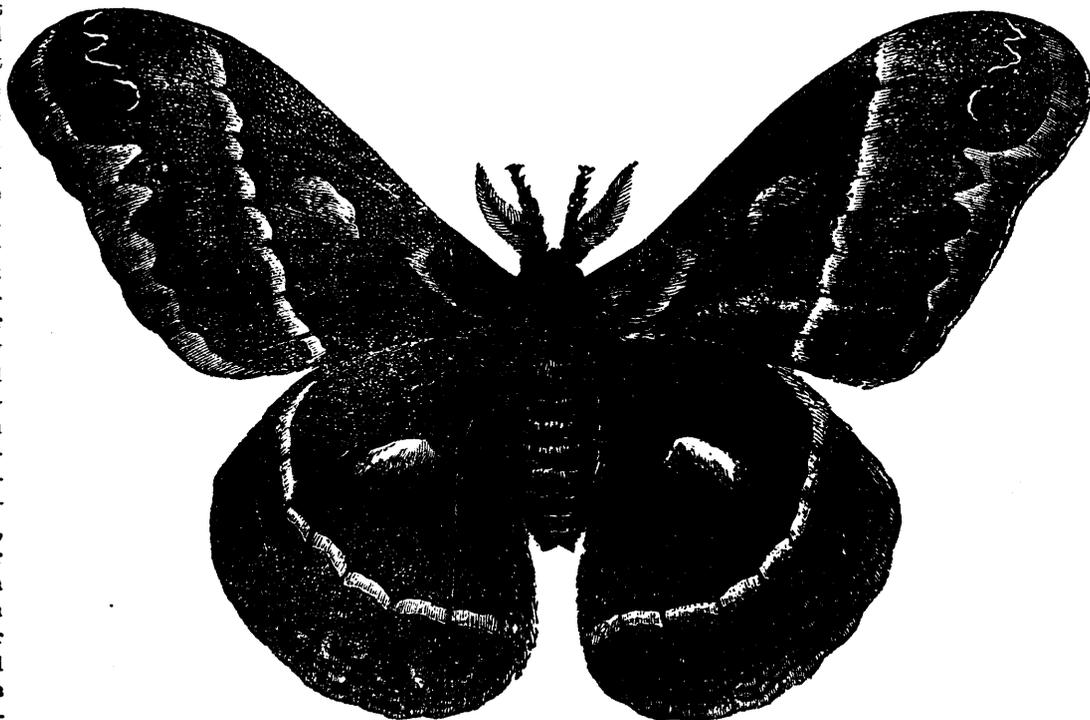
The Cecropia Emperor Moth.

NON-COLLECTORS of insects, who see for the first time specimens of this and other large native insects, are usually filled with amazement at their size and beauty, and scarcely credit the statement that they are veritably indigenous to Canada. Being nocturnal in their habits, the Emperor Moths—of which we have five species in Canada—are but seldom seen except by collectors and others who take the trouble to rear them; their cocoons and caterpillars, however, are much more frequently met with; the former, in the case of the moth before us, being especially conspicuous on the leafless boughs of apple and other trees.

According to promise, we now give a life-size illustration of the Cecropia Emperor Moth, (*Samia Cecropia*, Hüb.) and its curious, pod-like, silken cocoon. We



lately (C. F., Sep. 15, p. 278) gave a brief description of the egg, caterpillar and cocoon of this magnificent insect; the illustrations now presented will enable any of our readers to recognize the moth itself, and will perhaps encourage them, when they find one of the cocoons, to endeavour to rear the insect, and obtain a live specimen for themselves. All that is



necessary is to keep the cocoon in a cool room during winter, shade it from any direct rays of the sun, and take care when it does come out, (about the end of May or beginning of June,) that it does not fly out of the window. The best plan is, perhaps, to place the cocoons in a gauze-covered box, and keep them in a room where there is no fire; when warm weather comes on in the spring, the box should be examined daily, and the specimens removed as soon as their wings are fully expanded; they can easily be killed with chloroform or ether.

The upper figure represents the cocoon, which is composed of strong tough silken fibres, closely agglutinated together; after being boiled for some time in an alkaline solution, the silk fibre can be unwound and made use of, producing a very durable fabric. Another moth, however, of the same family (*Telega polyphemus*, the Eyed Emperor,) is the best for this purpose, and is now being largely raised by an enterprising gentleman in the United States.

Beech Aphides.

To the Editor of THE CANADA FARMER:

SIR,—Enclosed herewith I send you a box of specimens of insects infesting the beech trees in the neighbourhood of Kempenfeldt Bay, Lake Simcoe. They fairly cover the leaves and branches, and some of the trunks of the trees, so as to become a serious annoyance to those parties working in the woods. Will you please name them in the next number of the CANADA FARMER, and give any items of their history which may be known to you.

ALLANDALE.

Innisfil, October 8, 1868.

