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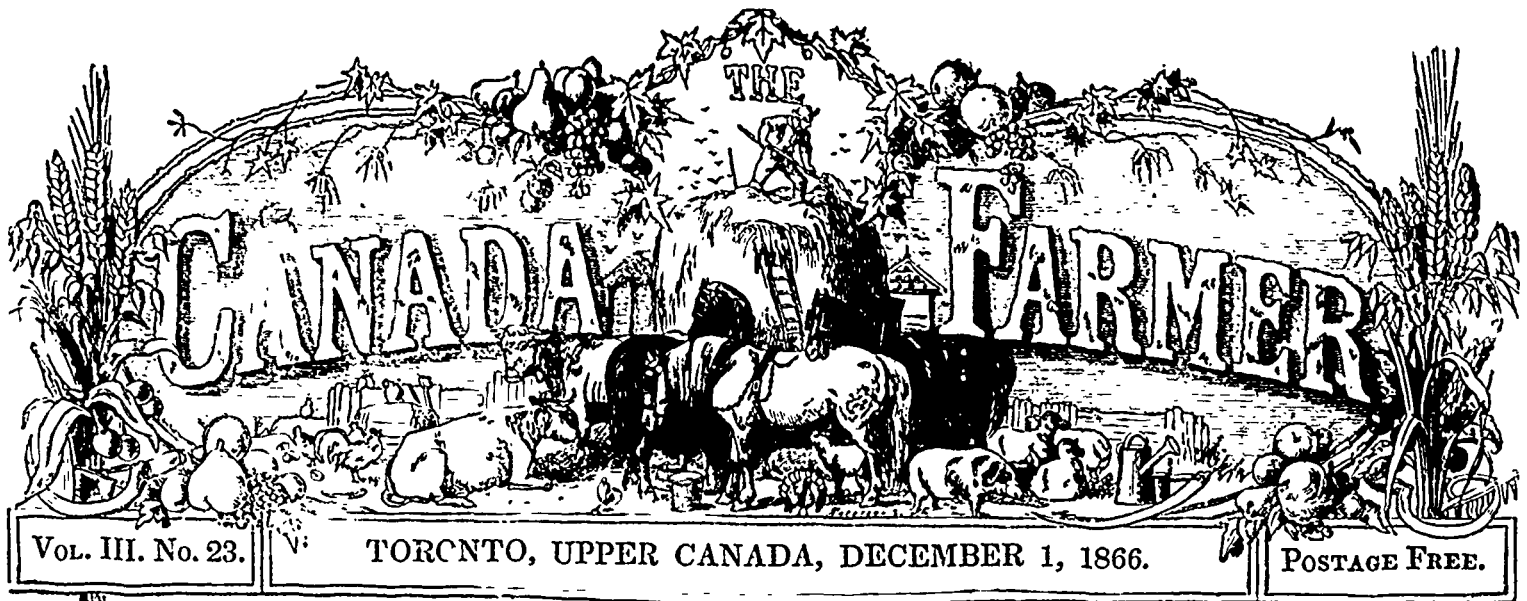
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Vol. III. No. 23.

TORONTO, UPPER CANADA, DECEMBER 1, 1866.

POSTAGE FREE.

The Field.

Familiar Talks on Agricultural Principles.

OATS.

This crop is one which is largely grown by Canadian farmers, too largely indeed for the good of the lands they cultivate. It is easily raised on almost every description of soil from the heaviest loam to the lightest sand, its culture is beset with no uncertainties, and it will yield a remunerative return when other grains would be pretty certain to fail. From the ease with which this grain is grown under almost every variety of circumstance, an idea prevails that it is less exhausting to the soil than the wheat crop. This however is a great mistake. If both grain and straw are removed from the land, as they usually are, oats are fully as exhaustive as wheat. This will be seen at once by a reference to the results of chemical analysis. The organic part of the oat-kernel very much resembles that of wheat. Oatmeal contains from 10 to 18 per cent of gluten or its equivalent, and is nearly as nutritious as wheaten flour. The straw is more valuable than that of any other grain, and hence must make anything but a light drain upon the soil. A glance at the following table will prove the correctness of these observations.

Name of Plant	One hundred parts contain					
	Carbon	Hydrogen	Oxygen	Nitrogen	Water	Inorganic Matter.
Oats.....	40.1	5.1	49.1	1.8	23.8	3.1
Oat-Straw....	35.7	3.9	47.8	0.7	23.7	3.0
Wheat.....	49.4	5.0	37.1	3.0	14.5	1.0
Wheat-Straw	35.3	3.9	48.8	0.3	26.0	5.2

The oat plant can take up nourishment from raw and undecomposed vegetable matter, such as sod, peat &c. from which the wheat plant can obtain but little nourishment, and this is doubtless one reason for the popular but erroneous impression that oats are a less exhausting crop than wheat. Prof. Dawson well observes, "It is barbarous farming to extract two successive crops of an exhausting grain like the oat from any ordinary soil, or to take a crop of oats and then let the land run out into grass. Nothing but dire necessity can excuse these practices, which are happily too prevalent. The manure produced from the oat-straw, or its equivalent, should in all cases be returned to the soil in the succeeding year for a green crop." When this is done, instead of the soil being deteriorated, it is improved.

While this crop will thrive more or less in a great variety of circumstances, it does best in a damp climate and a moist soil, and with a moderate summer temperature. Hence this grain attains a higher degree of perfection in Britain than it does in this country. In the best oat districts of Scotland and

Ireland, the average weight of a bushel of oats is 43 or 44 pounds, while more than 100 bushels to the acre are often harvested. Here 70 or 80 bushels are an extraordinary crop, while the average yield is far less, and the weight per bushel is rarely more than from 28 to 32 pounds. In this climate the oat also shows a tendency to run out. If the same description of seed be used on the same soil for a few years, the grain becomes thicker in the husk and lighter in the kernel, until it is well-nigh worthless. Frequent change of seed is therefore necessary. The best is that imported from Scotland, especially the earlier varieties grown there. They are thin-skinned and heavy, and do not show signs of deterioration until they have been under cultivation in this country for five or six years.

Oats should be grown as the first grain crop after ploughing up green sward. This is their proper place in a good rotation. They are well fitted for this place, both by their ability to extract nourishment from the decaying sod, and by their dense shade which keeps down the growth of weeds and grasses. For this latter reason, and also because of its green consumption of particular elements of plant-food, it is an unsuitable grain for sowing with grass seeds.

The quantity of oats required to seed an acre properly is from 2 to 4 bushels. An experiment was made on this point at the State Farm in Massachusetts in the Spring of 1858, with the following results:

The oats were sown broadcast on the 27th and 28th days of April, and harrowed in:

Lot No. 1 at the rate of 5 bushels per acre.	2	4	4	4
" 2 " " " " "	3	3	3	3
" 3 " " " " "	4	2	2	2

The lots contained an acre and a half of land each, and were treated exactly alike. The oats were harvested July 28th and threshed Sept. 2nd and 3rd. Lot No. 1 yielded 42 bushels; No. 2 35½ bushels; No. 3, 40 bushels; No. 4, 26½ bushels. The grain weighed 28 pounds to the bushel, and was pretty uniform on all the lots, that on No. 1 being lightest, both in grain and straw. The crop was small, the land not being very favourable to oats, but it will be perceived that the seeding of 3 bushels per acre yielded nearly as large a return as the seeding of five bushels per acre.

Oats produce an excellent green crop for feeding to milk cows and other stock, on account of the rapidity and earliness of their growth. When sown for this purpose, a larger quantity of seed is required than if the grain is intended to be ripened. In any case, oats should be sown as early in the season as possible.

This grain often suffers in consequence of being left too long in a growing state. It should be cut before the straw has turned completely yellow. The grain is plumper, and the straw more valuable when this is done. Left too long, the amount of nutriment

both in the kernel and the straw is diminished, and there is much loss in consequence of the grain shelling out during harvesting.

In this country the chief use made of oats is for feeding horses and other farm stock. For this they are excellent, as they contain a large amount of nourishment. But oatmeal is also an admirable food for man. It tends largely to the production of muscle, and the development of strength. For labouring men, or those who are training for athletic games and exercises, it is better adapted than is the flour made from any other grain.

Guano and Barn-Yard Manure.

To the Editor of THE CANADA FARMER:

Sir,—As to the comparative value of guano and farm-yard manure, I entirely agree with your correspondent, "Cultivator," that "it is right that there should be no doubt upon a subject of so much importance in the economy of the farm," and to this end beg leave to make the question the subject of a few remarks, which may be of interest and value to your readers, and go to some extent towards the elucidation of the question.

Your correspondent argues upon the supposition that the question is, whether a ton of guano contains as many elements of fertility as an amount of farm-yard manure of equal value, and in labouring to prove the superiority of the commercial manure, asserts: "it is considered by chemists that 2,000 lbs. of guano is equal to about 30 tons of farm-yard manure." Now this is a most fallacious method of arriving at a correct opinion as to the real value of a manure. Professor S. W. Johnson, of Yale College, than whom we have no higher authority upon the subject of manures in America, says: "The mere chemical diletante might suppose that so soon as we know the composition of a manure we have all the needful data necessary to pronounce upon its fertilizing action. There can be no greater mistake." And again, "no one has ever had grounds for supposing that the composition of a manure can serve to predict the effects that will follow or accompany its use." The most useful (?) purpose served by chemical analysis has always been to give greater fertilizing powers to special manures than is warranted by the actual effects accompanying their use—to make them sell.

Granted that 2,000 lbs. guano contains as many elements of fertility as 30 tons of farm yard manure, the question is, has the guano as great a fertilizing effect, will the growing crops obtain as great an equivalent of plant food from its use, as from that of the other manure; a question upon which "Cultivator" gives no light.

Actual practical experiment alone must prove. And that it will fail to give such favourable results

from the use of the commercial fertilizer as would be supposed from the data given by chemists, will be, I think, obvious to any intelligent (and disinterested) cultivator. To get a proper idea of the comparative merits of guano and farm-yard manure, experiments as commonly conducted, would also be difficult, and almost impossible, from the fact that guano is of quick action, whereas that of common yard manure is slower and long continued. Hence the dearth of any reliable data bearing upon the subject of their comparative values. The *Country Gentleman* says "guano promotes the growth of all crops benefitted by common manure; but its influence is not permanent."

Your correspondent loses sight of the fact that common yard manure, aside from the purely fertilizing effects attending its use, has other advantages not common to the artificial fertilizer. The benefits resulting to a crop of fall wheat from top-dressing it with common manure simply regarded as a mulch, protecting the plants and their roots from the frosts of winter, in this climate where at best from this cause wheat growing is but precarious, must be great, and should not be overlooked. So also ploughing in farm-yard manure improves the texture of most soils.

Apropos to the subject, the author of "The Farm" gives it as his opinion that "the urine of three cows for one year is worth more than one ton of guano, which would cost from 50 to 60 dollars. Will you continue to waste urine and buy guano?" He further says: "Think of this, ye American farmers, who are accustomed to allow so much richness to run to waste." It would be well and evidently more profitable for the farmers of Canada to carefully husband and make the most of the many sources of manurial wealth at present upon their farms, than to fly to others that they know not of, and whose value and effects are at best, with any soil and circumstance, unreliable and not always the same.

I do not agree with "Cultivator" that "no farmer can produce natural manure sufficient for his purposes, and as large quantities have invariably to be procured elsewhere," &c. A system of agriculture which is not self-supporting, one that cannot keep up the natural fertility of the farm without resorting to foreign sources, is imperfect and bad. I reiterate, after all the many sources of supply connected with every farm are exhausted, then will be the proper period for resorting to artificial fertilizers, but then it will undoubtedly be found that their agency will not be required; after every manurial resource of the farm is brought into requisition, it will be found, that with a sound system of husbandry, its natural state of fertility will be kept up and improved, without the necessary application of any foreign fertilizer.

If "Cultivator" attempts to argue in favour of the advantages resulting from the substitution of guano for farm use in the place of farm-yard manure, for any but special and peculiar circumstances, the question is really an issue between that gentleman and all authorities. Of the value of guano as a manure there is no doubt; but circumstances must determine whether in any given case it can be profitably purchased and applied at the prices at which it is held.

J. F. C.

L'Original, C. W., Nov. 19th, 1866.

NOTE BY ED. C. F.—We cheerfully insert the above letter, not to provoke or prolong controversy, but to encourage discussion on subjects of practical interest to the farmer. Both "Cultivator" and "J. F. C." are right in our view. The latter in the above letter somewhat shifts the issue, and discusses the question of permanent effects as an element of value. It is an important consideration to be taken into the account. We do not suppose "Cultivator" wishes to see guano resorted to as a substitute for farm-yard manure, and the more both are used the better.

EFFECT OF SEWAGE IRRIGATION.—The *Gardener's Chronicle* of Oct. 27, says:—"We have this week cut plots of Italian Ryegrass sown 11 or 12 weeks ago, which have since been watered (part of 30 or 40 acres similarly laid down) with 400 or 500 tons per acre of North London sewage. They yielded at the rate of 10 tons per acre of first rate succulent cow food. Unless we should have a very severe November, we cannot doubt that they will yield another 10 tons per acre before the winter after another similar dressing. At Worthing we hear of a single cut of 20 tons having been obtained from Ryegrass similarly treated. Near Barking they have cut in places 20 tons per acre at a single cutting; and from the surface of sheep sea-sand, dressed with the water from the North London works, they have cut 10 to 12 tons per acre of Grass at a single mowing, as the result of four or five weeks' growth."

The Cattle Melon.

In several parts of England, where the Turnip has been extensively cultivated for many years in what is termed a fourth or fifth year's course, that invaluable root has of late shown symptoms of weakness and decay; arising, it is thought, from the too frequent repetition of the crop on the same ground. Accordingly we find that kohlrabi, mangel wurzel, and what is called the *Cattle Melon*, have of late been brought into greater prominence, with a view of meeting the deficiency occasioned by the frequent failure of the turnip. What species this so called *Cattle Melon* now cultivated in the fields of England belongs to, we have at present no means of knowing, but presume that it is a hardy kind of pumpkin or squash, so commonly cultivated among Indian corn on this side of the Atlantic. Perhaps such of our readers as have recently visited England may be able to throw some light on the subject. In the last annual report of Professor Voelcker, chemist to the Royal Agricultural Society of England, we find an analysis of the *Cattle Melon*, which enables us to judge of its value as a food for stock.

COMPOSITION OF CATTLE MELON.

Water.....	91.66
*Albuminous compounds (flesh forming matters).....	1.63
Sugar, mucilage and digestible fibre.....	5.74
Woody fibre (cellulose).....	1.17
Mineral matters (ash).....	.77
	100.00
*Containing nitrogen.....	.265

It will be seen from the above that this new vegetable occupies a lower rank, as a good food for cattle than either Swedes or mangolds, and, we may add, potatoes. The proportion of water in all succulent vegetable productions, varies considerably according to the soil and seasons, and methods of cultivation. The *Cattle Melon* seems to have a larger amount of water than either swedes or mangolds, and to approach in that respect more nearly to the ordinary varieties of white turnips. We subjoin a carefully conducted analysis, made by Dr. Voelcker, of specimens of cattle melons and yellow *Globe Mangolds*, grown on the same soil and cultivated exactly alike.

COMPOSITION OF A SPECIMEN OF CATTLE MELON AND OF YELLOW GLOBE MANGOLD WURZEL.

1 General Composition.

	Cattle Melon.	Yellow Mangold.
Water.....	92.020	88.450
Organic matters.....	7.350	10.524
Mineral matter (ash).....	.620	1.026
	100.000	100.000

2 Detailed Composition.

	Cattle Melon.	Yellow Mangold.
Water.....	92.020	88.450
*Soluble albuminous compounds.....	.619	.857
Insoluble albuminous compounds.....	.158	.104
Sugar and mucilage.....	4.681	7.538
Woody fibre (crude).....	1.914	1.995
Soluble mineral matters.....	.540	.952
Insoluble mineral matters.....	.080	.074
	100.000	100.000

*Containing nitrogen.....	.099	.142
†Containing nitrogen.....	.025	.017
Total nitrogen.....	.124	.159
Equal to albuminous compounds (flesh forming matters).....	.775	.901

New Process for Dissolving Bones used as a Fertilizer.

THE importance of phosphates, such as common bones, as fertilizers, especially in grain culture, could hardly be extolled, and it would be presuming upon the intelligence of our farmers to say more than to recommend its practical application. There exist, however, some obstacles which yet prevent waste bones, nearly always cheap and within easy reach, from being generally used. The great distances in the far west, and other inconveniences, render their purchase in powder form expensive, and for grinding them at home or dissolving them in acid, there is still less chance.

Professor Hienhof, in Russia, has however, lately discovered a method for dissolving them, which must prove highly economical and suitable in unsettled countries, where, owing to the great abundance of forests, wood ashes are cheaply secured, indeed are almost always ready at hand. This new process of

treating bones consists of mixing them with wood ashes and slaked caustic lime, and keeping the mixture constantly moist. As in the preparation of lye, for manufacturing soap, the alkaline carbonates in the ashes, such as carbonate of potassa, are, by the action of caustic lime, converted into free, caustic potassa, attacking and quickly dissolving the bones.

The following practical example will illustrate the necessary proceeding:

Suppose the wood ashes to contain about 10 per cent. carbonate of potassa, and that 4,000 pounds of bones are to be worked up; then we take 4,000 pounds of ashes, 600 pounds of caustic lime, and 4,500 pounds of water; a ditch some two feet deep, of such width and length as to hold 6,000 pounds of the mixture, is dug, and near it a second ditch, being some 25 per cent. larger, and both lined with boards. The lime is then slaked, and, when crumbled to a powder, mingled with the wood ashes, and 2,000 pounds of bones piled up in layers and covered up with the mass in the smaller ditch, 3,600 pounds of water added, and the whole left to itself. From time to time small quantities of water are added to keep the mass moist. As soon as it is found that the bones are so far decomposed that when pressed between the fingers they are soft and crumble, the second portion, i. e., the other 2,000 pounds of bones, is brought into the larger ditch and covered in layers with the first mass, and left to decompose.

After the whole mass has undergone decomposition, it is suffered to dry by removing it, and, lastly, to facilitate its reduction to powder, mixed with 4,000 pounds of dry turf, or some other dry vegetable earth. The mixture is repeatedly stirred about with a shovel, and may at once be brought upon the fields. Manure prepared thus will contain about 12 per cent. of tribasic phosphate of lime, (3 CaO, H₂O₅), 2 per cent. of nitrogenous matter.

This manure must, from its composition, produce an admirable effect upon grape vines.

Liebig, in generally recommending this new fertilizer, thinks an addition of gypsum an improvement for many kinds of fruits.—*U. S. Agr. Report for Sep.*

Value of Clover.

ANALYSES OF CLOVER.

If evidence is wanted of the nutritious qualities of clover hay, let us examine its chemical indications. Prof. Johnson analyzed a first crop of clover from an acre of land, and found it to contain the following ingredients:—

Albumen, gluten and casein.....	450 lbs.
Fat oil, &c.....	143 lbs.
Starch, sugar, gum and dextrine.....	1,525 lbs.
Fibre and husk.....	1,566 lbs.
	3,584 lbs.

According to Boussingault, the elements of a first and second crop of clover from an acre of land are:

Carbon.....	2,757 lbs.
Hydrogen.....	589 lbs.
Oxygen.....	2,211 lbs.
Nitrogen.....	118 lbs.
	5,574 lbs.

The clover plant leaves a large per cent. of ash on burning, the whole being 11.18 per cent.; the leaves give 10.69, and the stems 8.62 per cent. The value of the ashes may be estimated by the following per centage of its several elements:—

Potash.....	12.164 per cent.
Sodium.....	1.414 "
Soda.....	30.757 "
Lime.....	16.556 "
Magnesia.....	6.262 "
Phosphate of iron.....	.500 "
Chlorine.....	2.159 "
Phosphoric acid.....	2.937 "
Sulphuric acid.....	.801 "
Silica.....	1.993 "
Carbonic acid.....	22.931 "
Sand and coal.....	1.244 "
	99.718 "

CLOVER AS A FERTILIZER.