NOTE BY ED. C. F.—The specimens referred to above are a species of Hemipterous insects belonging to the Aphididae, or Plant-lice family. They are of a dirty brownish colour, varied with dark olive above, about a tenth of an inch long, of a somewhat oval shape. Like all the "bug" tribe, they are furnished with a long proboscis, through which they suck up the sap and juices of plants; their enormous numbers render them very injurious to vegetation. They are probably the most prolific of all insects; of one species it has been computed that a single

female produces ninety young ones, all females; these ninety produce 8,100; and so on till the eighth generation reaches the almost incredible number of 441,451,010,000,000; there are eleven generations in the year. Were it not for the many carnivorous insects and other creatures that prey upon them and keep them in check, they would destroy the whole vegetation of the world in a short time. We have frequently referred to the carnivorous insects that feed upon the various species of plant-lice, but we cannot too often direct attention to them and plead with our readers for the preservation of their lives. The different species of lady-birds (*Coccinella*) both in their larval and pupa states, are the most useful of all; fortunately, they are well known to all, even children, and are usually spared the fate that awaits almost all insects that come in people's way. We know of a field of hops saved from destruction by their means.

Notes on a New Grape Insect.

TO THE DIRECTORS OF THE FRUIT GROWERS' ASSOCIATION OF ONTARIO.

UP to the present season we have not been aware of the presence in Canada of any insect injurious to the fruit of the grape. In the United States—at least in parts of Illinois and Ohio—they have been troubled with a grape curculio (*Coxiodes inaequalis*), a small oval snout beetle, about one-tenth of an inch long, and of a dull black color, with grey markings. These have punctured the fruit and deposited an egg in the puncture; this egg has in a short time produced a larva, which has burrowed into the flesh of the fruit and destroyed it, causing it usually to drop from the vine before maturity.

It now becomes my duty to chronicle the advent of an insect which I believe to belong to the same

family, although much smaller; and while it has never been seen, as far as I know, by any previous observer, it must have been carrying on its destructive mission for years past.

In August of the present season I observed many of the berries on a Clinton vine in my garden shrivelling. Thinking at first it was due to the excessive heat of the summer, I paid little attention to it; but finally this abnormal condition prevailed to such an extent as to excite me to a close investigation as to the cause. On opening the berries, I found in the smaller ones usually one seed very much swollen, and one or more dwarfed and imperfect. In some larger berries I found two large seeds, both much swollen and rather soft. In most instances a dark spot was observed on some part of their surface. When these seeds were cut open, the kernel was found to be almost entirely consumed, and the cavity occupied by a little white grub, from one-fifteenth to one-twelfth of an inch long, without legs, and with a pair of brownish hooked mandibles or jaws.

From its appearance, I am of opinion that it is the grub of a small species of curculio, or snout beetle, which will probably enter the pupa or chrysalis state within the seed, and when perfected, gnaw its way through its hard enclosure, and escape to renew the work of destruction. The parent insect probably punctures the grape and deposits the egg under the skin. Many of the grapes have a small scar, as if resulting from an operation of this sort. The young larva, as soon as hatched, must work its way directly to the middle of the fruit, and there enter the seed while young and soft. There is no appearance in the pulp of the fruit of its being channelled or eaten.

Fully ten per cent. of the fruit on the Clinton vine was destroyed by this pest; and I had concluded that here the damage ended, and that by destroying the injured berries I should be tolerably safe against future attacks; but on a closer examination, I found that some of the seeds in the ripe fruit were also occupied by this unwelcome tenant. To ascertain the extent of the insect's work in this department, I examined the seeds from one hundred berries picked at random from different branches on the vine, and found about ten or eleven per cent. of the berries affected. In every case where the berry ripened, there was at least one good healthy seed in it, sometimes two, associated with the diseased one, and this healthy seed had enabled the berry to mature.

Around this Clinton vine, and all within a few feet of it, I had fruiting the Isabella, Hartford Prolific, and Concord. No shrivelled berries could be found on either of these vines, nor any diseased seed in the ripened fruit of either Hartford or Concord; but in the Isabella about three per cent. of the berries contained an injured seed. From these facts, I infer that grapes of the Clinton class, with thin skins, are more liable to injury from this insect than thick-skinned varieties, such as Concord and Hartford.

While on a visit to Mr. Chas. Arnold, of Paris, in the middle of September, I found his vines affected even worse than my own; Clinton, Delaware, and Mr. Arnold's new seedlings, were all suffering. I also found the insect in Hamilton.

In the present state of our knowledge, it is premature to talk of remedies, further than that of destroying such berries as are manifestly injured. We must learn a little more about our enemy before we can expect to combat him successfully. Time will disclose its history and identity; in the interval, it will be interesting to know how far its operations extend. Should this meet the eye of any who have observed effects which might be attributed to its agency, they would confer a favor by sending me specimens for identification. Those desiring a more scientific and accurate description of this larva, will find it in the third number of the *Canadian Entomologist*, edited by the Rev. C. J. S. Bethune, Credit, Ontario.

W. SAUNDERS.

London, October 6th, 1868.



## Address of the President of the Fruit Growers' Association.

DELIVERED AT THE ANNUAL MEETING AT HAMILTON, SEPT. 22, 1868.