These analyses show the value of clover as well in its character as a fertilizer as in its qualities for feeding. Opinion varies very much as to certain practical points in the application of the crop as a fertilizer, but especially as to the propriety of plowing it under, or leaving it to perish on the surface of the ground. It will be remarked that the percentage of carbonic acid is very large, exceeding the sum of all the other acids. When green clover is first turned under, heat is evolved by the action of carbon, and fermentation begins; carbonic acid gas is formed, and, passing off, forms a chemical combination with the mineral or inorganic elements of the soil, rendering them fit to be assimilated and appropriated by the succeeding crop.

Some think that positive injury is done by ploughing under a full grown crop of clover, arguing that

such a mass of green substance passes rapidly into a state of fermentation, and becomes so far decomposed as to produce the acetous fermentation; acid is formed before the crop can receive any benefit from the various fermentation. It is also claimed that the clover may be pastured off, half, or more, of the mass of herbage be converted into manure, and left upon the soil by the droppings of the stock, and this will be equivalent to any supposed loss of the clover fed off, and a saving be, so far, made of the amount of food taken from the field, and a farther saving of the labor required to turn under the full crop. On the other hand, it is maintained that the full grown clover containing the largest proportion of sugar and the largest amount of herbage, must yield the greatest amount of fertilizing matter.

While very little has been done in the way of experimenting, as compared with the great importance of the topic, it cannot be denied that the great weight of opinion favors the feeding off the crop to at least a great extent, and treading the remainder so close to the surface that the moisture will very soon induce decay.

As this method accords too very greatly with the convenience of feeding the farm stock economically, it is not likely to be soon superseded, at any rate until the contrary practice is shown to be very decidedly better. It is for wheat that its great fertilizing qualities are peculiarly valuable, and the wheat grower may have the benefit of his summer's grazing for his stock without any loss, it is maintained by practical men, of the value of fertilizing matter; and diminution of quality, which is small in any case, being more than compensated by the covering of the surface during the heats of summer, and the better condition of the fertilizing material for immediate effect on the following crop. To get the greatest benefit, it is thought desirable not to turn upon the clover any considerable number of cattle until it comes into bloom. Then they will, of course, trample down much more than they will consume. That which is thus trod down and the droppings of the cattle together, will make such a dressing of the surface in such condition as will peculiarly suit the requirements of the crop of wheat.

CLOVER SOIL.

While clover is the peculiar fertilizer of wheat, it suits, too, especially the best wheat soils. Bousington says: "Clover delights in clayey soils; it thrives generally in good wheat lands; in light and sandy ground it gets bare and frosted." Any soil indeed, which may be considered good wheat land may be considered good for clover, but there must be present, in considerable quantities, lime and other alkalies. Even sandy lands, after being well dressed with lime, become capable of producing good crops of clover. An analysis of the ashes of clover, by Prof. Horsford, gives, of Potash, 16.101; soda, 40.712; lime, 21.914; magnesia, 8.289; showing clearly how important to its successful growth must be a full supply of alkalies. To act upon these alkalies, so that these essential ingredients may be made readily available, the presence of sulphuric acid is important, and this may be the secret of the value to the clover crop of sulphate of lime, commonly called plaster. Of all fertilizers, none equals this in its magical effect upon the growth of clover, and the marvellous improvement brought about, in some districts, by a mere sprinkling of this fertilizer, is well known. Another thing is, that sulphate of lime fixes the ammonia that it comes in contact with, the sulphuric acid being disengaged from the lime and combining with the ammonia, preventing its escape. Ashes furnish potash, and salt chlorino and soda, and therefore benefit the crop. The starch, sugar, albumen, gluten, &c., are composed of carbon, hydrogen, oxygen and nitrogen, which are supplied, for the most part, from the atmosphere. It is the capacity of the clover plant for foraging largely on the air, that constitutes its great value as a fertilizer.—*Ag. Ed. Bull. Sun.*

TILLERING OF RYE.—Mr. A. H. Maxwell, Palmer, Mass., states that he now has in his shop a stool of rye containing sixty-one stalks, all of which sprang from one kernel, the average length of which is five feet and two inches. The average number of kernels per head was sixty. This is 3,660 fold. Mr. Vanriper, Hachensack, N. J., told us that he raised a stool of rye having over seventy stalks, all of which sprang from one grain of rye. These instances show how extensively wheat and rye plants will tiller when the soil is rich and the seed deposited a good distance apart. But few plants have the habit of tillering so extensively as wheat and rye, even when a single kernel is planted in an area of ground sufficiently large to admit of tillering to its greatest extent. This habit of tillering may be advantageous when producing new varieties of grain, as the kernels can be placed far apart, and thus be made to yield more than if planted near each other.—*Rural World.*

GROUNDBONES.—The *Agricultural Gazette* says that Mr. Brown, of Wellington, by the use of five hundred dollars worth of ground bone per year, has increased his herd of cows, on a 90 acre farm, from 8, in 1851, to 30; and his sales of butter from \$350, in 1851, to \$2,353 of butter and cheese in 1857.

A FOREST ON FIRE.—An English exchange says:—A fearful disaster has overtaken Corsica. The magnificent forest of Vizzabona caught fire a week ago, and has been burning ever since. This vast forest consisting chiefly of pine trees, celebrated for their immense yield of resin, is now one vast sea of fire. Millions of valuable trees are destroyed, and as yet the efforts of the neighbouring population have been ineffectual to arrest the progress of the flames. Corsica will not recover the results of this disaster for many a long year.

DEEP PLOUGHING.—F. W. writes the *Maine Farmer* in favour of deep ploughing to secure good crops. He adds:—"Twelve years ago I sold my little farm, and the purchaser failing to pay for it, it came back into my hands some five years since. I found the buildings in a dilapidated state, the fences mostly used up for fuel, the soil much deteriorated, and the place entirely overgrown with witch grass. The man that bought it pursued the *skimming* method of farming, by ploughing only five or six inches deep, which rendered the soil too shallow to produce any remunerative crop without the application of much manure. The *skimming* manner of culture had, in fact, been in operation so long that the soil was about as incapable of producing a crop of any value as *skimmed milk* is of producing good butter or rich cheese." Deep ploughing was substituted for the "skimming" process, and the land is now becoming productive again.

CLOVER OR RYE GRASS HAY.—An Ayrshire farmer gives his mode of curing hay as follow in the *North British Agriculturist*:—"Cut the grass only on a dry day, and see that the mowers lay it well for being lifted straight, on the following day, if the drouth has been very good or if not, then as soon as the swathes are dried on the upper side, lift the hay in straight handfuls, or perhaps they may be more properly termed armfuls, place it on end in little stooks or cones—two small armfuls, about the size of sheaves, to each cone, and with a band of one length of the hay tie the cone at the top—no other tying but that; then all that is required is to see that these cones are kept on end till the hay is ready for rick-ing or stacking. Select a good day; spread them into winnows to dry the bottoms more thoroughly, and collect into ricks or stacks, as may be desired. By the above plan very good hay may be made in weather when by any other method that I have seen it would be much hurt, and the labour is about the minimum. No doubt but that in fine weather, by letting it lie flat, it may be carried sooner, but there is more risk of getting it spoiled, and the dews, even in fine weather, bleach it more.

CROPS GROWN IN RIDGES.—I had observed that formerly in my part of the country it was the custom to ridge up land that had been neglectfully cultivated, in order to bring it back to its former good condition. This custom had almost become obsolete, and I frequently wondered why it did not become general, as it improves the soil and rids it of weeds. The dearth and rarity of manual labour caused me to reflect upon introducing on my own farm cultivation in widely set ridges. I had the hope of thus growing larger crops at less cost; meanwhile I wanted a combined implement to enable me to do the work well. A large size of Howard's double-breasted ploughs enabled me to attain the purpose, with a drill which I had modified for sowing beetroot, turnips, and colza. This mode of cultivation is at once advantageous and economical, and suits all soils. In stiff land it sweetens and fertilises the soil by exposing a maximum of surface to the action of the atmosphere. It suits also light soils with a thin layer of humus, for in heaping up the land to form the ridge, the cropping depth is in some sort doubled. All my ridges are set 32 inches apart. Ridges cause the soil to mix, and fermentation to take place rapidly, because all the atmospheric principles play a double part. The time of sowing is accelerated; it can be done even in wet weather, and as well before winter as when the frosts are over. The apparatus used, and

a specimen of the cultivation, will be exhibited during the time of the Paris Exhibition of 1867 on the Island of Billancourt. The only way to appreciate this mode of cultivation and to know the result of it, is to examine it with one's own eyes. It would take a great deal of writing to enumerate all the advantages of growing crops in ridges; those who personally examine it will understand them. One of its advantages I have omitted. When we have heavy rains after sowing beet on the flat the earth becomes glazed—a crust is formed which prevents the beets from shooting up; the plant is then like a corkscrew in a corked bottle. This inconvenience is avoided by planting in ridges.—*M. Decrom becque, of Lens, near Arras, Pas de Calais, in the Journal d'Agriculture Pratique.*

SCENE IN A HARVEST-FIELD.—The *Edinburgh Courier* gives the following report of an extraordinary scene which took place after the recent trial of reaping machines, at Carberry Mains:—

"After the competition, a scene occurred on the public road leading to the fields, which may be common enough in the district, but which in the eyes of a stranger must have certainly appeared very ridiculous. About thirty or forty of the female workers employed as 'lifters' in the competition assembled together, and in the most good-humored but determined manner seized hold of several farmers as they left the field, and hoisted them on their shoulders in the most ludicrous manner. These amazons went about the matter in the coolest way possible, and they did not confine their attention to the farmers, but one young landed proprietor they once and again surrounded and heaved shoulder-high. A portly-looking farmer, not less than 20 stone, suspecting that he was to be made an object of attack, ran off as fast as he was able. He was followed by the females, who soon overtook him, not, however, before he had stumbled and fallen to the ground. After having raised him up and satisfied themselves that their victim was none the worse for his fall, the 'lifters' coolly removed his hat, and placed it on the roadside; seized him by the shoulders and legs, and dandled him about like a plaything. They then released him, placed his hat on his head, and having expressed a hope that he had sustained no injury by his fall, they let him go. Another farmer was chased for a considerable distance, but being lighter of foot than his neighbour, he escaped. Some of the victims purchased their ransom by throwing money to their captors, while others submitted to the ordeal rather than pay the black mail. This continued till all who ventured to run the gauntlet had left the place. The custom—which is, no doubt, looked upon as fun by the females—is followed, we understand, in some parts of Fife and the north; and if we mistake not, there is a reference in Chambers' 'Book of Days' to a similar practice in some districts of England."

The Sowers.

They are sowing their seed by the dawnlight fair;
They are sowing their seed in the noonday's glare;
They are sowing their seed in the soft twilight;
They are sowing their seed in the solemn night;
What shall the harvest be?

They are sowing the seed of pleasant thought;
In the spring's green light they have blithely wrought,
They have brought their fancies from wood and dell,
Where the mosses creep and the flower buds swell;
Hark shall the harvest be.

They are sowing the seed of world and deed,
Which the cold knout, nor the careless heed;
Of the gentle word and the kindly deed
That have blessed the earth in its sorest need,
Sweet will the harvest be.

And some are sowing the seed of pain,
Of dire remorse and a maddened brain;
And the stars shall fall and the sun shall wane,
Ere they root the weeds from the soil again;
Dark will the harvest be.

And some are standing with idle hand,
Yet they scatter seed on their native land;
And some are sowing the seed of care,
Which their soil hath borne, and still must bear,
Sad will the harvest be.

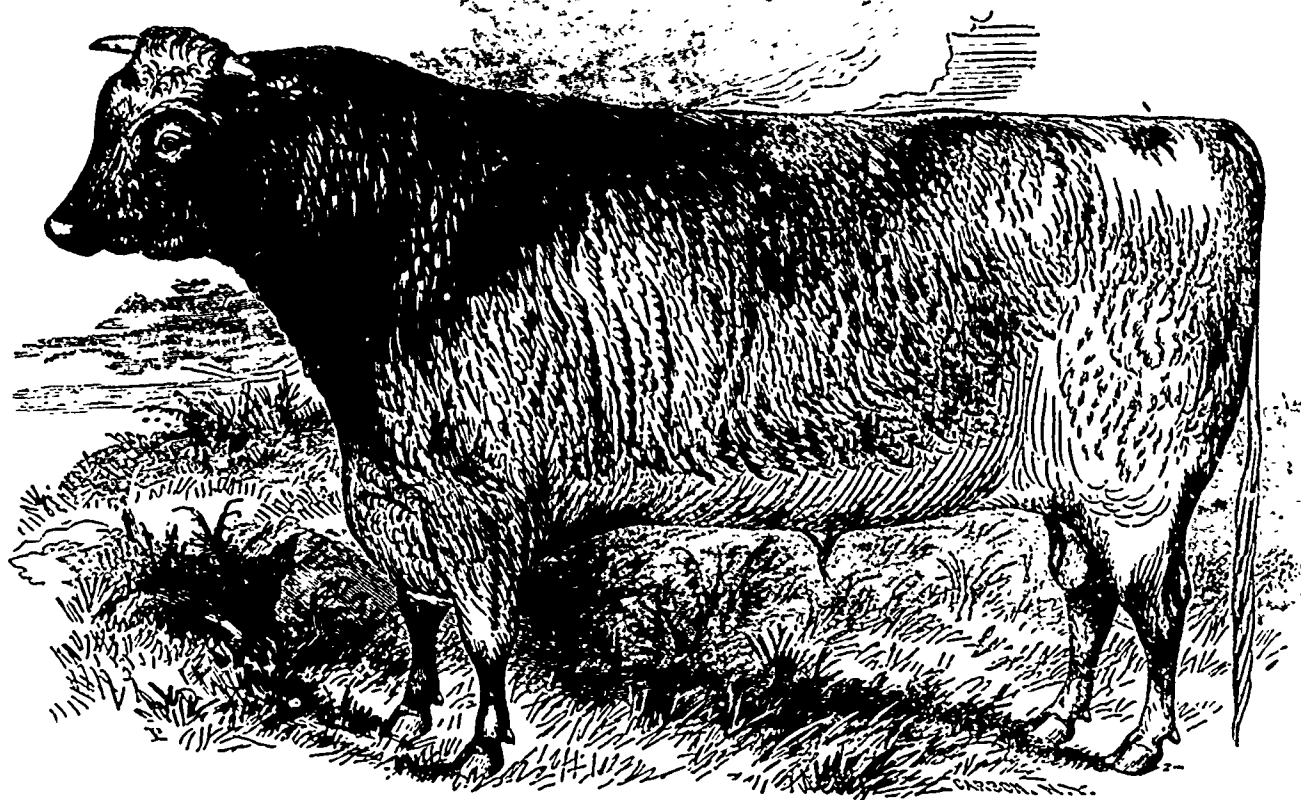
They are sowing their seed of noble deed,
With a sleepless watch and an earnest heed;
With a careless hand o'er the earth they sow,
And the fields are whitening where'er they go,
Rich will the harvest be.

Sown in darkness or sown in light,
Sown in weakness or sown in might,
Sown in meekness or sown in wrath,
In the broad world-field or the shadowy path,
Sure will the harvest be.

The editor of the *Mobile, Ala., Register* thinks the principal advantage possessed by the Northern farmers over those in the South is in the better implements used by the former.

Stock Department

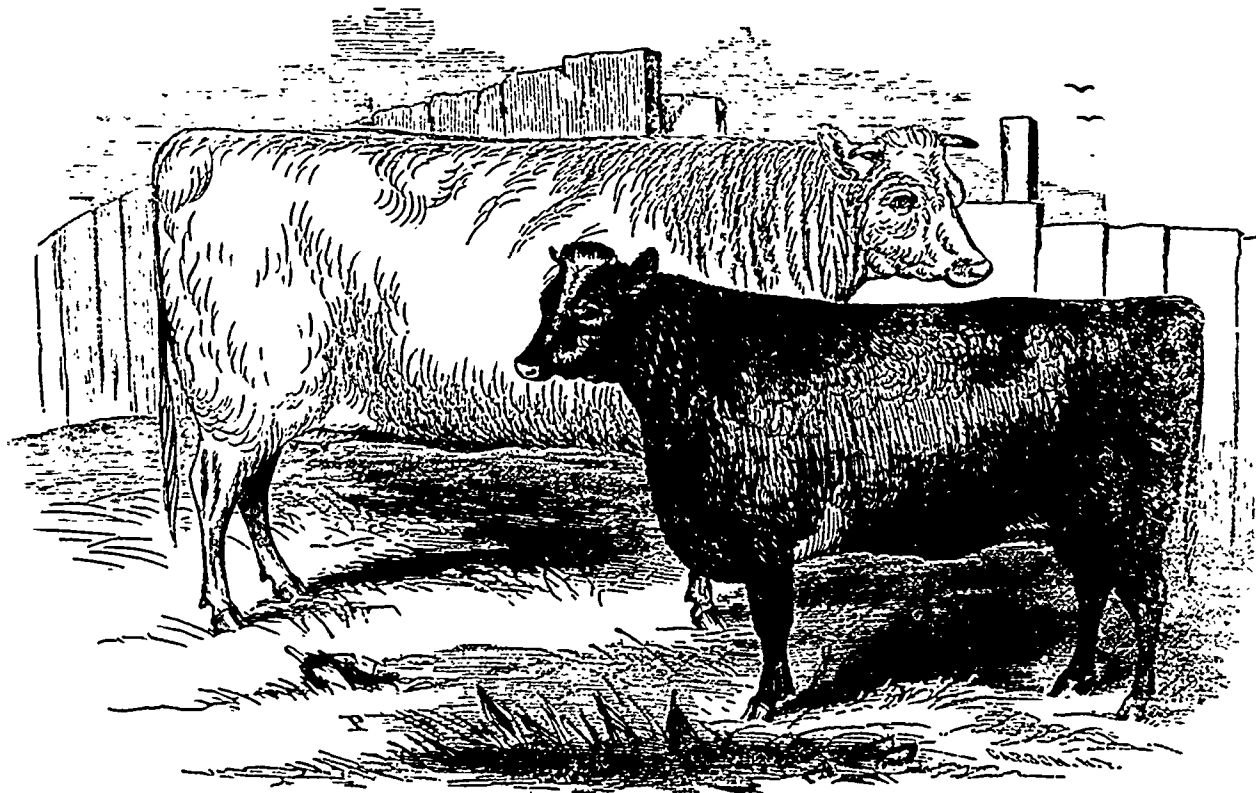
FIRST PRIZE THREE-YEAR OLD DURHAM BULL. AT THE PROVINCIAL EXHIBITION OF 1866.



"SIR HARRY,"

The Property of Messrs. J. & R. HUNTER, Wynford. Elora

FIRST PRIZE YEARLING DURHAM HEIFER AND FIRST PRIZE DURHAM HEIFER CALF. AT THE PROVINCIAL EXHIBITION OF 1866.



Yearling **"SNOWDROP,"** and Calf **"MISS MARGARET THIRD,"**

The Property of Mr. M. H. COCHRANE, Compton, Canada East.

Premium Short-Horn Bull "Sir Harry."

Herewith appears a portrait of this fine animal, first prize-taker in the class of three-year-olds, at the late Provincial Show. He is dark roan in colour, well proportioned, strong and vigorous in constitution, well up to the mark in the best Short-Horn points, and a good stock-getter. Much admiration of him was expressed by all judges of Durham cattle who were at the Exhibition. He is owned by Messrs J. and R. Hunter of Wynford, Elora, two enterprising young farmers, who may well be congratulated on the possession of so fine an animal. We wish them joy of him, and hope that he and his progeny may win more honours at future shows, both Provincial and local. His pedigree is as follows:

PEDIGREE OF DURHAM BULL "SIR HARRY."—Roan calved April 7, 1863, U. C. S. R., 1776; bred by John M. Bell, Pickering, Canada West; got by Canadian Punch, U.C.S.R., 501; dam, Jane 6th, 1719, by Prince Wales, U.C.S.R., 508; gr dam, Jane 4th, 1768, by Aichol, U.C.S.R., 832; gr gr dam, Jane 3, 111, by Sir John, E. H. B., (13735); gr gr gr dam, Young Jane, by Strathmore, (6517); gr gr gr gr dam, Jane, by Playfellow, (6297); gr gr gr gr gr dam, Rose, by Sir William, (12902); gr gr gr gr gr gr dam, —, by Logstone, (5187); gr gr gr gr gr gr gr dam, —, by Emperor, (1974).