GENTLEMEN of the Fruit Growers' Association of Ontario:

Owing to the changes which have taken place since our last annual meeting, brought about by the introduction of sections 32 and 33 of the Act 31st Vic., chap. 29, altering the status of this Association, it occurred to me that a short review of its past history, with a few remarks touching its present position, might not be considered an inappropriate subject for an address. Such a review would also afford me an opportunity to bring fresh to our memories the names and some of the acts of those men who first organized and sustained it. Unmistakably, it seems to me, they were animated with a desire to develop Canadian fruits, to advance the morals of the people, secure their happiness and health, promote industry, and establish a love for home; and may I add among the many advantages of this pursuit, it opens the heart to the study of nature, and thus reveals some of those Divine truths which master the fear of death. Thus, while while we justly rejoice in the prosperity of this society, we shall be reminded of those who started with us, but have since "gone home to their Father's house, and now roam on the banks of the river of peace."

As public benefactors, they deserve a tribute of respect. Among these we must honour the name of the late Judge Campbell, of Niagara, who was elected first President, and entered upon his duties with that true patriotic zeal which stamped the society's future success; and with him let me mention the name of our highly esteemed citizen, the late Dr. Craigie. These gentlemen by their united and personal efforts gave this society birth, and sustained it in its infancy. Long may we remember, with heartfelt gratitude, these departed friends. I can fancy they are able to see, from their rest in the bosom of God, that the good deeds of just men live after them.

One of the first steps taken by the founders of the Association was to procure the assistance of certain zealous fruit growers possessing similar tastes, many of whom I am pleased to see assembled here to-night—men who started at the commencement of the work, and still continue to labour for the advancement of the art and science of fruit culture, and thereby for the good of the public. I feel honoured in having my name recorded side by side with these men in the society's journal, as a co-worker. They held their first meeting on the 19th day of January, 1859, in the Board Room of the Mechanics' Hall, in the city of Hamilton, not quite ten years ago. This certainly is not a long time for a society to be placed upon its trial in establishing public taste, particularly when we consider that the formation and working of any new undertaking is most frequently attended with incidental delays. Our society cannot claim exemption from this disadvantage. It is only a matter of surprise that it should have overcome so many difficulties; these were presented in the death of the first President, the distances separating its members, and the necessary expenses entailed upon each in travelling to and from their places of meeting, and in having no recognized means to publish its proceedings excepting that supplied by private liberality. There were eighteen gentlemen present at this first meeting. After the chairman and secretary were appointed, it was unanimously resolved to form a Fruit Growers' Association for Upper Canada. A constitution was agreed upon, and by-laws carefully drawn and passed. After having done this they proceeded to appoint their officers, when, by common consent, Judge Campbell was received as first President; Dr. Hurlburt, 1st Vice; Mr. George Leslie, 2nd Vice; Arthur Harvey,

Recording Secretary; J. D. Humphries, Corresponding Secretary; and Edmund Kelly, Treasurer. These, then, were the first gentlemen who took upon themselves the responsible duty of conducting the affairs of the Association. But we do not see by any record in the minute book that Judge Campbell ever had the pleasure of presiding at any subsequent meeting. The society sustained in his death so great a loss that there was no further meeting, or effort taken to secure one, for nearly two years thereafter. But at length, through the efforts of Dr. Craigie, the members from their different points of residence were once more called together on the 21st day of September, 1860, during the time of the Provincial Exhibition. At this meeting the first Vice-President, Dr. Hurlburt, took the chair, and Dr. Craigie acted as Secretary, in the absence of Mr. Harvey. Only nine members presented themselves; there was no business transacted of any public importance. They resolved to adjourn and meet again on the 24th of the following month of October; each member was then requested to bring some specimens of fruits along with him, for the purpose of opening discussion. At this meeting in October, they seem to have made again a very fair start. There were seventeen present; quite a respectable show of specimen fruits were laid on the table, upon the merits of which an animated and profitable discussion took place. At the close of this session an adjournment was moved, to meet again on the 16th day of January, 1861, this being the time of the regular annual meeting for the appointment of its officers. After reading the minutes of the last two meetings, the Vice-President, Dr. Hurlburt, delivered an address on the culture of the grape in Canada. Three fruit reports were read and referred to committee; one of these came from their late lamented President. The Association then proceeded to elect its officers, when Judge Logie, of Hamilton, the second President, was duly installed, and your present able and most efficient Secretary then received his appointment to that office, which he still continues to hold, with most satisfactory attention and ability. The old constitution and by-laws were at this meeting remodeled, and made to suit the requirements of the re-organization. This highly esteemed and popular President was annually elected, and continued to hold the position with much benefit to the society, for six years. It was during his Presidency decided to hold three meetings each year for the discussion of questions relating to fruit culture, and for the diffusion of useful information. These meetings were held at St. Catharines, Paris, Toronto, Grimsby, and Hamilton. They were, at times, poorly attended, requiring push and solicitation to keep life in them, simply because the farming community, and public generally were, and are still to a great extent, unable to appreciate the benefits of such an institution in their midst. Slowly, however, these fruit-growers have gone on from year to year, gathering valuable information, which from time to time they have published, and thus people have become more interested in the better sorts of fruits, and, I am happy to say, are now rapidly acquiring an appreciative taste which does not fail to exhibit itself in a display, at some of our shows, of the very finest specimens of their kind, which may fairly challenge the competition of the world.