The Short-Horn Heifers "Snowdrop," and "Miss Margaret 3rd."

HEREWITH we present an engraving of the two heifers above named. The calf "Miss Margaret 3rd" was bred by F. W. Stone, Esq., of Moreton Lodge, Guelph, and exhibited by him at the late Provincial Show. She was sold on the Show ground to her present proprietor. By some mistake or other, the first prize in her class is mentioned in the Prize List which appeared in our last issue, as having been given to "Isabella 14th." Mr. Stone has written us a note referring to this error, and requesting us to state that "Miss Margaret 3rd" was the prize-taker in the class of heifer calves.

The yearling "Snowdrop" was bred by John Miller, Esq., of Pickering, and exhibited by him at the recent Provincial Exhibition. She too was sold on the Show ground to her present owner. Both these animals are descended from an excellent ancestry, and both as regards constitution and milking qualities, as well as breeding qualities, may be expected to prove all that can be desired. We wish their fortunate owner much satisfaction and success with them. Our Lower Canadian friends have only to import and breed from such stock, to work a vast revolution among their cattle, and render it impossible for any future President of the Provincial Agricultural Society to twit them about their cows being so small, that a man might walk away with one under each arm. We subjoin the pedigrees:

PEDIGREE OF DURHAM HEIFER, "SNOWDROP."—Colour, white, calved April 4th, 1865, bred by John Miller, Pickering, Canada West, now the property of M. H. Cochrane, Compton, C. E., got by Prior, Upper Canada Stock Register, 1781; 1st dam, Nonpareil, by Captain (imp.) 29, E. H. B. (11240),—2nd dam Louisa (imp.) by Baron Ridesdale (11156),—3rd dam Young Jane, by Strathmore (6547),—4th dam Jane, by Playfellow (6297),—5th dam Rose, by Sir William (12102) 6th dam Kate, by Logstone (5487),—7th dam Katherine, by Emperor (1974).

"Snowdrop" received the first prize in the class of yearling Durham heifers at the recent Provincial Exhibition, and was sold to M. H. Cochrane of Compton, Canada East.

PEDIGREE OF THE DURHAM CALF, "MISS MARGARET 3rd."—Red, calved 30th November 1865, bred by Frederick Wm. Stone, Moreton Lodge, Guelph, Canada West, now the property of M. H. Cochrane of Compton.

Canada East, got by Twelfth Duke of Northumberland 4744, Dam, Miss Margaret by (impl.) John O'Gaunt 2nd (13089) g. dam Margaret (impl.) by Snowball (802) gr. g. dam Redneck, by Harbinger (9183) gr. gr. dam (—) by Nonsuch (4581).

The above Durham Calf, "Miss Margaret 3rd," was awarded the First prize in her class, at the Provincial Agricultural Association Exhibition held in Toronto in September 1866, and was sold to M. H. Cochrane of Compton, Canada East.

A Massachusetts breeder of Shorthorns has sold \$2,000 worth of stock, the produce of one cow. The cow was recently sold for \$500.

SHEEP—MIXING.—*Clough's Australian Circular and Advertiser* publishes a stock report in which it is recommended to cross the Cotswold and Chinese sheep. By such an amalgamation it is asserted that a general average of four lambs at each yearling may be expected from a single ewe.

A PROLIFIC EWE.—*The Farmer* (Scottish) says:—At present there is, on the farm of East Kinleith, in the occupation of Mr. Moffat—whose reputation as a breeder of Cheviot sheep ranks very high, as shewn by the prices which his stock realizes at the Edinburgh ram sales—a Cheviot ewe, which has produced no fewer than thirty-three lambs. As a yearling she threw one lamb, and ever after she has annually brought forth twins. Her age is now eighteen years, a longevity which is almost as remarkable as her fertility.

DOGS AND SHEEP BELLS.—An experienced breeder of sheep says, that a number of sheep in any flock wearing bells will keep away dogs. He allows ten bell sheep to every hundred. When sheep are alarmed they run together in a compact body, and the ringing of all the bells frightens the dogs. In Great Britain and Ireland bells are used by almost every owner of sheep. They are useful for keeping off dogs and foxes, the latter being very destructive to lambs in places where this precaution is not taken.

AGE OF SHEEP—HOW DETERMINED.—The age of sheep may be known by the front teeth. They are eight in number, and appear all of a size. In the second year the two middle ones fall out, and their place is supplied by two large ones. In the third year a small tooth on each side. In the fourth year the large teeth are six in number. In the fifth year the whole front teeth are large. In the sixth year the whole begin to get worn. In the seventh year the whole fall out or are broken. It is said that the teeth of ewes begin to decay at five or six; those of wethers at seven.

GESTATION OF ANIMALS.—The period of gestation in certain animals is set down by a German author, who is said to be correct, as follows:

ANIMAL,	SHORTEST.	MEAN.	LONGEST.
Mare.....	322 days	347 days	419 days.
Cow	240 "	283 "	321 "
Sow	109 "	115 "	143 "
Ewe.....	146 "	154 "	161 "

A record of gestation of mares was kept, some years ago, at the experimental farm, established by the government of France, by which it was shown that of 582 mares the shortest period was 287, and the longest 419 days, showing a difference of 132 days in one case!

A HINT IN BREEDING.—Mr. Torr, the well-known breeder of Short-Horn cattle and Leicester sheep, in the course of some remarks at his recent letting of the latter, touching on breeding in general, said:

"The way to establish uniformity or family likeness is to begin by putting the best male to the best female, and to continue to put the best to the best;" secondly, "not to put opposite characters together, or the traits of both will be lost; but if any fresh characteristic is required to be imparted to the issue of present stock animals, this must be done by degrees, or by that discreet selection which will yield a little more wool, or size and substance, the first year, and a little more and more in the second and third generations, and so on."

The Dairy.

How to Milk the Cows.

THE first process in the operation of milking, is to make the cow's acquaintance; give her to understand that the milker approaches her with none other than friendly intentions; for if he swears, scolds or kicks her, she may give the milker the benefit of her heels, which in my opinion he is justly entitled to.

Before commencing to milk the cow, she should be fed, or have some kind of fodder; in the enjoyment of the mastication of the same, her attention is withdrawn from the milker's operations; and the milk is not "held up," as the saying is, but is yielded freely.

The milker should not sit off at a distance like a coward, but his left arm should come in contact with the leg of the cow, so that she cannot kick. Before commencing to milk, the teats are to be washed with cold water in warm weather, and warm water in winter.

The best milker is a merciful man. The udder and teats are highly organized and very sensitive, and these facts should be taken into consideration, especially when milking a young cow, for the teats are sometimes excessively tender, and the hard tugging and squeezing which many poor sensitive creatures have to endure, at the hands of some thoughtless, hard-fisted man, are really distressing to witness.

A better milker than even a merciful man is a woman. The principal part of the milking in private establishments, in foreign countries, is done by women; and in the United States there are thousands of capable women out of employment who might be advantageously employed, in private dairy establishments, as milk-maids.

An indolent person—slow coach—should never be suffered to touch a cow's teat; the process, to say the least of it, is painful, therefore, the best milker is the one who can abstract the milk in the quickest time.

Finally, milk the cow dry. The last of the milk is the most valuable, yet Mr. Hurry-up cannot find time to attend to this matter, consequently he loses the best of the milk, and actually ruins the cow as a milker.—*Dr. Dadd.*

The London Field says well managed cows should yield 500 to 600 gallons of milk yearly. Shorthorns have produced 800 and Ayrshires 650 gallons. The same paper estimates the average annual production of butter at 200 pounds per cow.

CHESHIRE CHEESE.—After examining the Cheshire mode of cheese making, Mr. Willard says it is what would be called decidedly antiquarian by an American dairyman; and he ascribes the superiority which has made the cheese of this section celebrated, to the scrupulous cleanliness of the utensils and everything connected with the manufacture—"models of neatness," he says, "which would put our slovenly practices to shame." He remarks that during a portion of the time the Cheshire cheese is undergoing the process of curing, the cheese is placed on straw or hay upon the floor of the curing room.

THE DEACON'S COW GOT THE BETTER OF HIS RELIGION.—A contributor to *Harper's Monthly* tells a story of a certain deacon who was one of the best of men, but by nature very irascible. A cow was so exceedingly disorderly as the deacon was attempting to milk her one morning, that the old Adam got the better of him, and he vented his feelings in a volley of execrations very un-deaconish in their character. At this moment the good deacon's pastor appeared unexpectedly on the scene, and announced his presence by saying: "Why, deacon! can it be? Are you swearing?" "Well, parson," replied the deacon, "I didn't think of any one being near by; but the truth is, I never shall enjoy religion as long as I keep this cow!"

Poultry Yard.

Poultry Paragraphs.

Never keep poultry without thinking it worth your while to give it a fair share of your attention, or while it is satisfying yourself, if your time is otherwise engaged, that it has the attention of your servant or the person who has the charge of them. Never keep persons for that purpose who do not show by activity and forethought, that they are fond of this employment, and who think of it at other times beyond the periods in which they are actually engaged. When you are fortunate enough to find these various qualifications united, you may hope for the best, and will probably find that many a useful observation as to the particular characteristics of the different breeds, and many a hint may be profitably acted on, which will reward your discrimination.

It is a fact that most old women who live in cottages know better how to rear chickens than any other persons; they are more successful, and this may be traced to the fact that they keep but few fowls, and these fowls are allowed to run freely in the house, to roll in the ashes, to approach the fire, and to pick up any crumbs or eatable morsels they may find on the ground, and are nursed with the greatest care and indulgence.

The aim of every one who keeps fowls should be the possession of first rate stock, whatsoever the breed may be. Every breed has its standard of excellence, and it is desirable to have that standard raised as high as the most approved system will carry it.

Which are the best fowls to keep? is a question often put to us. Our answer—that which produces the most eggs, and that which feeds best at an early age, and at the least expense, and that which possesses those qualities most valued for food.

Every one should be made acquainted with the fact that some hens are more prolific in eggs, and that in some kinds the flesh is much superior in richness and flavour than in others; and that some are large in size and more hardy than others.

If any one should desire the *ne plus ultra* of excellence in a fowl, let him eat and pronounce his opinion on the wing of a well-fed Game pullet, and we will venture to have no fear of his disagreeing with this expression of our judgment on the good qualities of these birds for the table. And Game hens as layers are as good as any; as many as twenty-four eggs being constantly laid by them before manifesting any desire to sit. But with regard to the number of eggs laid by fowls of any breed, previously to their manifesting a desire to incubate, much will depend on whether the eggs are removed and a porcelain egg allowed to remain, or whether to accumulate as day by day the store may receive additional deposits. If the latter plan be adopted, few Game hens, we imagine, would be found to lay beyond what instinct would suggest as the proper complement for their nest, and this we find from twelve to fifteen.

As *sitters*, Game hens have no superiors. Quiet on their eggs, regular in the hours of coming off and returning to their charge, and confident from their fearless disposition, of repelling the incursions of any intruders, they rarely fail to bring off good broods. Hatching accomplished, their merits appear in a still more conspicuous light. Ever on their guard, not even a shadow of a bird overhead, or the approach of man or beast, but finds them ready to do battle for their offspring; and instances are on record where rats and other vermin have thus fallen before them. The greatest objection to the Game fowl is its pugnacious propensities.

By warmth and judicious feeding, a hen may be made to lay as many eggs in two years as she would under ordinary circumstances in three; and every one knows, or ought to know, that a fowl fattened at two years old, is much more tender and palatable than one that is older.—C. N. BEMENT, in *Country Gentleman*.

A landlord, who had some very weak chicken broth for dinner, the other day, was asked by a wag of a boarder if he couldn't coax that chicken to wade through that soup once more.

To fatten geese, the *Irish Farmers' Gazette*, says—Put three or four into a darkened room, and give each bird one pound of oats daily, thrown on a pan of water. In fourteen days they will be found almost too fat. Never shut up less than two together, as they pine if left alone.

MALE TURKEYS INCUBATING.—Could any of your readers state whether they have known the male of the American turkey (*Meleagris gallopavo*) to sit on eggs, as at the present moment I have two sitting on hen eggs. One of these birds has previously sat upon goose eggs. I have frequently observed a tendency to sit in the male of this breed, but I have never before seen such an instance of continued and persistent sitting. Until they commenced their maternal duties they were constantly fighting with each other, or interfering with the peace and comfort of others; one of them having so far indulged in his animosity, as to have scalped a goose. But ever since they have taken to regular sitting they have become quiet and amiable in their disposition.—W. LOR., in *London Field*.

The Apiary.

Management of the Apiary for December.

BY J. H. THOMAS.

If stocks have been properly prepared for winter little more is required; if not they should be at once, and the management for November carefully carried out. Strong stocks will then require no more attention this month, except when wintered out of doors; care should then be taken that ventilation is not closed up with snow or ice. When stocks that are housed I keep up a continual roaring, they are too warm, and more air should be given them.

Weak stocks should be housed if possible, especially if they require feeding, but where it is impossible to house them, they may be wintered by occasionally bringing them into a warm room and feeding them from half a pint to a pint, and then setting them out again; but it is not well to carry directly from a warm room into the open air, the change should be more gradual. If such stocks have little or no honey, they should be fed as often as once a week. Weak stocks that are housed, if in moveable comb hives, may have a pound or two of candy sticks laid upon the frames, and if they have a few pounds of honey they will winter without further trouble. I mean by "housed," put into a cellar or room where they will not freeze and yet be cool, dry and dark; a woodshed or common out house would not answer, especially when stocks are weak.

BEE-KEEPING IN MINNESOTA.—In a grocery store in this city (St. Paul), where I pass every day, I have noticed some very nice honey in the comb, in boxes. On enquiring where it was made, I found it came from a very large apiary just out of the city. Yesterday afternoon I visited the establishment. On arriving there, I found two young men, brothers, by the name of Bidwell, who own a farm one mile from here on the other side of the river. Their house is built about half way up the bluff, and their farm extends back from the river. I found they have over 400 swarms of bees, 350 of them working hives. They expect to have twenty thousand pounds of saleable honey this season. They are the most successful apiculturists in the State, if not in any other state. By their politeness in giving information, I gathered from them some very valuable facts, which would be of much use to bee-keepers. They are introducing and breeding the Italian bees, and seem to understand the art of managing them perfectly.—*Exchange*.

TAMING BEES.—A writer in a recent number of the *Scottish Gardener* says—"To tame vicious bees, we have only to accustom them to the form of human beings. A scare-crow, or what my Scotch friends call 'a potato bogie,' placed in front of the hives of stinging bees, is a great help. It can be shifted now and then, and, to provoke a general attack, place a loose waving rag or handkerchief in the hand of the bogie. I have been told that vicious, kicking horses have been completely cured by hanging bags of hay behind them in their stalls. They kicked and plunged at the bags till their strength was exhausted, when their vice and folly left them; so that they quietly tolerated the bags to dangle by their sides, and groomed to do as they liked. In like manner, the bees attack the waving, provoking handkerchief, and sting at it till their vice leaves them. That which scares crows tends to domesticate bees. If kept in a garden where men, women, and children are often seen, and where they are not disturbed, bees are as tame and peaceable as cocks and hens."

Entomology.

The Gooseberry Saw-Fly.

A recent number of the *Practical Entomologist* (and for September), contains a long and very able and valuable article by Mr. Walsh, on this most destructive insect, which has been committing so much havoc among the gardens in almost every part of the Province, and in many parts of the United States. After a careful examination he comes to the conclusion that this insect has been originally imported from Europe, and that it is identical with that described by Stephens, under the name of *nematus ribesii*, but which had long before received the name of *nematus ventricosus* from the German entomologist Klug;—the latter, having the priority, is the name by which it must henceforth be known. Mr. Walsh further states that the only way in which we can hope to keep down this rapidly increasing pest is by importing from Europe the parasites which there attack it and keep it within due bounds, but which unfortunately did not accompany the destroyer in its voyage across the Atlantic. With this view we fully coincide, and we fully believe that no other perfect remedy for this insect, the Hessian Fly, the Wheat Midge and other imported pests, can be found than their natural enemies, the Ichneumonids created for the purpose of preying upon them.

The Chinch Bug.

To the Editor of THE CANADA FARMER:

SIR,—Enclosed I send you specimens of the "Chinch Bug" found in this neighbourhood, under the bark of old logs, where they appeared to have taken up their winter quarters.

It would be interesting to know to what extent they have invaded Canada, but from their diminutive size they will not probably be noticed in most localities until their numbers or depredations render them obvious.

In most accounts given of this insect it is stated that a wet season at once puts a stop to its ravages, but that it will not expel or destroy the insects themselves, seems proved by the unusually wet season just passed. SUBSCRIBER.

Grimsbey, Oct 24, 1866.

NOTE BY ED. C. F.—We are much obliged to our correspondent for the number of specimens of this redoubtable insect that he has kindly sent us; we have never taken it ourselves in Canada, nor, indeed, are we aware that it has ever appeared in any considerable numbers in this country, though it has frequently been very destructive in the neighbouring States. If any of our readers have met with it, or have been unfortunate enough to suffer from its ravages, we shall be glad to hear from them any particulars they may be able to communicate. The Chinch Bug, of which we have given a description and figure in THE CANADA FARMER for July 1st, 1865, page 205, is a tiny black insect about three-twentieths of an inch in length, with the wings and wing-cases white, the latter having a conspicuous black spot near the termination of each. It belongs to the order *Hemiptera*, the true "Bugs" of Entomology, and like all its fellows is provided with a sucker or beak through which it imbibes the juices of the plants on which it feeds. Taken individually its capacity for mischief is very slight indeed, but when it appears in myriads as it generally does, its multiplied assaults upon the grain crops are excessively injurious. As our correspondent relates, it goes into winter quarters at this time of year, sheltering itself from the frost under the bark of trees and logs, and in other protected situations. In the spring, when the grain has commenced to grow, it issues forth from its hiding place, and proceeding to the fields, lays its eggs on the roots of the tender grain, wherever it can gain access to them. These eggs soon hatch and produce another brood, which attain their full size at the close

of the summer season, and live over the following winter for the continued propagation of the species. In more southern latitudes there are probably three or more generations in the year.

Wet seasons are usually destructive to this and many other kinds of insects, though the past summer does not appear to have had this desirable effect upon the specimens at Grimsby; still, in all probability, they would have become much more numerous had they been favoured with the dry weather of former seasons. As suggested by our correspondent, it will be very useful to know to what extent this pest has invaded Canada. Now that winter with its long evening hours of comparative leisure is so near at hand, we trust that many of our farmer friends will get down some account of the season's experience, and let the whole community have the benefit of it through our columns. In the insect department particularly such information is very valuable, and will when collected in an available manner prove of advantage to all.

We append a mode of dealing with these little pests taken from the columns of our valued contemporary the *Prairie Farmer*, which we have no doubt will prove as effectual as thus described.

"If any Western rustics are verdant enough to suppose that chinch bugs cannot be out-blacked, headed off and conquered, they are entirely behind the times. The thing has been effectually done during the past season, by Mr. Davis, Supervisor of the town of Scott, Ogle county, Ills. This gentleman had a cornfield of a hundred acres, growing alongside of an extensive field of small grain. The bugs had finished up the latter and were preparing to attack the former, when the owner, being of an ingenious turn, hit upon a happy plan for circumventing them. He surrounded the corn with a barrier of pine boards set up edgewise, and partly buried in the ground, to keep them in position. Outside of this fence deep holes were dug, about ten feet apart. The upper edge of the board was kept constantly moist with a coat of coal tar, which was renewed every day.

"The bugs, according to their regular tactics, advanced to the assault in solid columns, swarming by millions, and hiding the ground. They easily ascended the boards, but were unable to cross the belt of the coal tar. Sometimes they crowded upon one another so as to bridge over the barrier, but such places were immediately covered with a new coating. The invaders were in a worse quandary than that of Butler and Weizel at Fort Fisher, and, in that state of mind, crept backward and forward until they tumbled into the deep hole aforesaid. These were soon filled, and the swarming myriads were shoveled out of them literally by wagon loads, at the rate of thirty or forty bushels a day—and buried up in other holes, care for the purpose, as required. This may seem incredible to persons unacquainted with this little pest, but no one who has seen the countless myriads which cover the earth as harvest approaches, will feel inclined to dispute the statement. It is an unimpeachable fact. The process was repeated till only three or four bushels could be shoveled out of the holes, when it was abandoned. The corn was completely protected, and yielded bountifully."