In the year 1863 the Association adopted a report embracing returns made by gentlemen and fruit committees, from thirty counties of Ontario, describing the several varieties of fruits most successfully grown in these localities. A new report is now under consideration by the directors, and when completed, which will scarcely be accomplished in twelve months will be a valuable directory.

Reference to the old report will enable any member to see that a large amount of labour attended the undertaking. The cost of printing alone was one hundred and eighteen dollars; this was cheerfully borne, in addition to other expenses. Thus the society has continued to utilize the fruits of Canada. Its reports, discussions and essays, have, from time to time, been printed and circulated through the columns of the CANADA FARMER. But hereafter its proceedings, in addition to publication in that journal, will be printed in pamphlet form, and a copy of these proceedings presented, without charge, to every member of this Association. It will present an annual valuable record and guide in fruit-culture, easily accessible for reference, and for real usefulness worth five times the amount of the annual subscription each member is required to pay.

During the Presidency of Judge Logie, the society continued to increase its membership. On the 16th day of January, 1867, the list numbered about eighty; this being the time for the general annual election of officers, upon the retirement of Judge Logie, the present incumbent received the appointment, and a re-election in January, 1868. Shortly after this date, the Government, in the Act for the encouragement of agriculture and horticulture, introduced certain clauses which enabled this society to become incorporated, under

the name and style of "The Fruit Growers' Association of Ontario," with important privileges therein set forth, one of which is the grant of three hundred and fifty dollars per annum, a very small sum compared with the amount of services and good rendered to the whole country by the encouragement of fruit production. Besides, it bears no just proportion to the grant made to each county division. I am satisfied, could the members of the House, who were in committee on the Bill, have had the subject properly explained, the grant would never have been less than seven hundred dollars per annum. This opinion is based on various reasons, some of which I propose here to mention. The Fruit Growers' Association would be able to procure and publish annually, by means of their discussions and reports, useful information, (such as would not be acquired by any single agricultural division), touching subjects of general and public interest. They would point out, for instance, the most suitable fruit trees and fruits for any given section, from which the immigrant and farmer could learn what to purchase for his particular soil and position, enabling him to secure a knowledge of these matters without the loss of years of experiment; and they would set forth the best methods of cultivation, and the proper classification of fruits, and those best suited for market purposes—matters constantly brought before the public by the debates of practical men, always the very best source of information that can be obtained. This is of extreme importance to all classes. It is evident that the whole of the twelve agricultural divisions would participate in the knowledge accumulated by the society, and should therefore be tributary to its support. There is also connected with this Association a practical entomologist, whose reports upon injurious insects would most materially aid the whole agricultural community in their destruction. The American *Entomologist* for September, 1868, says:—"Few persons are aware of the enormous amount of wealth annually abstracted from the pockets of the cultivators of the soil by those insignificant little creatures, which in popular parlance are called 'bugs.' Scarcely a year elapses in which the wheat crop, both in Canada and the United States, is not more or less ruined by the chinch-bug, the hessian-fly, the wheat-midge or the joint-worm. It is notorious among fruit growers that the curculio has now almost entirely vetoed the cultivation of the plum, and of late this pernicious little snout-beetle has extended its ravages to the peach, and even to the apple and pear, to say nothing of those rarer and choicer fruits the nectarine and the apricot. What with the bark-louse in the north, and the apple-worm everywhere, the apple crop in North America is gradually becoming uncertain." Very much of our success in fruit culture, as also in agriculture, depends upon a knowledge of the habits and the best means of destroying insects. Already we feel that these enemies are making rapid encroachments on our labour in field, orchard and garden, and if they do not receive checks will continue to do so. As the country becomes more settled and cultivated it will require our united efforts to keep them under subjection, and were there no other reasons offered than those advanced for increased aid, they alone should be sufficient. I do most earnestly suggest that action be taken at the next session of our Legislature, to secure an increase of aid to the fruit growers to carry out these desirable objects. A moment's reflection ought to show the Legislature that in point of usefulness this Association far surpasses any one agricultural division, and therefore justly claims a support at least equal to one of these county divisions. I trust that the importance of this subject will justify this slight digression.

The Act above referred to sets forth the course to secure incorporation, and provides that hereafter the Association should be under the control of nine directors, in addition to the other officers; therefore, immediately after the passing of this Act, your Secretary set to work and procured a declaration, to be properly engrossed on parchment, and presented the same for signatures. After obtaining more than double the number required, it was sent to the Minister of Agriculture, who duly recorded it in the *Official Gazette* of the 26th of March, 1868, thus securing to the Association the stamp of legality in its future transactions, enabling it to hold property, sue for its claims, and be sued for its delinquencies—which I trust may always be few and far between.

And for the further carrying out of this Act, a re-organization was required. A constitution and by-laws were accordingly drafted and submitted to the members of this Association, at a special meeting called for the purpose of having them adopted, with such amendments as the meeting considered advisable. This took place on the 15th day of May last, in this building. After some slight amendments they were adopted. The meeting then proceeded to appoint its officers and directors. A full statement of these proceedings was recorded in the CANADA

FARMER, issued 1st June, 1868. Since then the directors have assumed the control of its affairs. They have met several times in the meanwhile, for the transaction of business, which has also been duly recorded in the CANADA FARMER. There is no doubt that these gentlemen, in their printed report, required by the Commissioner of Agriculture, will be able to show they have not been idle in furthering the interests of this Association.