Birds—Their Usefulness—An Appeal to Farmers and Sportsmen.

DR. TRIMBLE, of Newark, N. J., one of the leading entomologists of this country, recently addressed the Essex County (New Jersey) Sportsmen's Club upon the importance of protecting the insect-eating birds. A report appears in the *Newark Advertiser*, from which we extract the following:—

THE BALTIMORE ORIOLE.

"He first spoke of the Baltimore oriole, showing different specimens, illustrating how much the female and the males of different ages differ from each other. They are becoming quite numerous; large elms suiting them. This family is chiefly insectivorous. When it first arrives it feeds upon leaf-eating caterpillars—so injurious to our fruit and shade trees. Now it is feeding upon the canker-worm—that terrible pest in New England. Later in the season it is found eating the drop-worms.

"The lecturer stated that by aid of the microscope he had been able to prove positively that the oriole feeds upon that terrible enemy of the fruit-grower—the curculio; that a small portion of head of what was supposed to be a curculio was found amongst the comminuted contents of the stomach of one of these birds, and the microscope enabled him to count the 147 lenses in one of the eyes—the exact number known to make the eye of this particular species of the curculio family.

THE DOWNY WOODPECKER.

This is the most valuable of all the birds of our country. It knows where to find, and is busy in

searching out, the apple worm—the second in importance of the insect enemies of fruit, which, with the curculio, are the chief cause of the ruin of the fruit business, especially in our State. The little chick-a-dee also feeds upon the apple-worm, but finds it accidentally, and not by boring for it, as the downy woodpecker does.

THE CEDAR BIRD.

Of the cedar bird, or cherry bird, the Doctor spoke at some length, wishing to rescue it from its bad reputation as a thief of cherries. It is a gross feeder, and consumes immense numbers of canker worms, span worms, and other injurious insects of that class. This bird and the yellow bird, or finch, resemble each other in one respect, both remaining in flocks till midsummer, and are thus on hand in great numbers when their services are most required; while most other birds are at home attending to their domestic duties. You find the cedar birds in New York and Philadelphia in large flocks in June, after the worms, and if they could be properly protected by closing the parks, so that they should not be frightened away by the people, they would do much toward ridding those cities of these pests. The yellow birds, in immense flocks, will be found in those wheat fields where the midge is so destructive. They are in pursuit of the larvæ of these flies in the heads of the wheat, while the grain is in its milky state; and farmers have supposed these birds were the cause of the trouble, not knowing that they were their best friends.

THE WARBLERS.

The family warblers include some 30 or 40 species. They are all small, but exclusively insectivorous—most of them are very beautiful, and some are charming songsters. Many are with us all summer, but others breed further north. They sometimes remain with us a few days, both going and coming. In the spring they will be feeding on plant lice, as found in the orchards; in the fall they stop and feed on the late brood of Palmer worms that so infest our elm and maple trees, becoming exceedingly fat.

THE WHIPPOORWILL.

Individual insects are as wonderfully made as any of the rest of creation. Moths fly only at night, yet "Solomon in all his glory was not arrayed like one of these." Ten thousand lenses to form the eyes; one hundred thousand feathers to complete the wings; yet the whippoorwill will snap up dozens of them in a single night. The whippoorwill is a nocturnal bird, and its beak is so formed that it takes in moths as a net takes in fish. The eyes of flies enables them to see all around them, and the muscular force of their wings is so quick that they can dodge the rain drops in a shower; yet the swallow is so formed that it lives exclusively on insects taken on the wing.

THE BEAKS OF BIRDS.

The beaks of all species of birds differ from each other, but the beak of each is exactly fitted for taking the insects its instinct teaches it to choose as its food. Many of the birds live exclusively on insects—as the warblers, bluebirds, and creepers. Some, again, that are classed as insectivorous will occasionally take berries, cherries or grapes—as the orioles, mocking-birds, cat-birds and thrushes. Some seem omnivorous, and eat almost anything, as robins and cedar-birds, and are gross feeders. A large class, as the bob-o'-links, blackbirds, finches, and some of the sparrows, will live on insects in summer and seeds in winter; or mix them when they can find both. Others again have still a wider range, as jays, crows and butcher-birds.

THE ICHNEUMON.

But the most important agent in the regulation of the insect world is an order peculiar to insects. We have nothing corresponding to it in the other departments of animated creation. They are sometimes called parasites, but not correctly. Parasites are everywhere; even vegetables have them. The mistle-toe is a parasite. But these are not necessarily destructive to the life of the victim. The ichneumon is. I allude to those peculiar flies—wasp-shaped and with four wings—that deposit their eggs in the bodies of other insects—the young feeding upon the living flesh of these victims, and upon which they grow to maturity. This seems a strange Providence, and hard to comprehend—but still it is so. Without such an agent, the Hessian fly would have destroyed the wheat crops of this country, but with it the Hessian fly was controlled in a single season, and has been kept in check for 50 years. Thousands of other insects that would soon be troublesome are controlled in the same way, and so quietly that we hardly know how.

HESSIAN FLY.—The *Practical Entomologist* gives the following rule for eluding the Hessian fly, which appears to be a good one: Notice in each neighbourhood at what date the latest sown wheat that is taken by the fly is sown, and sow for the future a little later than that particular date.

ONION MAGGOTS.—A correspondent of the *Maine Farmer* sprinkled white pine sawdust upon his onion bed when the plants were coming up, and also at each hoeing, and was not troubled by the maggot.

WHAT USE IS THE ARMY?—In reply to a correspondent who puts this question, the *Journal of Horticulture* says:—You might ask the same question as to everything in creation that is occasionally injurious to man, and the inference you would draw—that they were made for no good purpose—would be in each instance the reverse of truth. Few things are injurious so long as they are kept in their right place, which they usually may be if man uses due diligence; and those things which do injure him without a want of care on his part are compensatory by a far greater amount of general benefit. It would be easy to show, if that were appropriate to our pages, the good effected not only by the aphid, but by more noxious insects. Besides, their lives are not, as you say, "nothing but misery to themselves and others;" and we rather agree with him who says—"Insects generally must lead a truly jovial life. Think what it must be to lodge in a lily. Imagine a palace of ivory or pearls, with pillars of silver and capitals of gold, all exalting such a perfume as never arose from human censer. Fancy, again, the fun of tucking yourself up for the night in the folds of a Rose, rocked to sleep in the gentle sighs of summer air, nothing to do when you awake but to wash yourself in a dew-drop, and fall to and eat your bed-clothes."

Veterinary Department.

THE CATTLE PLAGUE IN ENGLAND.—*Bel's Messenger* of Oct. 3, contains the following satisfactory item on this subject:

"The last returns respecting the cattle plague are very gratifying; should the same ratio of decrease that has taken place during the last few weeks continue a few days longer, England will be free from the disease."

WARTS ON HORSES.—H. H. Howe, Nebraska Territory, informs the *Rural New-Yorker* how to cure warts on horses.—Mix equal quantities of spirits of turpentine and sulphuric acid, stirring slowly in a tumbler, and afterwards bottle the ingredients. Rub grease around the base of the wart, and then apply the medicine to the wart with a feather once or twice a day; it will gradually eat them off. I have taken them off horse's neck in this way when as large as turkeys' eggs."

EXTRAORDINARY SEDIMENT IN THE STOMACH OF A HORSE.—At a late meeting of the Chemical-Agricultural Society of Ulster, in Belfast, Dr. Hodges exhibited a large mass of heavy, solid substance, taken from the stomach of a horse which had died of inflammation. It weighed 7lb., and was almost round, resembling in shape a great cannon ball, and on examination it was found to be composed principally of phosphate of magnesia and the hairs of the husks of oats. This large stone, as it may be called, was the cause of the horse's death.

HOW TO RELIEVE CHOKED CATTLE.—A correspondent of the *Rural American* says: I have fattened many cattle on potatoes, and always fed them whole, and occasionally one gets choked. I then put the animal in a yard, where there are bars, which I let down, so that she can jump over, but as high as she will jump. I then place her about two rods from the bars, with her head towards them, and with a good whip, well applied, I ran her over the bars on the jump, and when she touches the ground, on the opposite side, the potato will fly out of her mouth. I have informed my neighbours of this remedy, many of whom have tried it, and in no case have I known a failure.

HORSE BATHING.—We read, in "*Thrall's Herald of Health*," "baths for horses have been so thoroughly tested that their use is becoming quite common. Tattersal, the greatest horse owner in London, who furnishes the best of horses for lords and nobles to drive, and who figures largely at the Derby races, treats his horses to the Turkish bath, and in this way cures them of the very few diseases to which, with the wise hygiene of his stables, they are subject. Drugs find little place where such care is given. We ought to have in New York and all large cities, hygienic establishments for treating horseflesh, and if the new veterinary college will do what it can to favour this idea, they shall have our hearty sympathy. But if it is only the old story over again of the other medical schools—drugging, bleeding, dosing, purging, the fewer we have the better."



South Westminster Ploughing Match.

To the Editor of THE CANADA FARMER :

SIR.—This match took place on the 7th inst. on the farm of Samuel Lewis, Esq., and was as usual a decided success. Although rather behind former years in the amount given in prizes, and in the number of ploughmen, still, when we consider that this match is not connected with any society whatever, and that the whole amount given in prizes was raised by voluntary subscriptions, it certainly does credit to those who were instrumental in getting it up, as it is even this year second to none we have yet seen chronicled. On the day appointed for the match the weather was all that could be desired, and at an early hour teams could be seen coming from all directions towards the "scene of action." The Secretary and Treasurer being on the ground the entries were all made, and at ten o'clock, the hour previously appointed, the teams to the number of twenty-three started forward at the word of command. It was truly a pleasing sight to see so many enterprising young men of our township meeting together to engage in friendly competition for the prizes that were offered, each one guiding his plough with a coolness and precision which showed to the beholder that he was no novice in this manly art. The Judges having been on the ground during the progress of the ploughing, had finished their task (which by the way was no enviable one), shortly after the ploughmen had left the field and awarded prizes as follows:

MEN'S—1ST CLASS.

1st prize, James McMillan (plough used, Gray pattern); 2nd do., Walter Fleming (plough made by Walker); 3rd do., Archd. Macpherson (Gray plough).

MEN'S—2ND CLASS.

1st prize, George Mann (Gray plough); 2nd do., Donald McMillan (Gray plough); 3rd do., James Smith (plough made by Elliot); 4th do., Malcolm McLachlin (Gray plough).

MEN'S—3RD CLASS.

1st prize, Duncan Buchanan (Gray plough); 2nd do., John Forbes (plough made by Elliot); 3rd do., Joseph Legg (Gray plough); 4th do., Henry Dark (Gray plough); 5th do., Alex. Milne (plough made by Elliot); 6th do., F. J. Errington (Gray plough); 7th do., John Dawson (Cobairdy plough).

BOYS'—1ST CLASS.

1st prize, John C. Mann (plough made by Elliot); 2nd do., Wm. McDonald (Cobairdy plough); 3rd do., James McLachlin (Gray plough); 4th do., George Lewis (Gray plough).

BOYS'—2ND CLASS.

1st prize, Wm Pritchitt (Tootman plough); 2nd do., Archd. Macpherson (Gray plough); 3rd do., David Mann (Gray plough).

It is gratifying to see the increasing interest that is taken by the youth of our land in the essential branch of agricultural labour. Only a few years ago and a ploughing match in this section of the country was a rare thing, now instead of ploughing matches being novelties, there is hardly a township in which they have not become fixed institutions, and in some townships, (Westminster for example,) there are two annual matches held. These matches have certainly a very beneficial effect upon the young men of our day. We see boys who could hardly be expected to be able to manage a plough coming to these matches, and doing their work with a skill and precision which show them to be ploughmen of no mean order. Great praise is due to the judges for the impartial manner in which they performed the task allotted to them, and no doubt they will feel amply repaid by the general satisfaction which is expressed at their decision. In looking over the prize list I noticed several handsome donations which deserve to be mentioned. Among them was a pair of Scotch colars, presented by Moore Brothers, St. Thomas, which were handsomely got up, and amply repaid the man who was fortunate enough to win them for his day's labour. A plough was presented by Mr Jas Walker, Westminster, which was also well worth a day's toil. It is to be hoped that those connected with this match, instead of allowing it to decline, will in future take hold with a will, and get up a match next year that will eclipse all their former efforts.

Westminster, Nov 12th, 1866.

OBSERVER.

Turnip Harvesting and Turnip Match.

To the Editor of THE CANADA FARMER :

SIR.—A few evenings ago I had the pleasure of seeing in operation what I consider the *best plan of harvesting the turnip*. It is as follows:—The tops are cut off with a sharp hoc, two drills thrown in cutting into one row, then all carted off to the field for cattle. A common plough without the couler is next passed under the drill, neatly cutting off the roots of the turnip, when a common harrow, with every other tooth drawn, is passed a double time over the rows, leaving the whole broadcast over the land. Nothing remains to be done but cart to the pit or cellar.

This season has proved itself too wet for the turnip crop in this section of country; though I have heard of some splendid crops. Gooderham & Worts have just gathered on the above plan, a very fine crop grown on an upland clay loam, the sight of which would have roused the poetic in a Bloomfield. I have satisfaction in enjoining the names of the three gentlemen who carried off the prizes in this county of Peel, and their mode of culture;—

FIRST PRIZE, ANDREW SMITH, CHINGACOST.—It was an extra fine field, yielding on an average 480 lbs. to the square rod, or 1,280 bushels per acre. The land was ploughed once last fall, twice in the spring, and had ten loads of manure per acre. The crop was dressed with phosphate of lime and plaster, scuffled twice and hoed two or three times.

SECOND PRIZE, JAMES THOMPSON.—A very fine field, yielding 456 lbs. per sq. rod, or 1,216 bushels per acre. The land was ploughed once last fall, twice in the spring; good rich soil, and had received no manure this season. They were hoed once and scuffled twice.

THIRD PRIZE, A. CAMPBELL.—An excellent field, yielding 442 lbs. per square rod, or 1,179 bushels per acre. The land was ploughed once last fall, once in the spring. Eighteen loads of manure were applied per acre. They were well hoed several times and the ground kept perfectly clean.

Nearly four tons per acre is no mean crop; and but shows what Canadian soil will do under skillful treatment. Much is said about the pest of rape in the turnip seed; about a third of some crops is rape; better surely charge the worth of good seed than thus adulterate it. Success to the turnip crop, the hope of Canadian farming, as it is the backbone of British agriculture!

WM. LESLIE.

Meadowdale, Nov. 16th, 1866.

Preservation of Eggs.

56 MARGATE, LEEDS, ENGLAND, }
October 16, 1866. }

To the Editor of THE CANADA FARMER :

SIR.—I have lately read with some interest a paragraph copied from THE CANADA FARMER, which referred to the holding of a meeting of farmers in New York, some time ago, for the purpose of discussing the subject of the preservation of eggs. I apprehend their object is to import eggs into this and other countries in the best way, and with the least possible expense so far as regards the preservation of them. As this is a subject which I have studied now for some considerable time past (besides having tested it), and as I feel sure I could be of service to them in enabling them to carry out their object, I have ventured to address them through your columns, which I shall feel obliged by your inserting in an early impression of your paper.

You may be aware that not less than 200,000,000 of eggs are annually imported into this country from France and Ireland, for which there is a very ready sale. My method is simple and cheap, costing about one shilling for 8000 eggs, the time occupied for this quantity being 3 hours or thereabouts. I may also say that there would be no difficulty in preserving the eggs at any time after their collection, and when once preserved and packed in a dry place they would keep for 12 months, and be as sound as when first packed. This, of course, you must be aware is a very great advantage over the eggs imported from Ireland and France, inasmuch as several thousands are generally found to be totally unfit for use by

reason of their being bad. As this subject cannot fail to be of very great importance to the farmers in Canada, and the surrounding districts, I think they would do well to call a meeting for the consideration of this subject. I need scarcely say that I shall be happy to communicate with them upon the method I have already alluded to.

Apologizing for trespassing upon your valuable space,

I am, Sir,

Yours respectfully,

THOMAS STEAD,

Nephew of the late Jno. Tingle, Farmer, Toronto.

P. S.—If any of the late Jno. Tingle's sons are at present residing in Canada or neighbourhood, I shall be happy to correspond with them.

The Salmon-Trout.

To the Editor of THE CANADA FARMER.

SIR.—Entertaining, as I do, a high appreciation of the value of illustrations, more especially in connection with books or articles on Natural History, and recognizing as I do, the enterprise and the liberality displayed in the issue of THE CANADA FARMER, a publication cheap at the selling price irrespective of engravings, I trust you will not deem me hypercritical if I take exception to the representation of the Salmon-Trout contained in your current number.

Although I regard the fish as too deep for its length, too hog-backed, (like a Grayling,) and with scales too strongly developed, my chief objection is to the spots with which its sides are ornamented—spots resembling those on a "speckled trout." I have killed Salmon-Trout both in Canadian and in Irish waters, and I never saw one with any approach to a spotted or speckled side.

I have seen, in Kerry, a Salmon Trout as deep in proportion to its length as the one portrayed in your Journal, but *only one*, and the outline of that fish was, as a curiosity, traced by my friend who killed it (Col. Powell, late M.P. for Cardiganshire, an accomplished and experienced fisherman) on the whitewashed walls of the hotel at which we were staying. On the Kerry coast these fish attain a greater weight than do the Salmon, for whereas the latter rarely exceed 9 lbs the former run to 12 lbs or 14 lbs. I have seen Salmon and Salmon-Trout frequently on the same dinner table when the flesh of the latter has invariably presented a more brilliantly pink appearance than that of the former.

Independent of our great inland seas these Trout are found at certain seasons, in considerable numbers in the back lakes of our County, e. g. in Stony Lake where, during, I regret to say, the spawning season, they are taken in great abundance, sometimes by the illegal use of nets. The heaviest I have had experience of weighed 15 lbs., but I have heard of their being killed of a much larger size. I recollect 19 being killed one evening in the course of 3 hours by 2 fishermen. They run, with us, in the spring from the first breaking up of the channel ice for a week or two, and in the Autumn from the first to the middle of October: at the latter season they lie very close to the bottom so that a heavy "sinker must be used: they then bite greedily, and a piece of red flannel alone is found to be an excellent bait. They are never caught where there is a muddy bottom, their usual resort being deep water over pebbles: one of their favourite haunts in Stony Lake is on a granitic flat.

Lakefield, Co. of Peterboro, }
November 21, 1866. }

B. A.

ANOTHER LARGE POTATO YIELD.—"F. W. A." of Quebec, writes: "One of your readers" can beat the large potato yield of "J. M." of Hamilton. He planted one large potato and obtained a produce of forty. I planted one quarter bushel of the Gleason variety, and dug of sound table sized potatoes ten bushels full heaped measure, i. e., a yield of forty for one (or the whole quarter bushel), and this with common field culture on a piece of meadow land not rich. A single middling sized potato of the same variety planted in the garden, gave fifty-one sound potatoes, all but two of good table size, nearly all as large as, and some much larger, than the one planted."

Sales and Importations of Stock by Mr. George Miller.

To the Editor of THE CANADA FARMER:

SIR,—In my late trips to Ohio and Kentucky I made a few purchases of cattle from the principal stock breeders there. I also sold a few sheep, and had previous to my starting out sold a few. One of the Cotswold rams, *Crown Prince*, and a one shear previously sold distinguished themselves very much, gaining first prizes at several county and local shows, and also at the State Fair at Paris, where they had to compete with several picked importations. It is my opinion that the long-woolled sheep are gaining ground in the Western and Southern States. The farmers are now finding it is to their advantage to grow mutton, as well as wool. Mr. James Cunningham, of Koredale Farm, Bourbon Co., Kentucky, refused in my hearing, (\$1,000) one thousand dollars for the Cotswold ram, *Crown Prince*, and is now taking in ewes to be served by him, at \$50 each. The following is an account of the cattle I have just imported from Kentucky:

Two-year old heifer Zenobia, the 7th. Vol. VII. A. II. B, got by Dorby, 4689 &c. &c., bred by Ben. and William Warfield, Lexington, Ky. This heifer got one first prize and two seconds at the late fairs in Kentucky, and cost \$600. Two one-year old heifers and heifer calf, from the famed bull Burnside, 4618. Two one-year old heifers from B. G. Bedford, near Paris, Kentucky, got by Duke John, 2741, and Lord Highland 4113. I also purchased a bull calf from B. G. Bedford from his famed cow Laura, winner of first prize at State and County Fairs in Kentucky, with this calf at her side only two months old. This is a calf of great promise and has taken several prizes although young and cost a high figure—is to come home in the month of March, 1867.

GEORGE MILLER.

Markham, Nov. 26, 1866

Singular Freak of Nature.

To the Editor of THE CANADA FARMER:

SIR,—Allow me the privilege of noting in the columns of your valuable journal, an occurrence which I consider somewhat singular. Among some poultry of mine is an ordinary barn-yard hen, about three years old, she has been a regular layer for the last two summers, but has never hatched. A few weeks ago while she was moulting, I purchased three young roosters with topknots, and placed them in the yard with the other fowl. Up to the time I bought them, the hen I speak of had not the sign of a topknot, but singular to say, with her new feathers on, began to appear, and now she has a larger one than any fowl in the collection. I do not know much about poultry, but the growing of a topknot on a hen three years old, under such circumstances, appears very singular, and worthy of record.

G. R. KINGSMILL.

Toronto, November 26th, 1866.

HONOUR CLAIMED FOR CANADA.—W. H. Taylor of Woodstock writes:—"I perceive in your issue of the 15th, 6 large cabbages spoken of as being on exhibition in Woodstock, Connecticut, which I think is a mistake. If you will look at some of your exchange papers you will find that those cabbages were raised and shown by Dr. Wm. Scott of Woodstock, Oxford County, C. W. They have never been shown in any other place. The seed was bought from me, and I think in justice to the county of Oxford the mistake should be rectified."

MUSHROOM SPAWN.—A correspondent not long since made some enquiries as to how mushroom spawn is made and managed. These enquiries are fully met by the following extract from a recent number of the *Gardener's Chronicle*:—"There are various methods of collecting and saving Mushroom spawn. Those who are at all familiar with its appearance may look for it in horse mill-tracks, and in dry sheds where horses are accustomed to take shelter, or may procure it artificially from the droppings of hard fed horses; and the more beans they have in their food the more abundantly will the spawn be procured. For this purpose it is only necessary to collect the droppings from the stable, and spread them out to

become partially dried, and when a sufficient quantity has been got together to pile them up in any dry corner where they can remain undisturbed for two or three months, mixing with them a portion of light dry soil. If not allowed to become heated to a temperature exceeding 60° the heap will become a mass of spawn. If the earth is taken from a pasture where Mushrooms grow, and from the part which immediately surrounds them when so growing, it is probable that pure spawn may be contained therein, and the chances are that after being dried and mixed with the droppings, the mass will become impregnated earlier with pure spawn than would be the case by the spontaneous method already hinted at. The process of making bricks for spawning is simple enough, but requires a considerable amount of care and attention. Take three parts of horse-droppings, two parts of cowdung, two parts of decomposed tree leaves, one part of decayed vegetable mould from the bottom of a wood stack, and one part of sheep's dung; mix the whole up together, adding a sufficient quantity of the drainings from a manure heap to make it of the consistence of stiff mortar; it may then be moulded in boxes, 9 inches square and 2 inches deep, and previous to being laid out upon boards to dry, three or four holes should be punched in each brick with a blunt nibble. The bricks must be carefully turned about, and in three weeks they ought to be quite firm, indicating that they are dry internally, which is of great consequence. They are then ready for spawning, which is thus performed,—Some time previously a heap of fresh horse-litter should be prepared, the same as for a hotbed; a layer of this about 6 inches thick must be laid out in a dry shed, and on it should be placed a course of the bricks, holes uppermost, which holes must then be filled up with spawn, and another course added. The area of each course must be reduced so as to terminate with a single brick; and a space of at least an inch must be left between each brick to allow the heat to permeate. Each layer is of course spawned as the work proceeds; and then the whole is to be covered with a layer 6 inches deep of hot dung, to which after an interval of about 10 days another layer may be added, the depth of which must be regulated by the state of the temperature; 3 or 4 inches will generally be enough. At the end of a period, varying from four to six weeks, the bricks ought to be thoroughly impregnated with spawn. They should then be laid out for a few days to dry, and be stored in a very dry place for use."

The Canada Farmer.

TORONTO, UPPER CANADA, DEC. 1, 1866.

The Canada Farmer for 1867.

We would call the attention of our readers to the advertisement in another column respecting our FOURTH VOLUME, which will begin with the New Year. While there is every reason for gratification at the circulation this journal has already reached, yet when it is borne in mind, that it is not taken by more than one in twenty of the farmers of Canada, it will be at once seen what scope there is for effort in extending the sphere of its usefulness. We need feel no modesty in urging the claims of this periodical upon Canadian farmers. Without imitating that class of advertisers, who represent their wares as absolutely the best in the market, we may safely affirm that this paper has now an established reputation, and has proved its capability of largely promoting the interests of agriculture in this country. Being the only journal of its class in Upper Canada, it has a special adaptation to those who till the soil of this Province. It has been conducted with a steady, earnest aim to develop as fully as possible the splendid farming resources of the land in which we live. This will be its aim in all time to come. If that individual be a blessing to his kind, who succeeds in making two blades of grass grow where only one grew before, the mission of this journal must be considered as eminently patriotic and philanthropic. We bespeak, therefore, the kind offices of those who value THE CANADA FARMER, in promoting its circulation for the coming year. By speaking a good word for it, lending a specimen copy, assisting in the formation of clubs, and in vari-

ous other ways, our present subscribers and readers may greatly help our circulation. We shall at all times be glad to furnish specimen numbers for distribution, in quarters where there is a likelihood of obtaining subscribers. We take leave to remind our readers that our terms are invariably cash in advance, and we would urge a prompt renewal of subscriptions on the part of those already on our list, while we request their good offices in extending our circulation.

It is very desirable in many respects that Clubs be formed, and the names sent in as early as possible.

United States Wool Growers.

Congress being about to assemble, there is a visible stir among the advocates of protective duties. A variety of special interests which are already pretty well fostered by existing tariffs, are preparing to renew those demands for increased duties which were so persistently urged last winter. Among the rest the wool-growers are at work. They have just held a convention at Cleveland, to concert measures for the purpose of obtaining a higher taxation on foreign wool, so as if possible to exclude it from competition with the home-produced article.

These disinterested wool-growers have been at work before. Last session they got a clause engrafted upon the tariff bill, giving them increased protection; but that bill failed to pass. The convention at Cleveland concluded that it would be wise to adhere to the provisions of that bill, rather than ask a still higher duty. The danger in striking for more, is that the hostility of other special interests might be excited. The manufacturers of wool have an interest in the matter, and might object to paying too high a tax upon their raw material. It was found necessary, in pressing for higher duties, that the two parties should unite their forces and agree upon their demands. The duties which the tariff bill of last session would have imposed upon wools and woollens were the result of this agreement between the two interests. At first sight, it might seem that the interests of the growers and the manufacturers would conflict, but as they had a common purpose—that of making the consumer pay as much as possible—they could easily agree. If foreign wool were taxed higher, foreign woollens could be taxed higher too, and then the manufacturers could well afford to pay the increased price for wool. One of the speakers at the Cleveland Convention explained how the compromise was effected. A committee appointed by the manufacturers proposed that the wool-growers should say what protection they wanted, and then the manufacturers would take twenty-five per cent. additional. Upon this charmingly simple plan, the whole thing was settled, and but for the failure of Congress to pass the bill, the tariff would have been amended in accordance with that agreement. The Cleveland convention decided to adhere to the agreement of last session, and passed a resolution to that effect. The tone of the discussion throughout was of the most ultra protectionist character. It was boldly argued that the duty upon foreign wool should be fixed so high that "it could not be placed in competition with wool grown in the United States," an idea, the full absurdity of which is only understood when we remember that there is not wool enough produced in the Union to supply the demand. One of the advocates of prohibitory duties confessed this when he said that over 100,000,000 lbs. of wool were imported from Buenos Ayres last year. When the wool-growers have to admit that they fall so far short of supplying the markets of the Union, they ought to be more modest about demanding a monopoly. The same orator thought he was helping his case by saying that it is impossible for American wool-growers to compete with the wool-growers of Brazil, where "sheep are grown without fodder during the year, and they produce two clips of wool per annum." This is very much as though a gardener in New England should

insist upon such duties upon tropical fruits as would enable him to make a profit by raising them in a hot-house. If nature has rendered it possible to produce certain kinds of wool so much cheaper in South America than in the United States, Yankee shrewdness ought to comprehend that the interests of the American people would be best served by availing themselves as far as possible of the cheap wool. The most intelligent advocates of protection limit the application of their doctrines to cases in which their own country does not labour under natural disadvantages. The usual arguments in favour of compelling people to use American manufactures, depend entirely upon the assumption that it is as easy to make a piece of cotton or a ton of iron in the United States as in England, and that ultimately the balance will be so adjusted that the consumer of the home-made article will lose nothing, while the country will reap the benefit of having the work done at home and not abroad. If it could be shown that in any particular manufacture, it required, and would for all time require, twice as much labour to do the same work in the States as in England, the argument for protection would break down, and even the narrowest protectionist, if he reasons at all, would admit that under such circumstances protection would be folly. But the American wool-grower does not hesitate to demand protection in a case where he has to avow that protection will for all time put a burden upon the consumer. When protection has run so wild as that—when it has come to avow itself openly hostile to the interests of the community at large, it is surely in a fair way to work its own cure.

The Paris Exhibition.

Our readers are doubtless aware that a grand exposition of the industry of all nations, will take place in Paris next spring, and continue open to the public till October. Preparations, both in character and extent quite unprecedented, are now making for an exhibition of artistical and industrial products, such as the world has never yet witnessed. Splendid as former instances of this nature have been both in France and England, and in other countries, the approaching one will undoubtedly surpass all its predecessors. There is no city in the world perhaps in which a display of this sort can be so superbly got up as Paris. The French have long been pre-eminently distinguished for taste and ornamental design; and the spirit of emulation that now seems more or less to animate all nations in those pursuits which enrich and elevate mankind, holds out the cheering promise that the forthcoming exhibition will strengthen the bonds of peace and human brotherhood, and constitute an important era in the history of the world's civilization.

Great Britain is to be represented in connection with her colonies, and we are glad to hear that active preparations have for some time been making for this important object, by all the Provinces of British North America. Canada, both east and west, has its Boards of Agriculture, and of Arts and Manufactures, actively employed in making selections in their respective departments. The Board of Agriculture for Upper Canada has made a collection of grains that will indicate the agricultural capabilities and condition of this section of the Province. As there will not be room in the Paris exhibition for bulky machines, an exhibition only of our agricultural tools and implements has been made. The Board of Arts has succeeded in collecting characteristic specimens of our different manufactures, including furniture, and objects illustrating the natural history of this section of country. The woods and minerals of the Province, which have attracted so much attention on former occasions of this nature, will be very complete. All articles from Upper Canada are to be collected in Toronto by the 1st of December; and arrangements will then be made for packing and shipping them to France.

Agricultural Colleges in the United States.

RECENT accounts respecting these institutions are by no means of an encouraging character. For some cause or other, they do not seem to prosper. The *New England Farmer*, in publishing the letter of Hon. Henry F. French, resigning the Presidency of the Massachusetts Agricultural College, makes it the text for a brief history of the several colleges established, or attempted to be so, on an agricultural basis. The results, so far, have been anything but flattering.

The New York College did not work satisfactorily at first. Since its liberal endowment by Hon. Ezra Cornell and a Congress appropriation, signs of revived vigour have been shown, but there has not yet been time to judge whether, with the help of this impetus, it will do better permanently. We are surprised to find that the Michigan Agricultural College is not meeting public expectation. We had supposed that this institution was going on finely. Some allowance must be made for its location, which is considered unfavourable for the attendance of students, though it is at Lansing, the capital of the State. Proposals are being made for its removal, in the hope that when more suitably located it will succeed better. Of Pennsylvania the accounts are much the same. The College grounds, embracing some four hundred acres, are badly managed, the number of students is small, and things have sunk to such a low ebb, that the President has resigned in disgust. A similar condition of affairs is reported of Massachusetts. Mr. French in tendering his resignation says:—

"We stand at this moment with no systematic plan whatever of the estate, working blindly at a single building of which the site is not yet fixed, opposing the views of the ablest men in the country, after admitting by employing them our inability to go forward without such assistance, justly enough attacked by the press for inefficiency and want of harmony, and growing weaker daily by loss of public confidence and unprofitable expenditure of our funds."

A correspondent of the *Rural New Yorker* advertising to this subject, remarks that the experiment of establishing Agricultural Colleges has thus far worked very much like the experiment of setting up Manual Labour Schools. The result has been indifferent scholastic attainments, and crude notions of agriculture. In theory the plan of combining study and farm labour seemed all that could be desired, but in practice it produced neither good scholarship nor good farming. He adds the opinion that "agricultural improvement, in the future as in the past, will be mainly indebted to the experience and study of isolated farmers and to the professional classes whose hours of relaxation from regular business are devoted to the soil, and to the products it is capable of furnishing for the sustenance of man."

We are loth to believe that failure must necessarily attend efforts to carry on Agricultural Colleges efficiently, and would rather attribute disappointment to unwise methods of procedure. On the whole we incline to the views expressed in a recent number of *The Nation*, in an article on the organization of Agricultural Colleges. It is a more difficult and formidable undertaking than many suppose, and the journal just named well observes that "the work of organizing and starting so novel an institution is not to be done piecemeal and at odd hours. It must be the event of the life of him who accomplishes it, not an incident in his career. It must be his study, not his diversion. There is little precedent to follow. Nearly all that could be learned from example is what not to do. There is want of faith and little enthusiasm in the enterprise. Success is impossible if it be entrusted to those who can give it only their spare moments. Let no board of directors think that they can choose an incompetent man and help him out among them. And, having chosen a competent man, let him be endowed with large and generous discretionary power. It is as fatal to hamper a good man, as it is to choose a bad man. Good or bad, he must be let alone. We might as well have a wooden automaton for a leader in a new enterprise as a man with an idea, if he is not allowed full liberty to put his idea into execution. We must judge by results, not by processes. The unity of purpose, the clearly defined plan of a single head, are far more likely to be successful than the conflicting plans and shifting methods of a dozen heads."

Mara and Rama Fall Show.

A LENGTHY account of the above Show, kindly furnished by Mr. H. Law, Secretary of the Society, has lain in our drawer some time awaiting a chance of insertion. After so long a time, we regret to be able only to find room for an extract or two.

"The Fifth Annual Show of the Mara and Rama Branch Agricultural Show was held at Atherley, on 3rd October. The Show, as might be expected, was much superior to former ones, particularly in the classes of cattle, sheep and hogs. The Society had purchased the Devon bull, Duke of Exeter, from Col. Chisholm, Oakville, bred by Mr. Ball, of Blackrock, N. Y., and his stock was exhibited at the late Show. This animal is now the property of Mr. A. Shier, Brock. The Society now own the Devon bull Prince of Wales, bred by Mr. Allan, Whitby. To the introduction of these animals may very fairly be traced the improvement in neat cattle, as apparent at the late Show. The Society are desirous of introducing a Durham bull also, and for that purpose would receive proposals from breeders of that class of animals having young animals for sale, product of 1865, stating price and pedigree, and addressed Secretary of the Mara and Rama B. A. Society, Atherley. The improvement in sheep and swine is due to individual enterprise, and I would name, as deserving of special commendation, Messrs. Smith, Mahony, Thomson, D. McDonald, Lee, Stratham, Boulton, McPherson, Whipps, and Sinclair."

"Choice seeds are annually purchased and distributed at cost price, (the freight being paid by the Society), hence the people look upon it as an institution deserving of support, and as a thing peculiarly their own,—a source of profit, and cheerfully support it. Need it be wondered at, that it has outstripped some neighbouring societies of many years standing?"

Agricultural and Veterinary Instruction.

Our readers will perceive from our advertising columns that the class for special instruction in the various branches relating to the theory and practice of agriculture, and the breeding, diseases and mode of treatment of Farm Animals, will meet this winter, at the rooms of the Board of Agriculture in this city, on Tuesday, January 9th 1867. This course, which lasts six weeks, is specially adapted to the wants of young people either engaged in or intended for Canadian farming, and is entirely free to all who choose to avail themselves of its advantages. Such as intend to study the Veterinary Art as a profession, should commence at this time, and regularly proceed through the prescribed courses of Anatomy, Physiology, Materia Medica, &c. Already the school has sent out a few graduates well grounded in their profession; and a few others will go up to their final examination for the Diploma of the Board the coming spring. This continued effort to meet the wants of both professionals and amateurs, is deserving a large measure of success.

THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS FOR 1867.—We have received from Mr. F. E. Grafton, Bookseller of Montreal, a specimen copy of this valuable work, published yearly by the proprietors of the *Country Gentleman*. The one before us is the thirteenth annual issue, and contains a great amount of most valuable information, illustrated by no fewer than 120 engravings. First we have a treatise on the culture of the grape, which is itself worth more than the cost of the whole publication. Next comes a paper on "Milk Farming," by the author of "My Farm at Edgewood." Then we have a treatise on "The Duck," by C. N. Bement. An article on "Turnip Culture" follows. Dr. Fitch contributes a valuable paper on Garden Insects. Besides the longer articles just enumerated, there are a number of shorter, but most useful ones. Indeed we do not know where so much valuable information on "Rural Affairs" can be had for the small sum of thirty cents.

Agricultural Intelligence.

Canada West Poultry Association.

We have before us the rules of this newly-formed Association to which we made brief allusion in our last issue, and which we welcome as likely to do much good. The feathered tribes have been long neglected in Canada by the public at large, only some few amateurs having come under the influence of the "hen fever." It may possibly now become an epidemic, and then subside, as it has done in the old country, after giving a permanent impetus to the improvement of the various breeds of poultry and pigeons worthy the attention of the farmer and fancier. We think the formation of this Association a step in the right direction, and earnestly recommend its objects. The beginning has evidently been popular, from the number of distinguished names we see in the list of members. We are told that many more have been added since the meeting for organization. The members of this society will have advantages at the Exhibitions, which we are informed are to be held, besides the benefits arising from attendance at the ordinary meetings of the Association. On looking at rule 13, we find that discussions are to be had at each meeting on the different varieties of fowls, the methods of rearing stock, &c. This must do good by opening the eyes of many to how much they may know and how little they do know upon the subject. Improving the breed of fowls in this country will have a tendency to improve the market. Birds that are almost all that is required for exhibition purposes, but wanting even slightly in some necessary points, will find ready purchasers at higher prices than are paid for common fowls for the table. More attention will come to be paid to the health and condition of poultry, and we shall not have the constant complaints of roup, gapes, &c., which are very prevalent at present. Our climate in winter being severe, the kinds of fowls that will stand it best will in a short time be practically ascertained, and if the society is supported as it deserves to be, it must succeed, and will accomplish as much in its way as the agricultural societies have done for the larger descriptions of stock. From the numerous entries at the last Provincial Show, we see there is a considerable love of poultry in the country, and the Poultry Association will doubtless do much to develop it and give it intelligent direction. The following is an account of the proceedings, rules, and members of the organization.

RULES OF THE CANADA WEST POULTRY ASSOCIATION.

At a Meeting held at Toronto on the 20th October, 1866, it was resolved by the gentlemen then present to form a Society for the enjoyment of social converse and the improvement of the breeds, the discussion of subjects relating to, and the exhibition of every variety of Poultry, Pigeons, &c., worthy of the attention of the Farmer and Fancier.