They are charged with the important duty of enlarging its boundaries, zealously guarding its interest, making it at all times worthy of the confidence of the public, and a medium of correct and reliable information on all matters touching fruits, and in building up for the Province of Ontario a taste for the noble art of horticulture. They have the right, if so disposed, to establish in connection with this Association a horticultural library and museum of insects. This, in many respects, would be most desirable; it would inculcate a taste for horticultural reading, and eventually enable the public, under the patronage of this society, to receive monthly a practical horticultural magazine. As it stands, there is not one now issued in the Province, and the public are dependent on American enterprise for this most useful literature. The services of a gentleman well skilled in entomology have already been secured. All agricultural and horticultural men throughout the Province will look to this Association for information on all matters touching fruit culture, and it will rest with the directors to a great extent to meet this want. But there is also a duty resting upon the general public, without the performance of which this society will be much crippled in its efforts to do good. I refer to the facilities which may be offered by the people of any place in securing proper accommodation for its meetings, hereafter to take place three times a year by appointment of the directors. If they should lack in offering these facilities, or in attending these meetings, or in sending invitations to the society to meet in their respective places, I say that a lack of reciprocal appreciation will to a great extent hamper the usefulness of the Association. The benefit is universal, and therefore all should feel a mutual and personal interest in its success.

Our Railways are justly considered as incorporations which advance the interests and wealth of a country, and in affording facilities to the members of this Association to get to and from their places of meeting, at reduced fares, are most nobly confirming the consideration, besides advancing their private interests; for in proportion as the public become engaged in the production of fruits, it will have a clear tendency to increase both travel and freight, and offer great inducements to those who have a strong desire to become members, but can ill afford to pay full fare, to be present at these annual meetings. I have therefore great pleasure in stating that the Manager of the Great Western Railway, with his usual liberality, has extended to the members of this Association the privilege of travelling to and from our next meeting, to be holden in St. Catharines, in October, at reduced fares.

Probably one of the most important objects this society could pursue and seek to accomplish would be the establishment of a test garden, wherein might be proved the qualities, productiveness, and hardiness of fruits. It would afford to the hybridizer and producer of new varieties a safe and true test of merit. Such a garden, after the first cost of purchase, under-draining and fencing, could and should be made self-sustaining; but with the society's present limited aid, its members can only look forward with hope to the time when, with an increased grant, they will be able to carry this object into effect.

I may say, in conclusion, that this Association can only be considered in its youth; for until the passing of the new Agricultural Bill, it had no recognized aid to enable it to disseminate its deliberations. It has since its reorganization doubled its membership, offered premiums in the shape of diplomas, and money rewards for essays, that will tell their own story at the next annual meeting. Already several committees have been solicited to inspect and report on new fruits originated in Canada—some of them true hybrids, produced by the commendable efforts of some of its members. I feel that this address has already been sufficiently extended, and will close by expressing an earnest hope that at our next annual meeting we shall be able to show many steps in advance of our present position.

**RUSSIAN HORTICULTURE.**—Russia, the country of implacable winters, contains in its hot-houses the finest flowers in the world. The Muscovites possess in a high degree the love of the Goddess Flora. This is the only superiority St. Petersburg possesses over the other capitals of Europe. Thus the public will learn without astonishment that the Czar has decreed for 1869 an International Exposition of Horticulture, to take place the last of May

## The Household.

### The Ladies and the Canada Farmer.

To the Editor of THE CANADA FARMER:

SIR,—I have been a constant reader of your journal since its first publication, now nearly five years, and I am better pleased with it every year; in fact I could hardly get along without it, as every number has something interesting to practical farmers; but like many other periodicals, it has not attained perfection. Every close reader will notice that it lacks something, viz.: contributions by the ladies. I do not remember seeing six articles specially contributed for the CANADA FARMER, by the ladies, since its commencement. It may be suggestive and profitable to inquire into the reasons for this lack of co-operation—if not of interest—on the part of our fair friends. It cannot be for want of a sufficiently cordial invitation on the part of the editor, or because their contributions have been declined, for they have been repeatedly solicited to lend their aid to its pages, and anything that has come from them has been most emphatically welcomed. Neither can it be because they lack the ability of writing articles suitable for publication. The charming productions of female pens sufficiently attest the literary aptitude of the educated portion of the fair sex; and there are doubtless many such to be met with amongst our farming community, who are every way qualified to instruct and please, if they would only put forth the effort. Perhaps they are deterred by their natural timidity from the formidable publicity of appearing in print. Or it may be that, with an amiable diffidence, they presume that they could communicate nothing worthy of publication, that what they know is already known to all the readers of the paper. Some may be waiting for others to set the example; and it is just possible that some may be unwilling to impart their household information, lest by making it common property they deprive themselves of their fancied superiority.