Mr. ALLAN MACLEAN HOWARD being called to the chair, the following Rules were agreed to:

1. Resolved—That the Society be called "The Canada West Poultry Association."
2. That it be conducted by a President, Vice-President, Two Auditors and Secretary, *ex officio* Treasurer, to be elected annually at the meeting in December; the holders of these offices to be eligible for re-election.
3. That an entrance fee of \$2.00 (two dollars) be paid by each member on his election, and an annual subscription of one dollar due on and after the 1st January of each year. No person will be considered a member unless his Annual Subscription is duly paid up.
4. That the Financial Season commence in January and end in December following.
5. That the ordinary Meetings of the Society commence at 7 p. m., on the first Thursday in July, and the subsequent meetings be held on the first Tuesdays of the months of August, September, October, November, December, January, February, March.
6. Any person wishing to become a member must be proposed and seconded by members of the Society at a meeting, and elected by a majority of two-thirds of the members then present.

7. Any members retiring from the Society renounce all claims to show-pens, &c., and all other privileges and property of the Society.

8. That no one keeping a shop for the sale of birds be admitted either as member or visitor.

9. That the Society shall not be dissolved without the consent of a majority of at least two-thirds of the members, when the property shall be sold and proceeds divided equally amongst the then members.

10. Five members constitute a quorum.

11. That Minutes of the proceedings of the Society be taken by the Secretary and entered in a book to be kept for that purpose as a means of reference, and a record of the Society's transactions, and that such Minute-Book and Book of Accounts be laid upon the table after the audit of the season.

12. All motions to be duly seconded or the Chairman shall not put them to the meeting.

13. That any member desirous of submitting a subject for discussion may, at a meeting, give notice thereof in writing to the Secretary, who shall inform all members absent and present when the discussion will take place, which shall not in any case be earlier than the succeeding meeting.

14. That at each meeting the Minutes of the preceding one be read by the Secretary and confirmed by the members present.

15. That the Secretary and Treasurer make no extra disbursements without the sanction of the members present at a meeting.

16. That the Auditors examine the accounts and report thereon to the Society not exceeding one month after the Anniversary Meeting.

17. Members are at liberty to bring birds to an ordinary meeting which are not to be considered for sale; but any member desirous of purchasing may, upon payment of one shilling, call upon the Chairman to put the same up for sale, the owner having the right to make but one bidding; if a higher bidding be made, the bird shall become the property of such higher bidder, upon the payment of the sum bidden.

18. Members may introduce friends after business, but the same visitor not more than once in the season.

19. All moneys to be paid to the Secretary and Treasurer.

20. That the names and addresses of the officers and members of the Society be printed with the rules.

21. That a Grand Public Exhibition of Birds take place annually on such a day as may be appointed at an ordinary meeting.

Allen McLean Howard, Esq., Toronto, *President*; Alexander McNab, Esq., Toronto, *Vice-President*; G. D. James, Esq. and T. McLean, Esq., *Auditors*; Lieut. Colonel Hassard, Box 1070, Toronto, 521 King Street West, *Honorary Secretary and Treasurer*; J. C. Duncan Clarke, Esq., St. George Square, Toronto; R. A. Wood, Esq., Yonge Street, Toronto; Jno. McDonald Esq., County Treasurer; J. Berkley Smith, Esq. Bursar's Office, Toronto; Jno. Leys, Esq., Toronto; Sheriff Jarvis, Toronto; Hugh C. Thomson, Esq., Sec. Board of Agriculture; Wm. Strachan, Esq., Front Street; C. S. Gzowski, Esq., Bathurst Street, Toronto; C. Moore, Esq., Wellington Street, Toronto; J. Metcalf, Esq., Eglinton; J. McNab, Esq., Crown Attorney, Toronto; Rev. W. F. Clarke, Editor "Canada Farmer"; J. E. Withers, Esq., York Street, Toronto; W. Riddell, Esq., Richmond Street; John T. Nudel, Esq., Wood Street, *Members*.

New Slaughter House at Communipaw.

THE weekly supply of live stock that finds its way from the States of Indiana, Ohio, and other States of the west, to the New-York markets, exceeds 6,000 cattle. The slaughter houses for preparing this supply for market, by order of the Board of Health have been removed during the past season to the environs of the city, yet here they have been a constant source of annoyance, and the community must welcome any plan by which this seemingly necessary evil can be dispensed with.

On Wednesday, the 17th inst., we were present at the formal opening of the Abattoir of the New Jersey Stock Yard and Market Co., located in the village of Communipaw, on New York Bay.

Although a new project in this country, such establishments have long been known in Europe. Paris, of all cities, is best provided with these sanitary institutions, yet the pioneer enterprise of this country equals in capacity the six abattoirs of that city combined.

The systematic division of labour, the use of mechanical appliances to supersede manual labour, and the utilization of what has hitherto been considered refuse matter, are advantages which are attained in this immense establishment, and which must exert an influence that will be appreciated by the public, in lowering the present high rates for all animal food.

The buildings of this company are in direct railroad communication with the whole country, and stock can be immediately transferred from the cars to the pens, where it is examined, bought and sold. The two principal buildings, situated at right angles with each other, are known respectively as the storage and slaughter houses—the former being 540 by 100 feet, three stories in height; the latter 360 by 90 feet, and two stories high.

One of the leading features of this establishment is the humane care taken of the animals previous to slaughtering. The feverish state in which they are taken from the cars is allayed by time, and a plentiful supply of food and water, and the evil effects of meat killed in this diseased state are thus overcome. The care taken, also, to thoroughly warm and ventilate the buildings, is an outlay to the company that will benefit the public health.

The store house has pens sufficient easily to contain 45,000 sheep and hogs, the neat cattle being stalled in other buildings. The slaughter house has hanging room for 6,000 hogs. The process of killing and dressing is speedy and efficacious. On the lower floor 1,200 cattle daily can be readily prepared for market, and even this number can be doubled if occasion demanded, affording a supply sufficient for the New-York markets for three and a half days. The hogs are driven up to the second story, struck on the head with a sledge hammer, thrown into a vat of boiling water, the bristles thoroughly removed, cleaned, and swung off on portable gambrels, in the short space of seven minutes each. The time occupied in dispatching neat cattle is nearly 20 minutes per head. Sheep are handled at the rate of 3,000 daily. Means are employed for condensing the poisonous vapors, and preserving the purity of the surrounding atmosphere. A capacious ice house at the end of the slaughter house will keep the meat fresh during the summer months. We heartily congratulate the much-abused citizens of this city upon the prospect of getting rid of the driving and slaughtering of animals within city limits, a very barbarous custom which has too long prevailed.—*Scientific American*.

The hop crop in England was more than ordinarily good and was saved in good order, as reported by the *Kentish Gazette*.

Mr. Sharks, of Jones county, Iowa, raised this year from six acres of bottom land, a crop of hops which he sold for \$3,000, netting him \$620 over all expenses of culture and the purchase of the land.

An Alderney cow in Massachusetts, in June last, gave about seventeen quarts of milk daily. During the month, sixty-five pounds of butter was made from her milk. So the owner reports.

Eight bushels of wheat of four different varieties have been sent to the New York State Agricultural Society from the British Colony of Victoria, in Australia. The wheat weighs nearly 65 pounds per bushel. The harvest in that colony is in January.

On the great grain growing region of the Campagna, near Rome, where the extensive plains afford the finest field in the world for the use of the reaping machine, the old sickle is still used, and the horse "that treadeth out the corn" is the only threshing machine known or believed in.

The *Maine Farmer* says that not far from thirty thousand dollars have been received by the farmers of the town of Bethel for hops this season. It is doubtful if so much money has ever before been received by the same number of farmers in Maine for any single crop.

A correspondent of the *Maine Farmer* says he prevents potatoes sprouting or wilting during the summer, by selecting early in the spring, good, hard, sound potatoes, packing them with dry sawdust in barrels, and placing them in a cool cellar. Put up in this manner, they are as hard and fresh in August as in March. Dry tan, and perhaps dry sand might answer the purpose as well.

THE PORK MARKET.—Judging from present indications, the price of pork is likely to be low the coming winter.

IMPORTATION OF HORSES.—The part of the Order in Council of 20th February last, prohibiting the importation or introduction of horses into this Province, by sea, has been revoked.

NOVA SCOTIA.—The authorities of Nova Scotia have purchased a farm of 350 acres, which is to be placed under the supervision of the Board of Agriculture for the special purpose of rearing pure stock.

HOG CHOLERA.—The *Prairie Farmer* says that the hog cholera is raging in nearly every county of the State with great fatality. Northern Kentucky is similarly afflicted. No remedy seems to avail in checking its ravages.

WOOL DUTY.—The Illinois Wool Growers' Convention adopted a resolution, asking a duty of 15 cents per pound for unwashed, 25 cents for washed and 35 cents for scoured wool imported into the United States.

A COLORADO FARM.—There is a farm in Colorado 18 miles long by 12 wide, which pastures 3,000 head of cattle and 6,000 sheep, and last year yielded \$50,000 worth of grain. It is worked by Mexican laborers, who are fed and managed by officers, like an army.

WHEAT IN CALIFORNIA.—In remarking on the grain harvest in California, the *Farmer* says that the product of wheat there this year will range from ten to fifteen millions of bushels. That the yield per acre on the best fields of wheat, will be from 40 to 60 bushels, and barley from 60 to 100.

POTATO ROT.—The *Prairie Farmer* says: The potatoes of Central Illinois are reported nearly, or quite a failure from rot, in Vermillion county, we were told that many fields would not pay for digging. In Champaign the condition of the crop is but little better. In the northern part of the State, the crop is also materially injured.

LOSSES AMONG LAMBS.—We learn from our English exchanges that there have been serious losses among the lambs in many parts of the county of Nottingham, in consequence of the unfavourable weather which prevailed some time ago. One person has lost between two and three hundred, and several farmers have suffered to the extent of fifty, sixty, or seventy animals each.

PEAT AS A FERTILIZER.—Mr. Hyde, author of a recent treatise on peat, says: "Many take it directly from the 'black bed' to the barnyard or compost heap, or spread it on the land; all these methods are wrong. It should first be spread, not more than twenty inches thick, and allowed to lie a year. The rains will wash out the acid, and the frost disintegrate the mass, in which condition it may be spread on the surface, ploughed in, or mixed with other materials."

PRESERVING POTATOES.—A correspondent of the *Scientific American* says that he has tried the following method of keeping potatoes for years with complete success, though in some instances the tubers were diseased when taken out of the ground: "Dust over the floor of the bin with lime, and put in about six or seven inches deep of potatoes, and dust with lime as before. Put in six or seven inches of potatoes and lime again; repeat the operation until all are stored away. One bushel of lime will do for forty bushels of potatoes, though more will not hurt them—the lime rather improving the flavour than otherwise."

WOOLLEN MANUFACTURERS.—As we (*Country Gentleman*) find the following paragraph quoted no less than three times in the last number of the *New York Economist*, we infer that that journal attaches considerable importance to the statements it contains. It comes originally from the *Springfield Republican*:

"The woollen business, which for the last year has been very poor, is now worse than ever. Most of the mills are running at a loss. A Berkshire manufacturer is forced to sell an excellent article of broadcloth for \$2 50 a yard, for which he formerly got \$1, and the raw wool for which costs him all he gets for the cloth."

USE OF COAL ASHES.—"Yorick" in *Rural New Yorker* says "two years ago I had in my garden about four square rods of stiff clay soil, or half of which I threw three barrels of coal ashes, and then spaded up the whole and planted it with potatoes. The result was that from the part where the ashes were spread, I dug as large and handsome potatoes as I ever saw, and on the other part I had a few small, ill looking ones scarcely worth digging. How it would have been on other soil, I can only guess, not having tried it; but my opinion is that as almost all coal fires have a little wood mixed in for kindling, there is virtue enough in coal ashes to pay for saving and spreading them on any soil."

The Household.

Homedale Farm.

PREPARATION FOR WINTER.

Some people seem to be annually under the influence of doubt whether winter will really come or not. Autumn fades, the Indian summer passes, cool nights and white frosts come, yet they go dreamily on, as though they did not expect winter in earnest. Various needful preparations for settled cold weather require to be made, but "it is time enough yet," "there will be more pleasant weather before frost sets in." Thus they soliloquize as day after day glides by, until at last winter does come, and finds them in a state of general unreadiness to submit to his despotic reign. But there is no help for it, and amid the disadvantages of unpleasant weather, things have to be done, which might have been far more easily accomplished weeks before when circumstances were favourable; or, perhaps, baffled by keen frost and a fall of snow, very needful winter preparations are quite frustrated, and must be given up altogether. It is no rare thing for a slipshod, procrastinating farmer to be fairly caught in this way,—part of his corn perhaps yet in the field, his potatoes not quite all up, or left in temporary heaps covered with a thin coating of haulm,—his turnips, if he grows any, frozen fast in the ground, and a world of work to do in the barn-yard and about the buildings. Sometimes after a very sharp turn in the weather, which seems to betoken the settling down of winter, nature, like an indulgent mother, relents for a little, and then in a hurried, makeshift sort of way, these neglectful folks manage to get ready for the winter, which they are now perfectly convinced is really close at hand.

Mr. Perley was not a man of this class. He had a firm belief that winter would come every year, and he showed his faith by his works. His grain and corn crops were housed without unnecessary exposure, so that the straw and corn stalks were bright, sweet, and inviting, when foddering-time arrived. His potatoes were dug and stored before any sign of frost appeared that could possibly do them injury. His turnips and mangolds were housed in good season, early enough for the tops to be of use as green feed when the pastures were getting withered and scant. The pigs were fattened before it became so cold as to require a large percentage of nutriment to supply warmth, which is always a hindrance to taking on flesh. The horses, cattle, and sheep were housed when the nights began to be cool, for Mr. Perley had no idea that stock could shiver for hours together, without shaking something off their bones that was better kept on. He began to feed a little grain early, believing that it is half the battle won in wintering animals to have them in good condition when winter begins. The poultry were put into warm lodgings. The stables and sheds were looked after, wind-holes stopped, and ventilation provided without draughts that might give the creatures colds or create discomfort. He believed that very much the same principles as to health and well-being apply to the lower order of animals, which we know to obtain with regard to man, and as he considered it a duty to care for the comfort of the human animals who composed his in-door family, so he deemed it obligatory on him to provide in like manner for the inferior creatures that formed his out-door family. A true economy, as well as a sense of humanity, dictated this course, for in his view it was cheaper in the long run to keep animals well, than to dole out short allowance to them. Besides all which, there is a pleasure in seeing live stock so kept that they wear an air of comfort and contentment.

The garden went into winter quarters early. Manure was put on the asparagus bed and rhubarb crowns. The cabbages were stowed away in the cellar, or packed in ridges. Onions, carrots, beets, &c., were duly housed. The parsnips were left in the

ground for spring use. The celery was packed in sand in a corner of the cellar, that it might be fresh and crisp whenever wanted for the table. By Mr. Perley's direction the children made an excursion to the nearest evergreen woods, accompanied by the man and team, and a nice time they had collecting brush to cover up the strawberry-plants, grape-vines, roses, and other tender things. They declared it was as good as play. They had no other equally pleasant job collecting leaves to cover up the bulb beds. Besides these, there were other ways in which the young folks made themselves useful about the garden and shrubbery in getting ready for winter. Not only did the exercise benefit them, but the lesson of forethought thus taught them could not fail to be useful in forming right habits.

Furnished with plenty of books and periodicals, and supplied with facilities for both in-door and out-door enjoyment, the family did not anticipate a dull time of it during the winter. There would be everyday duties to fulfill, and there was ample occupancy for any leisure there might be. True they were away from the friends whose society had been very pleasant to them when they lived in the city, and there were many public meetings and lectures which they had been wont to attend that were now out of reach. But they had more resources of home enjoyment and family comfort than they ever possessed in the city. They were not merely content, but pleased with their lot. Among other anticipations connected with the winter, the young folks expected much enjoyment when the pond should be frozen over, so that they could skate. Impatient for this exhilarating sport, they eagerly watched for the frost, hailed it when it glazed the pond with a thin sheet of ice, and longed for it to grow thicker and stronger, so that they might venture on it without fear.

Going to District School.

Ban poor boy and little girl,
Sic with rusty check and curls,
His forehead brown with tan,
Sturdy little farmer man.

Old straw hat, with broken rim,
Is the least that troubles him,
As the dinner-pail he swings,
Full of mother's choicest things

Happy little pair are they,
Chatting blithely on the way,
In the morning fresh and cool,
Going to the district school.

From the shady farm-house door,
Mother watches, till no more
She can follow—out of sight
They are gone, her heart's delight.

Can you see them sitting there,
On the benches hard and bare,
Tired feet swinging to and fro,
Conning o'er the lessons low?

Sitting at the noon of school,
By the gurgling streamlet cool,
Along the brakes and bending trees,
Eating up the bread and cheese!

Or, with merry laugh and shout,
When the boys and girls go out,
Books and pencils cast away,
See them jump, and swing, and play

Hark! the ferule on the pane,
Rap, and rap, and rap again,
Rushing in with cheeks aglow,
Half reluctantly they go.

Gle the busy hours away,
'Till the warm sun's westerling ray
Slants across the open door,
And the hours of school are o'er.

Happy, healthy girl and boy,
Full of simple, careless joy,
Free from tyrant fashion's rule,
Going to the district school.

In the busy noon of life,
Mid his restless fever strife,
As your pathways shall divide,
From the roof-tree wandering wide

Memories of these morning hours,
Song of birds, and scent of flowers,
Bleat of lambs, and song of rill,
Will come sweetly o'er you still.

And your thoughts go yearning back
O'er that simple childhood track,
When the longest road you knew,
Was the one that led you to
The school-house, just a mile away,
Where theurch and rule held sway.

—Little Corporal.



Sage and its Virtues.

"GARDEN sage!" said a Glasgow clergyman, "one of the trash tribe, a perfect abomination, good for nothing, used by fools for stuffing ducks who feed for apoplexy." But cooks and doctors differ in opinion, as we shall find presently, for we have no less than 130 different kinds of this beautiful plant, the whole of which are ornamental, and natives of every part of the world. My reason for writing of sage at this time is, that a friend of mine who has leisure to read the newspapers tells me that our doctors are much against the use of tea at this season, as they say that it tends to promote cholera; ergo, I beg to inform my friends and well-wishers that they may have a very good substitute for tea in sage—namely from *salvo*, to save or heal, in allusion to its balmy or healing qualities. The Chinese will give 4 lb. of their best tea for every pound of dried sage leaves. A gentleman who owned a valuable and an extensive estate in Devonshire, told me that he had often seen ship-loads of sage sent from the south of England to China, to be there exchanged for tea. They say they wonder at the Europeans for going so far for tea when they have better tea of their own. The variety used for tea is *Salvia officinalis*, or common garden sage, of which there are many varieties, differing in the size, form, and colour of the leaves. The Chinese use it as a tonic for debility of the stomach and strengthening the nervous system, and prefer it for these purposes to their own tea. *S. grandiflora* is preferred for making tea; it is indigenous to the south of Europe, and of recent introduction into Britain. *S. pomifera* produces protuberances as big as oak galls, occasioned like them by the puncture of an insect. In the isle of Crete, *S. officinalis* has the same sort of excrescences, and they carry them to market under the name of sage apples.

S. verbenaca is a native of Britain, and very aromatic. A mucilage is produced from its seeds, which, put under the eye-lids for a few moments, causes any sand or dust there, and brings it out; and hence the name of oculus Christi, clear eye, or wild clarry. The flowers of *S. glutinosa* are used in Holland to give a flavour to the Rhenish wines.

A wine is made from the herb or flower boiled with sugar, which has a flavour not unlike Frontignan. *S. Indica* is a magnificent species, but rather tender in severe winters. *S. formosa* and *S. splendens* are very ornamental. All the species thrive in light soil, somewhat rich, and are readily propagated by seeds, cuttings, and dividing the roots. It is a remarkable fact, that the essential oil contains camphor, which exists in such quantities in sage and lavender that it has been supposed the separating of it might become an article of commerce.

Sage has a fragrant, strong smell, and a warm, bitterish, aromatic taste, like other plants containing an essential oil. It has a remarkable property in resisting the putrefaction of animal substances, and is in frequent use among the Chinese as a tonic in the form of tea. The longer I use it I like it the better.—R.M.N., in *The Farmer* (Scottish).

The New Large-Flowered Clematises.

CLEMATISES lanuginosa, azurea grandiflora, and others have long graced our gardens, and are remarkable for their enormous flowers of various shades of blue; but it is only within the past few years that numerous striking varieties of the family have been noticed at our shows, in various shades of blue and rich dark purple. They are so attractive in appearance and noble in flower, that doubtless many of our readers have been induced to purchase young plants, and therefore a few words on their culture may not be amiss. They are, when well grown and flowered, the noblest of all climbers for walls, trellises, or any other position in which hardy climbers may be desired. We have seen them flourish freely planted on the level ground, and allowed to stroll over it in their own way. On trellised arches which one occasionally sees in gardens, on the slender wire-work

fence so often used of late, they are truly beautiful and effective. They, like most things that we have to treat of, enjoy a good rich soil, and if with that it is light and free, so much the better. If the soil is very heavy, it had better be made light by the admixture of road sand, leaf mould, and other matters which may be convenient before planting; if light, it must be well deepened and enriched with rotten manure, and stiffish loam, if convenient; but, no matter what the soil may be, the secret of cultivating these clematises is to give them a few inches of well-rotted manure, on the surface of the earth all around where the roots are, or, in other words, to "mulch" them. If the appearance of the manure is objected to, as it may be by many, it may be covered with an inch of soil, and on that some annual, like the aster, may be grown for the summer months. As regards training, they are best left alone in summer, at least till the shoots get very long indeed; but during the winter months they must be firmly tied or nailed over whatever surface they occupy, as the weight of flowers is considerable where they are properly grown, and by having the main shoots firmly secured, the rich mass of blooms, many of them as large and larger than tea-saucers, may be allowed to hang down in a graceful and natural manner, which much increases the beauty of the plants and whatever position they adorn.—*London Field*.

Hon Marshall P. Wilder's pear garden contains about 11 acres, having some 900 varieties in bearing.

David Smith, of Sanbornton, N. H., has a grape vine from which he has picked this year 2,000 lbs. of grapes.

LARGE PUMPKINS.—The annual ceremony of crowning the king of the pumpkins at the central markets, Paris, took place on Sept. 28th. The vegetable which obtained the honour this year weighed 258 lbs., and measured 11 ft. 4 inches in circumference. It was grown at Gonesse, Seine et Oise.

VERONICAS.—According to the authority of a writer from the Avonside Botanic Garden, there are many fine sorts of Veronicas yet to be introduced from New Zealand, and that are known to botanists. They are mostly shrubby kinds, usually scentless, sometimes azure blue in color, but mostly white.

JAPAN PRIVET.—The *Gardener's Chronicle* says the beauty of this shrub is insufficiently known, though it is extensively planted by the landscape gardener. Large in leaf almost as a goodly orange, and producing flowers almost as large as the white lilac, and very sweet, it possesses first class attractions as an ornamental shrub.

NEW WATERMELON.—Bayard Taylor, in *Morris' Rural Advertiser*, says he has raised a new hybrid watermelon that cannot be surpassed for size, crispness of flesh or sweet flavor. The largest he has grown is 20 by 13, weighing 40 lbs. The flesh is crimson, 4 or 5 inches in diameter in the centre, with a very narrow rind, ripening in September, a fortnight or three weeks later than our American varieties. He thinks if care is taken to prevent farther hybridizing, they will become a valuable acquisition. He says he has never in any part of the world found a watermelon equal to the specimens of this new variety, which he has raised this summer. He calls it the Russian-American watermelon.

THE APPLE TREE.—Growing spontaneously almost throughout Europe, and in most other temperate climes, just where that warmth ceases which enables the vine to bring forth good fruit, there, by a kind provision of Providence, begins the climate most suitable to the apple; and the celebrated traveller Von Buch has remarked that it will grow in the open air wherever the oak thrives, thus extending its range to 60 degs. N. latitude, beyond which it is scarcely known. Linnæus, indeed, was told in Lapland that one apple tree was at least growing there—a fruitless one, it was admitted, but its barrenness only due to its having been cursed by a beggar woman to whom the owner had refused a taste of its produce; but on asking to be shown this marvellous growth, he found it to be an elm, a tree rare on those high latitudes, and which the ignorance of the inhabitants, unfamiliar with the real aspect of either, had invested with the name of apple, superstition stepping in afterwards with a myth to account for all discrepancies. Of the two extremes which it can endure, the apple seems to prefer warmth to cold, for the apples of Astrachan, if transplanted southwards, improve, while the Malo di Carlo of Italy, when removed further north, deteriorates; and though few apples are grown south of Paris, yet the departments of France which lie north of that city form a dis-

trict more favorable to them than even England can afford. The tree is likewise found in some parts of India, and an attempt was made some years ago to introduce its culture into the northern part of that continent, when a single tree, in consequence of being the only one which survived, cost upwards of £70 before it was planted. In South America, too, Humboldt found excellent apples abundant in the markets at Caracas, in Venezuela, and was assured that they were the growth of trees which had never been grafted. The apple tree asks for little depth of earth, for, having no tap root, a single foot of soil will suffice it, and twice this quantity gives its ample scope; but it is necessary that this little should be of a certain quality, so that its appearance may always be looked on as a mark of at least a tolerably good soil. Like most fruit trees it prefers calcareous earth, and geologists have noticed that the orchard counties of England follow the track of the red sandstone. Its shade is so kindly that in the Surrey nurseries tender evergreens are always planted under its protecting branches.—*Our Common Fruits*.

MANURING.—The most successful method I have yet practiced is to plant vines all about my trees,—winter squashes, mostly—by making large hills on the top of the ground—8 or 10 shovels full in a hill—say 6 feet apart or more; the vines will grow rapidly and soon cover the ground, affording a capital mulch for the trees in autumn's drouth, and at the same time bear more squashes than they would in the open field. In the fall, spread these hills or piles of manure broadcast over the ground. This practice can be continued for many years. It is not necessary that these hills should be all animal manure. A good compost is one-half animal manure, one-half old leaf-mould from the woods and a shovel full of ashes, or a handful of superphosphate of lime in each bill.—L. L. PIERCE, in *Boston Cultivator*.

CURE FOR AMERICAN BLIGHT.—A correspondent of the *New Zealand Lyttelton Times* gives his experience on this subject as follows:—"Uncovering the roots to some distance from the stem, filling in the space with about half a sack or more of sawdust, and covering it over with earth, a gentleman assured me he had found to be very successful in curing this pest, and that the second year, after applying the remedy to four very badly-blighted apple trees, they yielded a remarkably fine crop of fruit. Two or three years ago some trees at Christchurch were treated in a somewhat similar manner with malt-dust. When the roots were uncovered some months after, they were found free from blight wherever there was any malt-dust left about them. It did not occur to me to inquire whether the sawdust had been obtained from any one particular sort of New Zealand forest tree, which might have properties especially disagreeable to the insect. I have for some three years past found a couple of winter paintings of soft soap and sulphur, laid on with a common paint brush, from the smallest twig end down to the main stem, sufficient to keep my trees in a perfectly healthy state above ground, and as free from blight as one may expect, when they have the misfortune to be alongside of neighbours who never do anything for their trees, although covered with the insect all the year round."

DRY CULTURE OF AQUATIC PLANTS.—A writer in "*All the Year Round*" says: "The question what aquatic vegetables we can persuade to live and thrive out of water is important not merely in a decorative, but in an utilitarian point of view. If celery has been induced to desert its native ditch and grow fat and fine in our kitchen-gardens, there is no reason why other good things should not follow its example. A recent *Gardener's Chronicle* says:—'A supply of water-cresses for autumn and winter may be easily obtained by planting some strong young tops, about four inches long, in a line at the foot of a north wall. The cuttings should be of pieces which have roots protruding from the joints. Water-cresses will grow freely in such a situation. And where there are no artificial beds, and natural ones are a considerable distance off, these will be found useful.' There are water-flowers which take pattern by the water-cress, presenting themselves and their foliage independent of floods. One of my rambling grounds is a large tract of marshes abounding in vegetable and animal life. There are deep pools, shallow ditches, banks of mud uncovered by water, and dry ground tilled by the spade and the plough. In all these sites, except the latter, the white water-lily is abundant. In the pools, it sends up long leaf and flower stalks; in the shallower places, proportionally shorter ones; or the muddy patches, with no water over them, it assumes the habit of a herbaceous plant, which only requires judicious treatment to make magnificent 'bedding stuff.' Here is a fish out of water worth catching, and it will be strange if somebody does not take the hint. Our gardeners are perfectly competent to carry it out."

British Cleanings.

TO KEEP ICE.—*Bell's Messenger* says:—Make a double pocket of strong woollen cloth, no matter how coarse and faded it is. Have a space of two inches or so between the inner and outer pockets, and pack this space as full as possible with feathers. You have no need to use geese feathers; hens' feathers are just as good. With a pocket thus constructed and kept closely tied at the mouth, a few pounds of ice may be kept a week."

BACON-CURING IN IRELAND.—A correspondent of *Bell's Messenger* writing to that paper says:

"I have read in the *Messenger* of the 15th inst. the account of bacon-curing in Cumberland, in which county the writer seems to consider there is a large number of pigs cured; but the number is few in comparison of the number killed and cured in Waterford, which amount to more than 200,000 in the year. At one establishment, which is, I believe, the most complete of the kind in the kingdom, there are more than 50,000 killed and cured; 100 pigs are killed and dressed in an hour. Nearly all the bacon is sent to London, and some of it is sold as *Wiltshire*, as *Irish* could not be sold to some Londoners."

PRESERVATION OF FRESH MEAT.—*Bell's Weekly Messenger* informs its readers that a new process for preserving fresh meat has been recently patented. The patent has been conceded for the whole of South America to Messrs. E. Paris and B. S. Sloper, who are at present at Buenos Ayres employed in making experiments on a large scale. They profess to be able to preserve meat in its fresh and raw state, so as to reach England from South America in the exact condition of butchers' meat just killed, at a cost of from 4d. to 5d. per lb. Their curing process is simple, and is based on the exclusion of oxygen from the vessel in which the meat is packed. When Messrs. Paris and Sloper arrived in April last at Buenos Ayres, they gave a dinner to the Vice-President of the Argentine Republic, at which some samples of English beef, prepared six months previously according to their patent, were served, and pronounced excellent. In a short time between 10,000 lbs. and 12,000 lbs. of River Platte beef thus preserved will arrive in London, when Messrs. Paris and Sloper propose to test its merits at a public dinner at Guildhall.

CONFESSIONS OF A DOG DOCTOR.—A writer in the *Field* says that a successful dog doctor in his neighbourhood, who had an extensive *clientèle* amongst ladies of fashion, on retiring from practice, made the following confession for the benefit of canine circles:—When very fat and apoplectic pets were confided to his care, "I always tied 'em," said he, "to a crab tree at the end of my garden, and gave 'em nothing but water for a week. When I fetched 'em from home they used to refuse to eat what I should have been glad to get; and when I took 'em back they was glad to get what I would not have touched. I've had some dogs twice and even three times a year, but I always cured 'em at last. One of 'em was as good as three pound a year to me. I was terrible fond of him, but he could not abide me; and when he saw me coming to fetch down his fat, he used to waddle away and howl fit to raise the dead." This eminent practitioner evidently had taken a leaf out of the famous Abernethy's book without knowing it. As he dealt with over-fed dogs, so did Abernethy deal with obese members of White's and Boodle's, and with apoplectic aldermen and common councillors.

A NEW INDUSTRY FOR IRELAND.—*The Grocer* says: Beet sugar, which would in Ireland yield a larger return to the grower than flax, is the new branch of industry to which we desire to draw attention. We are prompted in that desire by two circumstances—one, the publication a few months since of a very able pamphlet by Mr. A. Baruchson, of Liverpool, upon the "History and Progress of the Manufacture of Beetroot Sugar;" and the other the recent completion of a very extensive sugar refinery in Dublin, the first and only refinery that Ireland can boast of. The Messrs. Bewley and Company have not only set an example which should stimulate their countrymen to enterprize, both in this and other branches of trade, but have partially provided the very means by which a crop of beetroot, easily cultivated, may be rendered extremely profitable to speculators. It is even stated that a beet crop in Ireland would yield on the average nearly half as much more per acre than in France, the soil and climate being more favourable for the growth of beet, while improvements in agriculture, united to British capital, would increase the production still more.

A SALMON COMMITTING SUICIDE.—*The Farmer* (Scottish) is responsible for the following curious tale: A gentleman, lately fishing in a loch in the north-west of Scotland, captured a fine salmon in a somewhat curious manner. He had hooked the fish, and had got out of the boat in order to land him more conveniently. But, after playing him for some time he observed that part of his reel-line had got stranded, so that he could not venture to reel it up for fear of entangling it. He had about 30 yards out at the moment he noticed this, and his only resource was alternately to retreat backwards from the water and again come towards the shore, following the movements of the fish, and taking care not to put too strong a strain on his already damaged line. This went on for some time, and no easy business it was for the fisherman, as he had but a narrow strip of level ground to work upon, and above it a steep rocky bank overgrown with bushes and heather. At length the fish—a strong lively salmon—made a dart for a point where some tree roots were sticking out of the water, and seemed certain to break the tackle and make his escape, so that the unlucky fisherman every moment expected to find his line come back to him with nothing at the end of it. But to his astonishment this did not happen, and the fish ceased to move or struggle. The boat was got, and on coming over the spot where the fish was, it was found that in his efforts to escape he had jammed himself so firmly that he was unable to extricate himself. He was speedily clipped by the boatman, and when landed in the boat was quite dead—a rare instance of a salmon committing suicide. He turned out to be a fine fish of 15 lb. weight.

ELDER-FLOWER WINE.—We copy the following recipe from (*The Farmer*) Scottish:—"If *Miss Jean* will attend to the following directions she will be remunerated by possessing a very agreeable Frontignan flavoured, sparkling, champagne-like, mildly soporific beverage:—The flower bunches must be gathered when perfectly dry, and if in warm sunshine so much the better; and must be thin spread out for a short time to prevent heating, till the flowers part freely from their footstalks. Both black and green or white fruited varieties are suitable, but some prefer the flowers of the latter, which are supposed to yield a clearer or purer infusion; and as the smell evolved during fermentation is very disagreeable, that process should be carried on, if possible, in a little-frequented out-house, where the temperature is equable and moderately cool. Boil 18 lb. of white powder sugar with 6 gallons of water, and two whites of eggs well beaten, then skim it and put in it a quarter of a peck of elder flowers; don't keep it on the fire; when nearly cold, stir it and put in 6 spoonfuls of lemon juice, 4 or 5 of yeast, and beat it well into the liquor stir it every day; put 6 lb. of the best raisins (stoned) into the cask, and turn the wine. Stop it close and bottle it in six months. Lemon peel pared very thin and put into the cask is an improvement."

MYSTERIES.—An able article on "Bees" in the *Ayr Advertiser* concludes as follows:—"The ways and workings of bees are mysterious enough to baffle the most scientific observers. There is no doubt much nonsense written about them. For instance, the queen is popularly known as a very "swell" individual, very much larger than the common bee, and of brighter and varied colours; this is very poetical, but quite incorrect. The queen-bee is precisely the same colour as her subjects, is scarcely any larger, and can be distinguished from them only by being a little longer in the body. But there is sufficient of the marvellous about the bee-kingdom without necessitating any romance. Take the act of swarming, for instance; the highest flight of science—the electric telegraph—is simplicity itself compared with this extraordinary process. The first swarm from the straw skep usually alights on a bush or branch of a tree. Before swarming, however, some of them collect on the front board of the hive, to the edge of which twenty or thirty of them cling; the others pass over them and hang on by each other in clusters till the ball is often as large as a man's two fists. When all is ready and the royal command given, they all come pouring out in a stream as thick as a man's wrist, and take a turn through the air. Suppose them to settle on a thorn three inches in circumference, their weight, for the cluster is as big as a boy's head, will bend the thorn stick nearly to the ground. Comparatively few of them have hold of the branch; the rest all hold on by each other. How can those who have hold bear the weight of the mass? How long would a man hold on by the branch of a tree if the weight of 300 men were suddenly attached to him; and yet we suspect every bee with a hold sustains a much higher proportion of weight in the cluster below. This is one of many mysteries of creation that mocks at human science."

UNPRECEDENTED BUTCHERING FEAT.—*The Yorkshire Post* says:—For some few weeks past the butchers of Leeds and the neighbourhood have been anxiously looking forward to an exciting match—namely, the slaughtering of the greatest number of sheep in a given time. The competitors were Thomas Roberts, of Leeds, and Jesse Wood of Beverly. The match was for £25 a side, and the conditions were as follows:—Twenty sheep were to be slaughtered; ten of them to be dressed fit for the London market, and the same number suitable for the market at Beverly; Roberts to give his opponent five minutes. All the sheep were to be "stuck" ready for each man, and he had to lift or draw the sheep upon the hook for himself, the whole to be finished in a workmanlike manner, to the satisfaction of the empires and referee. The competition came off on Thursday, about 500 spectators being present at the Newgate Slaughter House to witness the contest. Some little speculation took place, the Leeds representative being made favourite at 6 to 4, and ultimately 2 to 1, on him. Roberts commenced operations first, and accomplished his first ten fit for the London market in 47 minutes 35 seconds, the entire 20 being completed in 96 minutes 58 seconds, thereby performing a feat unparalleled in the annals of butchering. His deftness was warmly applauded at the termination of his task. His opponent was so much staggered at Roberts's celerity that he declined the contest, thereby acknowledging himself defeated.

FRAUDULENT BUTTER SELLING.—*The Farmer* (Scottish) says:—At the Derby Police Court, on Monday week, after the usual business of the court had terminated, Mr. Hilton, head-constable, said on Friday afternoon a woman purchased 1 lb. of butter under the following circumstances:—After the regular butter market is over, several persons residing in Derby get outside the market with butter baskets, and sell to all late comers. Amongst these was a woman named Laban, who, seeing the woman referred to looking into her butter basket, asked her to taste it. She did so, and Laban said as it was the last pound she had got she would take 1s. for it, although the market price was 1s. 4d. per lb. The woman bought it, took it home, and on squeezing it into a butter pot, a cupful of water came from it. She shewed it to her neighbours, and they thinking it was not all right, the butter was brought to him (Mr. Hilton). In the meantime the woman Laban had returned into the market with another basket full of butter, and he (Mr. Hilton) sent to purchase 1 lb., for which he paid 1s. 4d. It was similar butter to that she had sold the woman on Friday, and on Saturday he put the butter through one process, by which he extracted a cupful of water. He then put it through a second process, by which he extracted the colouring, and there then remained nothing but beef dripping. The colouring was annatto. It was a clear case of fraud by obtaining money under false pretences, and he should ask the bench to grant a warrant against the woman Laban. The bench ordered a warrant to be issued.

ROAD MAKING.—A correspondent of the *Times* says. "When I was lately in Paris I was much struck with the admirable manner in which the macadamized carriageway of the Boulevards was kept. Travellers probably know that this excellent state is effected by the use of rollers, which roll the stones down into a compact and hard surface immediately after they are put on. To inform myself on the management of the roads I obtained an introduction to an Inspector of Roads and Bridges. He told me if the stones are crushed in by cart-wheels before they can set the sharp corners are knocked off, and the stones become more or less round, and never set so well as angular stones; and also that before the stones can be set in this way sufficient small stuff must be ground off them with which to bind them together, thus wasting the stone to a certain extent. Instead of this, small gravel and calcareous sand are thrown over the loose stones to fill up the interstices (about 40 per cent. when very hard stone is used); they are then watered and rolled in; that the stones thus at once form, as it were, a solid pavement, and support each other, and the road, consequently, lasts much longer than when they are ground one against the other, as is the case in the ordinary way of setting them; that each wheel in passing over loose stones acts somewhat like a plough, pressing down the stones over which it passes, and raising up those on each side of it. This requires the stones to be constantly raked smooth, thereby fresh corners are presented for the next wheels to chip off, and ultimately the surface of the road is uneven, consisting of minute hills and valleys. When any small patch requires mending the workman hacks it up, puts on the requisite stones, &c., waters it from a can, and beats the stones smooth with a large headed pavler's beetle."

Miscellaneous

Poor Practices.

It is a pretty poor practice for a farmer to dig and delve, tug and grub, and clear up fifty acres of land at a cost of \$2,000, and then in the third year surrender about a fifth of it to briars, brambles, and ox-eye daisies.

Poor practice to half manure, half plough, half seed and half cultivate a field, and then harvest from it less than half a crop.