Be the reason what it may, this reticence on the part of the rustic fair is much to be regretted; and it would be well if they could be stirred up to contribute their quota to enhance the interest and value of the CANADA FARMER. Perhaps if they knew that a fair proportion of the matter in the American agricultural papers was contributed by female writers, they might be incited to a little honest rivalry. I am satisfied there are hundreds of farmers' wives and daughters who could give interesting information, practical instruction, and sound advice on household affairs, and even on subjects of higher importance. If such would only write, and give others the benefit of their experience and knowledge, they would confer immense obligations on thousands of readers of the CANADA FARMER.

CULTIVATEUR

Ontario, Sept., 1868.

Among recent useful inventions is an ironing glove to protect the hand from heat when ironing. The under part is composed of several thicknesses of flannel. Any old glove could easily be converted into such a simple yet obviously convenient and effective guard.

**ADVICE TO LADIES.**—Josh. Billings, in his advice to a young lady as to how she should receive a proposal, says: "You ought tew take it kind, looking down hill with an expreshun about half tickled and half scart. After the pop is over, if your luyver wants tew kiss you I don't think I would say yee or no, but let the thing kind of take its own course."

**RATS—HOW TO FIX THEM.**—Chloride of lime has frequently proved a sure thing to drive rats away from any place infested by them. An ounce of it, scattered in the place where they come to feed, or wrapped in a bit of muslin, and put in their holes, where it acquires dampness, produces a gas that is not offensive to man but is to the rats. If chloride of lime is moistened with muriatic acid, and placed in a drain, vault or cellar, and closed from the air a little while, the rats will depart, because it will be death to remain. This is also a good disinfectant, and will, for a time, cure the effluvia of a dead rat. One application of chloride of lime to rat holes has driven them away for a year, and on their return, a renewal of it started them again.

Miscellaneous.

The Use and Care of Edge Tools.

As the pocket knife comes from the manufactory or store its edge is unfit for use; it may cut butter or cheese, possibly soft wood, but it will not pare finger nails nor sharpen lead pencils. It needs the hone and strop to produce an effective edge. And in the proper use of the hone or oil-stone many are quite ignorant. First, nothing but a good oil-stone is fit for sharpening a knife blade. Ordinary "whet stones," mere sand stones to be used with water, or dry, are too coarse; they are but fixed grain stones, and rapidly abrade the substance of the blade without giving it an edge. The Turkish oil-stone is greatly affected by some, but it is quite hard, and fit only for giving the finishing touch to very delicate tools. The Wachita, or Ouachita stone, we prefer for pocket knives and for ordinary tools. The philosophy of whetting or honing is a gradual and mutual abrasion of the particles of the stone with those of the steel. The oil, with its glutinous quality, holds these commingled particles so that by the movement of the blade they act on the steel and abrade it very gradually. If the stone is too hard it quickly glazes, and the blade slips over a perfectly smooth surface, producing no action on the hardened steel; if too soft, the stone allows the edge of the blade to disintegrate its surface and heap up a ridge of quartz-like or flinty particles, which produce a round or "stunt" edge, that in time must be removed by the action of the grind-stone. One accustomed to sharpening knife blade can easily tell when the operation of honing is going on properly, and only experience can fully teach the process. There should be a certain feeling of resistance in the operation. The motion for whetting or honing should be circular; not as in stropping a razor, merely back and forth. The educated fingers will readily feel when the blade bears properly on the surface of the stone, and will guard against the mere abrasion of the back and the cutting in of the edge. This art can be only acquired by practice.

Few can hone a razor. Some barbers have the happy faculty, but generally it is an art little understood. The stone should be a fine Turky stone, perfectly clean, and the oil used should be purified porpoise or nice sperm oil, pure olive oil is good. The blade of a razor is concave. The wedge-like edge extends in its bevel but a little way back. In honing a razor the fingers should feel the back as well as the edge of the blade bearing; the back protects the edge. The motion should be the same as in honing a knife blade, circular. Few can hone a razor properly on the first trial.

In stropping razors most people fail. They will use a too yielding medium, which rises suddenly as the edge passes over it, and undoes what has just been done. Many turn the razor or knife blade on its edge. Unless the blade is lifted clear from the strop, just before turning, the tendency is to strop off the edge already on. A blade should be drawn from heel to point, starting at the heel and drawing it diagonally to the point, and should be always turned on its back.

Oil-stones, as seen in the shops, are frequently worn concave. It is unnecessary to say that stones in this form will not produce a true edge. If the workman has not acquired skill enough to wear the stone evenly, as much at the ends as in the middle, he should occasionally grind the oil stone and reduce its surface to a level.

In the machine shop and the carpenter's shop—wherever edge tools are used—the oil-stone is invaluable. It should, however, be used with discretion. If the tool is soft a short bevel should be given to the edge; if hard, it will stand a very thin edge, but the practice of producing a temporary edge by honing or whetting will not give even the best present result, and will necessitate a frequent resort to the grindstone, the office of which is only preparatory to the production of a good cutting edge.

The use of rapidly abrading substances, as fine quartz, emery, etc., is ruinous to good tools; and the continual employment of the grindstone not less so; while a judicious use of a good oil-stone will keep tools in order until they are almost worn out.—Scientific American.

The Old Negro's Logic.

A CLERGYMAN asked an old servant his reasons for believing in the existence of a God. "Sir," says he, "I see one man get sick. The doctor comes to him, gives him medicine; the next day

he is better; he gives him another dose; it does him good; he keeps on till he gets about his business. Another man gets sick like the first one; the doctor comes to see him; he gives him the same sort of medicine; it does him no good, he grows worse, gives him more, but he gets worse all the time till he dies. Now that man's time to die had come and all the doctors in the world can't cure him.

"One year I work in the corn-field, plough deep, dig up grass, and make nothing but muddins. Next year I work the same way; the rain and dew comes, and I make a good crop.

"I have been here going hard upon fifty years. Every day since I have been in this world I see the sun rise in the east and set in the west. The north star stands where it did the first time I ever saw it, the seven stars and Job's coffin keep on the same path in the sky, and never turn out. It ain't so with man's works. He makes clocks and watches; they may run well for a while, but they get out of fix, and stand stock still. But the sun and moon and stars keep on the same way all the while. There is a power which makes one man die, and another get well; that sends the rain, and keeps everything in motion."

What beautiful comment is here furnished by an unlearned African on the language of the psalmist: "The heavens declare the glory of God, and the firmament showeth his handiwork. Day unto day uttereth speech, and night unto night showeth knowledge."

A CURIOUS EXPERIMENT.—Take a piece of paste-board, about five inches square, roll it into a tube with one end just large enough to fit round the eye, and the other end rather smaller. Hold the tube between the thumb and finger of the right hand (do not grasp it with the whole hand); put the large end close against the right eye, and with the left hand hold a book against the side of the tube. Be sure and keep both eyes open, and there will appear to be a hole through the book, and objects seem as if through the hole instead of through the tube. The right eye sees through the tube, and the left eye sees the book, and the two appearances are so confounded together that they cannot be separated. The left hand can be held against the tube instead of a book, and the hole will seem to be seen through the hand. Mark Lane Express.

Advertisements.

MONTREAL VETERINARY SCHOOL

IN CONNECTION WITH MEDICAL FACULTY OF MCGILL UNIVERSITY, UNDER THE PATRONAGE OF THE BOARD OF AGRICULTURE, PROVINCE OF QUEBEC. (ESTABLISHED 1866.)

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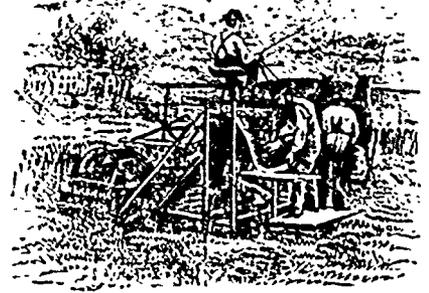
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## Markets.

### Toronto Markets.

CANADA "FARMER" Office, Oct. 13th, 1868.

#### FLOUR AND MEAL.

**Flour.**—The market is unchanged. No. 1 super. has been offering at \$5 15, and a sale of 100 bbls. was made on Change at that figure. The demand was limited, and there was not much desire to buy. 100 bbls. "Golden Drop" sold at \$5 50. In extra and superior there is nothing whatever doing. Extra would not bring over \$6. Business is entirely confined to retail lots.

#### GRAIN.

**Wheat.**—The market for spring continues very dull. A car lot sold to-day at \$1 14 f. o. b. There is, however, only a very limited demand at that price, and to effect sales of lots a reduction in price would have to be made. On the street market Midge-proof and Spring sold at \$1 13 to \$1 16. Fall wheat was offering freely, and as holders reduced their views, some sales were made. A car lot sold at \$1 30; 1 car at \$1 29 f. o. b.; 1 car inferior at \$1 25, delivered; and 1 car very choice at \$1 36, delivered. On the street market white Soules' is selling at from \$1 30 to \$1 35, and Red Winter at from \$1 13 to \$1 16.

**Oats.**—There has been nothing doing to-day in car lots. Prices remain nominally unchanged at 46c. to 48c. On the street market a few loads sold at from 48c. to 50c.

**Barley.**—The market was excited and higher; a considerable quantity in cargo lots changed hands during the past few days at advanced prices. The market has been completely "cornered," almost all the lots in the market are now held by one firm. Large lots are now held firmly at \$1 50, and several sales have been made at that price. The receipts on the street market continue very light; street prices have advanced; \$1 44½ was paid in the afternoon for the few loads coming in.

**Peas.**—There is no change in the market. We heard of no sales of car lots. There are buyers at 90c f. o. b. On the street market 92 cents were paid.

#### HAY AND STRAW.

The market has been fairly supplied. Hay has been selling at from \$12 to \$15, and straw at from \$7 to \$10.

#### PROVISIONS.

**Pork.**—Unchanged; only a few lots on the market, which are held at from \$25 50 to \$26.

**Butter.**—As is usual on Mondays, there was not much doing to-day in this article. Prices remain unchanged. Ordinary store packed is selling at from 17c. to 20c.; fair to good lots would bring 21c.; and straight dairy 21½c. to 22c.