To keep two inferior, scrawny, scrub cows for daily purposes, that give less milk than one good one, and consume more food than three.

To purchase in town five hundred loads of livery-stable manure, and suffer six hundred of better home-made material to run to waste.

To attempt to fatten three hogs into twelve hundred pounds of pork on just so much feed as would keep two nicely growing.

To estimate agricultural fairs as arrant humbugs, and spend three days every month saving the country at political meetings.

To depend on borrowing your neighbours' rakes, reapers, mowers, and all sorts of implements in haying and harvest time.

To house up a thousand bushels of grain, waiting for a rise, till one-tenth has gone to feed rats and mice, and the remainder smells like the essence of rat, and the price is down 40 per cent.

To plant out a big orchard of choice fruit trees with a first thought of money-making, and leave them to do or die.

To keep two fancy five hundred dollar carriage horses, and pay six dollars a day for a team to plough.

It is positively poor practice to call "book larnin" all bosh, to ignore news and agricultural papers, and attempt to keep up an even yoke with your progressive neighbours by main strength and stupidity. -Sat. Eve. Post.

AN OLD HYMN IN A NEW DRESS.—At the Vermont State Fair, a rural poet furnished the Record with the following lines:—

This world is all a cattle show, For man's amusement given; Some cry gee, and some cry whoat And some go fast, and some go slow; Thus back and forward driven.

A CURIOSITY.—One of the most curious instruments of late years is a little wooden barometer invented by a Mexican guitar maker, a few years since. It consists only of a strip of cedar, very thin, about two and a half feet in length, about an inch wide, cut with the grain, set in a block or fort. This cedar strip is backed or lined with one of white pine cut across the grain, and the two are tightly glued together. To bend these when dry is to snap them, but on the approach of bad weather the cedar curls over until at times it touches the ground. It is said this simple instrument will indicate the coming of a "norther" full twenty-four hours before any other kind of barometer known on the coast. The philosophy of the thing seems to be that the pine dries and contracts under the influence of fair weather, and curls over on its side; while in foul weather, swelling and expanding, its motion is towards the other side, the cedar yielding to the pressure, because cut with the grain, and is not susceptible to the influence of dryness or humidity of atmosphere.

SOUR GRAPES.—A friend related to us one morning a scene in a school-room which we think will do to publish and is too good to keep. It is the custom in the school to read a moral lesson each morning, when the teacher questions the scholars on what has been read. The day our friend visited the school the lesson was in regard to the taking of fruit, and was a sort of narrative in which it was stated a teacher had told his class not to touch the fruit which grew in a neighbouring orchard, but to wait until it was perfectly ripe and they all should have a share of it. They all disobeyed the command with the exception of one little girl, she alone refraining from touching the fruit. The first question asked by the teacher was:—

"Who did right, the little girl or the others of the class?"

"The little girl."

The next question was:—"Why did not the little girl also take the fruit?"

This appeared to puzzle the class, and for a long time no one was ready to answer. At length a little fellow at the bottom of the class held up his hand, which was equivalent to saying that he could give the answer. He was told to proceed, when he astonished the teacher and convulsed our friend by exclaiming:—

"Pleath, sir, she wath too little to reach it!"—Boston Cultivator.

Advertisements.

LANDS IN BRUCE FOR SALE.

- 1. 100 ACRES near Lucknow, 40 cleared, with good log house and barn, soil best wheat clay, fine rolling land, \$1000 for location right, no arrears due the Crown.
2. 150 acres 10 miles from Kincardine Village, 40 to 50 cleared, \$1200 for fee simple, a choice lot.
3. 100 acres, 3 miles from Kincardine, 50 cleared, with good frame house and orchard of 200 trees, \$2500.
4. 86 acres on Lake Shore, beautifully situated 2 miles from Kincardine, 60 cleared, with comfortable cottage, a well laid out garden and orchard, \$2000.
5. 200 acres, splendid woodland, 1 1/2 miles from Kincardine, \$20 per acre. Cordwood can be had on Kincardine dock from \$1 23 per cord and shipped for Chicago direct, where it brings from \$12 upwards.
Also, several building and park lots in Kincardine, the Government survey being very large, lots can be had for the price of farm lands. The situation on the east shore of Lake Huron for salubritv and position is unsurpassed on the continent.

Apply to D. W. ROSS, Barrister, Kincardine. v3-21-11

A Farm of 240 Acres for Sale. \$35 PER ACRE.

100 Acres improved—good orchard, Town Shiawassee, Shiawassee County, Michigan, within 1 1/2 miles Vernon Station Detroit and Milwaukee railroad, and 1 mile from Village of Shiawassee. Soil rich, clay loam, splendid wheat, corn or grass land. Can be made the premium farm of the County.

For further particulars enquire of CHARLES F. BLO-S, Detroit, Mich. v3-23-11

FOR SALE,

GOLDEN PENCILED AND BLACK HAMBURGS, GOLDEN AND SILVER SPANGLED POLANDS, WHITE AND BUFF COCHINS, AND CHOICE BRAHMA POOTRA FOWLS,

Warranted bred from stock imported last May. Also a few fine Muscovy Ducks. Address, or A. McLEAN HOWARD, Esq., R. A. WOOD, Toronto. v3-23-11

FEATHERS.

FEATHERS, FEATHERS.

THE subscribers will pay 45 cents per pound for good LIVE GEESE FEATHERS

delivered at their Warerooms, Toronto. v3-23-101 JACQUES & HAY.



A CERTAIN cure for Tick, and all skin affections in Sheep. No flock master should be without it.

Prepared only by HUGH MILLER & CO., Chemists, Toronto. Toronto, Jan. 1. v3-1-11

GOOD FARM LANDS!

FOR SALE, ON EASY TERMS AND WITH UNUSUAL ADVANTAGES TO SETTLERS.

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CHAS. SHARPE & CO., SEED GROWERS AND SEED MERCHANTS, SLEAFORD, ENGLAND,

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1867. FOR 1867. THE CANADA FARMER.

THE FARMER'S OWN PAPER!

EVERY FARMER SHOULD HAVE IT

THE POPULAR AGRICULTURAL JOURNAL is about to enter on its fourth year, with every prospect of increased success. The unprecedented reception which it has heretofore met with is undoubtedly owing to the fact that it has supplied an urgent necessity long felt by Canadian Agriculturists. They needed a Journal specially devoted to the elucidation of questions in which they are especially interested as farmers and horticulturists, and they have found in THE CANADA FARMER what they required. THE FARMER has received the most flattering commendation from the chief farmers of the Province, from the press of Canada, and also from those who are perhaps the best judges—the Agricultural Journalists of Great Britain and the United States.

In the coming year still greater exertions than heretofore will be made to sustain the character of the Paper. It will continue to be beautifully embellished with wood-cuts finely executed—and no effort will be spared to render it a welcome and instructive visitor to the farmer's fire-side.

In the conduct of THE CANADA FARMER, the following ends have been, and will be zealously laboured for:

- 1. To arouse public attention by frank and temperate discussion, to all questions scientific, commercial, legislative, or otherwise, specially affecting the farming interest.
2. To stimulate the agriculturists of our country to adopt an improved system of husbandry, by blending the lessons of modern science with the practical experience of the Canadian Farmer.
3. To bring under the attention of our farmers all improvements at home and abroad worthy of adoption, affecting the management of Field Crops—the Barn Yard—the Stable—the Dairy—the Orchard—the Poultry Yard—the Apiary—the Kitchen Garden—and the Flower Garden: and to excite an interest in the progress of Rural Architecture and Landscape Gardening, and all that concerns the Domestic Economy of the Farm House.
4. To mark and report all improvements in Agricultural Machinery, foster new inventions, and promote the adoption of all labour saving machines in the work of the farm and garden.
5. To keep prominently under attention all that specially concerns the Dairy farmer and the Grazier—the best breeds of Cattle—the best systems of feeding—the most approved processes of Cheese and Butter making—the best mode of packing—and the best market to sell in.
6. To keep prominently in view whatever is especially interesting to the sheep-raiser and Wool-grower—the breeds best adapted to our climate—the best system of winter and summer management—and the varying prospects of the wool-market.
7. To afford the farmers of Canada an ever-open medium for addressing their brother Agriculturists throughout the Province, suggesting matters of common interest and advantage, and eliciting information or advice on practical questions of difficulty or doubt.
8. To report concisely the Proceedings at Agricultural Shows, Fairs, and Sales throughout the Provinces—note the condition and progress of the Herds and Flocks of prominent Stock-breeders; record the importation of Thoroughbred stock from abroad, and publish engravings of first-class Prize Animals.
9. To watch and report carefully and promptly the actual state and probable prospects of the Produce Markets at home and abroad; and specially promote all movements designed to secure the best prices in the best market for Canadian Farm Produce.
10. To afford the farmers of Canada a common medium where all who have for sale Live stock, or Seed Grain, or Land, or who may wish to buy such, can make their desires known directly to the whole farming population of Canada.

The Canada Farmer is Printed and Published on the 1st and 15th of each month.

SUBSCRIPTION PRICE, ONE DOLLAR PER ANNUM, (POSTAGE FREE.)

PAYABLE INVARIABLY IN ADVANCE. Bound Volumes for 15 A, 1865, and 1866, may be had for \$1.50 each. No subscription received for less than a year, and all commence with the first number of the respective years.

CLUBS WILL BE FURNISHED AT THE FOLLOWING RATES: Ten Copies for.....Nine Dollars. Twenty Copies for.....Sixteen Dollars. Forty Copies for.....Thirty Dollars. One Hundred Copies for.....Seventy Dollars. To Agricultural Societies ordering more than 125 copies, THE FARMER will be sent at SIXTY CENTS.

In order to induce early subscriptions for the year 1867, THE CANADA FARMER will be sent from the 1st November, to all subscribers for 1867, who send in their money this year. Now subscribers who send in their money at once, will thus receive the paper for fourteen months at the price of one year.

All the subscribers to a Club will have their papers addressed and mailed separately.

Agricultural Societies are supplied with THE FARMER at Club rates, and papers ordered by them are mailed to any Post Office within their respective territorial limits.

Back numbers may always be had, THE FARMER being printed from stereotype plates.

As an advertising medium it is sufficient to remark, that all who have for sale, or who wish to purchase Live Stock, Seed, Grain, Agricultural Implements, Land, &c., &c., through THE CANADA FARMER, make their desires known directly to the whole farming population of Canada.

Now is the time to subscribe. Orders to be sent to GEORGE BROWN, Publisher and Proprietor, TORONTO, Dec. 1, 1866.

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Intelligent, Energetic and properly Educated Young Men everywhere required.

Better Farmers, better Councilmen, better Reeves, better Wardens, by first obtaining a good Business Education.

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Young Men from every vocation in life filling important and lucrative situations after graduating and receiving their diplomas from the British American Commercial College, Toronto.

A SOUND practical business education is the great demand in the present circumstances of the age. It is not long since this country was a mere nascent colony. It has risen, however, with wonderful rapidity. Canada is now the most populous, wealthy, flourishing and enterprising province of British America. Its agricultural improvement is progressing by gigantic strides, and it is extending the arms of its commerce to every region of the earth. Therefore, it is that no sleepy, half-measure, all-theory education will suit the aspirations and practical ideas of a bustling, thriving and prosperous community in their onward course. He who wants to maintain his position and keep pace with the times, must buckle to in order to prepare himself for his future vocations, and the first step is a course of training adequate to the exigencies of the times and the end aimed at. It is not even sufficient that the aspirant should go through the ordinary routine course. He must make sure by trial that he can meet the struggle successfully. The old system of copying a set of books will never do in the present state of commercial activity. The book-keeper must be prompt and ready at a moment's call to make his account book entry, to balance, and to render his statement of any and every transaction. He must know how to draw properly checks, drafts, notes and bills of exchange, to determine the responsibility of each party—to make out accounts, balance sheets, account sales, accounts current, monthly statements—in short, all business instruments, and to do so with neatness, promptitude and accuracy. If he fails in his first trials, after obtaining a situation, his prospects are dimmed, but if he has passed through the GREAT ACTUAL BUSINESS SYSTEM of the British American Commercial College, there will be no fear of his falling, and his footing is gained at once. It has enhanced very much the efficiency of this practical business training that there have been opened in Hamilton and Ottawa sister colleges, and the students of each of these thrive with the others just in the same manner as a Montreal merchant may do business with one in Toronto. This gives to each student a practical knowledge of what he has to do before he ever enters the warehouse or counting house. This is manifestly a great advantage to the young clerk, but it is of vastly greater consequence to his employer, because he procures the services of one who knows what he has to do and how he is to do it without requiring long directions or tedious supervision. Since young men so educated are everywhere and every day required, parents should promptly take advantage of the opportunities now offered them. If the youth's destiny is to be a farmer, such training will make him a better farmer, and able to keep a strict account of his affairs—if on the council board, he will be better able to hold his place and serve his country, and so also as a Reeve or Warden he will be the better able to fill his place with credit to himself and benefit to those within his jurisdiction. The British American Commercial College by its actual business system, its bank, its emporium, its exchange office, its telegraphic apparatus, &c., &c., supplies all this to every aspirant to success, either commercial or social. Besides, every one who graduates with honour at this College may reckon securely on an immediate situation, as the demand for graduates to fill various posts is constant and pressing. It is scarcely to be conceived that any one should for a moment doubt the advantages of such an education, but if any one should have the slightest hesitation, he is invited to call and examine the system and mode of operation. A circular has been published, giving a detailed account of the system, regulations and terms, and may be had on application to Messrs. Musgrave and Wright, Toronto, Hamilton, or Ottawa. v3-23-11

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MIL SMITH'S class for Anatomical demonstrations, including dissection, for second and third year students, will commence on November 12, 1866.

That for first year's Veterinary Students and Agricultural Students will begin JANUARY 9, 1867.

For particulars apply to Professor Buckland, University College, or A. Smith, V. S., Toronto.

HUGH C. THOMSON, Secretary Board of Agriculture.

Board of Agriculture, Toronto, 1866.

v3-23-11

MONEY TO LOAN.

THE TRUST AND LOAN COMPANY OF UPPER CANADA have funds for investment on the security of first class town and farm property, and are also prepared to purchase good mortgages.

The rate of interest on loans is 8 per cent. No commission charged, and expenses reduced. The loans are usually for five years, but can be made payable in yearly or half yearly instalments if desired by borrowers.

A deposit of \$10 required with each application. For further information apply at the Company's Office in Kingston, or to the Valuator's Office in each District.

Kingston, 8th October, 1866. v3-20-41

Markets.

Toronto Markets.

"CANADA FARMER" Office, Dec. 1, 1866.

The following figures compiled from returns made by the different wharves and elevators in this city shows the quantity of barley shipped from this point, each week of the season up to date:

Table with columns: Week ending, Quantity (Bushels), Total shipments to date. Data includes weekly figures from Sep 21 to Dec 23, with a total of 1,30,614 bushels.

REVIEW OF THE PRODUCE MARKET.

The market for breadstuffs has been dull and depressed during the past fortnight, there being no disposition whatever to purchase, except so far as may be necessary to meet present requirements. From all the leading markets of the United States no hear of a complete stagnation in the trade.

Flour—No 1 superfine was offering in the early part of last week at \$6 00, but buyers could not be got to touch it at that price. Later, several sales were reported at \$6 50, fancy was held at \$7 40 to \$7 50, extra at \$7 50 to \$7 75, and super at \$8, with no sales in any of these grades.

Wheat—The market has been dull and drooping with few sales to report. Fall was held at \$1 65 to \$1 72, with sales at \$1 49 to \$1 65. Spring wheat has been held at \$1 45, with buyers offering from \$1 40 to \$1 41, with several sales within these quotations. A sale of 100 bushels clover was reported last week at \$1 41 f. o. b.

Oats—Very little doing, with light receipts. Prices nominal, at from 20c to 21c.

Barley—Receipts, by cars and waggons, have decreased. Transactions were only to a very limited extent. Prices have considerably declined. Cut heads sell at from 45c to 50c, with street prices from 1c to 2c lower.

Pork—The demand has, in a considerable degree, subsided. The range for carloads during the past week has been from 60c to 65c, street price 60c to 63c.

Oilmeal—In better demand, and some slight improvement in value, selling freely at \$4 75 per barrel.

Pork—The tendency of the market is downward, prices having fallen considerably in New York. Quotations are to a great extent nominal. Mess held at \$21 to \$22, 100 lbs sold at \$21, mess \$17, hams and rolled bacon are dull and declining. Prices nominal at 12 1/2c.

Dressed Hogs—Receipts have been moderate, prices ranged from \$5 75 to \$6 50.

Pork—Butter nominal, holders would sell storepacked at from 11c to 12c, but no buyers. Dairy has been in demand at from 10c to 16c. Eggs have been scarce at from 17c to 20c or round lots, and 22c on the market. Cheese, from 11c to 12c.

Country—There is little change in quotations. Chickens sell at from 20c to 30c per pair, Turkeys, 50c to 10c each. Geese, 40c to 50c each. Ducks, 40c to 50c per pair.

Apples—China at \$1 50 to \$2.

Hay and Straw—Hay, \$10 to \$13; straw, \$5 to \$10.

Hides, SKINS AND WOOL—Hides have been in good demand during the week, and prices continue firm. The following are the current quotations—Hides, butchers' weight per lb. 6c; hides salted, trimmed and cured, Toronto No. 1, 8c; No. 2, 7c to 7 1/2c; Calfskins, green, 12c to 12c, do, trimmed and cured, 14c to 16c; do, dry, 20c to 25c. Sheepskins lining, 35c; sheepskins each, 50c. Wool, fleeces per lb, 31c to 34c; do, pulled, combing, 30c; do, do, superline, 30c; do, No. 1, 25c.

Hamilton Markets, Nov. 27.—Pork—Good heavy pork from \$5 50 to \$6. Lard—By retail it is selling at 20c to 22c, and choice dairy by the brick is worth from 15c to 17c; store packed brings about 12c to 13c. Flour—Retail (fall wheat) \$4 50 per 100 lbs, spring wheat flour \$4 per 100 lbs, buckwheat flour \$2 50 per 100 lbs; chop feed \$1 25 per 100 lbs; beef per carcass \$4 60 to \$6, retail 6c to 10c per lb. Mutton—5c to 8c. Hams—13c to 14c. Bacon 9 1/2 to 12 1/2c. Lard 12c.

London Markets.—Fall Wheat, \$1 60 to \$1 70. Spring Wheat, \$1 25 to \$1 40. Barley, 40c to 42c. Peas, 65c to 69c. Oats, 27c to 28c. Corn, 56c to 60c. Buckwheat, 35c to 40c. Dressed Hogs, \$5 to \$5 50. Butter—Prime dairy packed, 14c to 14 1/2c per lb, fresh in rolls, by the basket, 13c to 16c per lb. Eggs 16c to 15c per dozen.

Quebec Markets.—Fall Wheat per bush, \$1 50 to \$1 65. Spring do, \$1 20 to \$1 35. Oats, 25c to 31c. Peas, 50c to 65c. Barley, 40c to 46c. Hides, per 100 lbs, \$6 50. Wool, per lb, 34c. Eggs, per doz, 14c to 15c. Butter, per lb, 13c to 14c.

Montreal Markets, Nov. 29.—Laidlaw, Middleton & Co. report—Flour receipts, 1,100 barrels; market quiet; extra dull; \$7 60 to \$7 70 for fancy, \$7 30 to \$7 45 for Canada superfine, \$7 for common; \$7 10 for good; \$7 15 to \$7 20 for choice favourite brands, coarse grades dull, bags, \$3 85, dull. Oatmeal, \$5 to \$5 05. Wheat—No sales, car lot about \$1 02 1/2. Peas about 90c. Nothing doing in oats, barley, rye and corn. Butter—Small sales selected at 14c. Pork—Mess 21c to 22c.

Contents of this Number.

Table listing various articles and their page numbers. Includes sections like THE FIELD, STOCK DEPARTMENT, THE DAIRY, FOCULTRY YARD, THE APILARY, ENTOMOLGY, VETERINARY DEPARTMENT, COLLECTORIAL INTELLIGENCE, THE HOUSEHOLD, HORTICULTURE, MISCELLANEOUS, and THE CANADA FARMER is printed and published on the 1st and 15th of each month.