**Eggs.**—There has not been much doing to-day. We heard of no large sales. Round lots are worth from 15c. to 16c.

**Cheese.**—Unchanged. We heard of no lots selling to-day. Factory is held at from 10½c. to 11½c.

**Dressed Hogs.**—Very few coming in to-day, this being Monday. The very best hogs sell to retailers at from \$6 70c. to \$7. Ordinary for packing purposes bring from \$6 to \$6 50c.

**Hops.**—Stocks are increasing. There is, however, only a limited business doing. Good to extra per pound are held at from 15c. to 20c.; fair to good at from 10c. to 15c.; old will not bring over 5c. to 10c.

**Potatoes.**—Only a few loads were offering to-day. Prices are unchanged, namely, 75c. to 80c. per bushel.

**Apples.**—In fair supply. Selling freely at from \$1 60c. to \$1 75c. per barrel.

**HIDES AND SKINS, per lb.**—Hides, green, rough, per lb., 5½c.; do. green, inspected, 7c.; do. cured and inspected, 7½c. to 8½c. Cat skins, green, 10c.; cured, 12c.; dry, 18c. to 20c. Lamb skins, green, 45c. to 50c. Sheepskins, 60c.

**Wheat Markets, Oct. 12.**—Fall Wheat, \$1 16 to \$1 20; spring wheat, \$1 00 to \$1 05; oats, 48c. to 55c.; barley \$1 35c. to \$1 40c.; peas, 80c. to 85c.; wool, 28c.; hay per ton, \$10 to \$12; straw per load, \$3; turnips per bushel, 18c. to 20c.; butter, per lb., 15c. to 20c.; Apples, per bag, \$1.

**London Markets, Oct. 12.**—Red Fall Wheat per bushel, \$1 04 to \$1 06; white wheat, \$1 12 to \$1 15; spring wheat, \$1 05; barley, \$1 27 to \$1 37; peas, 80c. to 82c.; oats, 40c. to 43c.; corn, 80c. to 90c.; Buckwheat, 50c. to 60c.; Rye, 85c. to 90c.

**Montreal Markets, Oct. 12.**—Flour—Superfine Extra, \$7 to \$7 15c.; Extra, \$6 50c. to \$6 80c.; Fancy, \$5 60c. to \$5 90c.; Welland Canal Superfine, \$5 80c.; Superfine No. 1 Canada Wheat, \$5 30c. to \$5 45c.; No. 1 Western Wheat, \$5 30c.; No. 2 do, \$4 80c. to \$5; Fine \$4 30c. to \$4 40c.; Middlings \$3 90c. to \$4; Pollards \$2 90c. to \$3. Bag Flour—\$2 50c. to \$2 60c. Wheat—Canada Fall, \$1 30c.; Spring \$1 22½c.; Western \$1 18c. to \$1 20c. Oats—Per 32 lbs. 47c. to 48c. Barley—Per 48 lbs. \$1 30c. to \$1 35c. Butter—Dairy, 21c. to 22c.; Store-packed, 20c. to 21c. Cheese—Factory, 10c. to 11½; Dairy, 9c. to 10c. Eggs—16c. to 17c. Ashes—Pot, \$5 65c. to \$5 75c.; Pearls, \$5 55c. to \$5 60c. Pork—Mess, \$24 25c. to \$24 50c.; Thin Mess, \$23; Prime, \$17 to \$17 50c. Lard—16c. to 17c. Peas—\$1 05c. to \$1 08c. Eye Flour—\$4 30c. Oatmeal—\$3 40c. Cornmeal—\$4 to \$4 10c.

**Chicago Markets, Oct. 13, noon.**—William Young & Co.'s report.—Wheat—Receipts, 130,000 bushels; shipments, 93,000; No. 2, irregular at \$1 38. Corn dull at 95½c.; receipts, 62,000 bush.; shipments, none. Pork firm at \$20.

**New York Produce Market.**—Flour—Dull. Receipts 25,600 barrels; sales 8,100 barrels, at \$6 75c. to \$7 15c. for superior State and Western; \$7 50c. to \$8 10c. for common to choice extra; \$7 20c. to \$8 50c. for common to choice extra Western. Rye Flour—quiet at \$6 to \$8 50. Wheat—Dull, and 1c. to 2c. lower; receipts, 165,000 bushels; sales 48,000 bushels at \$1 60c. to \$1 65c. for No. 2 spring; \$1 77½c. for No. 1 do; \$1 79½c. for amber Green Bay; \$2 57c. for white California; \$2 40c. to \$2 60c. for white Michigan. Rye—quiet. Receipts 7,400 bushels. Corn—Opened firm and closed dull. Receipts 313,000 bushels; sales 76,000 bushels, at \$1 17c. to \$1 19c. for unshelled; \$1 19c. to \$1 20c. for sound mixed Western. Barley—Scarce. Receipts 65,000 bushels; sales 9,500 bushels Canada West at \$2.35.

**Milwaukee Markets.**—Oct. 13, noon.—Wm. Young & Co.'s report.—Wheat—Receipts, 106,000 bushels; shipments, 51,000; No. 1, irregular at \$1 48½ to \$1 49; No. 2, do, \$1 38. Flour dull and unchanged. Pork firm at \$20 75c. Freights nominal.

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