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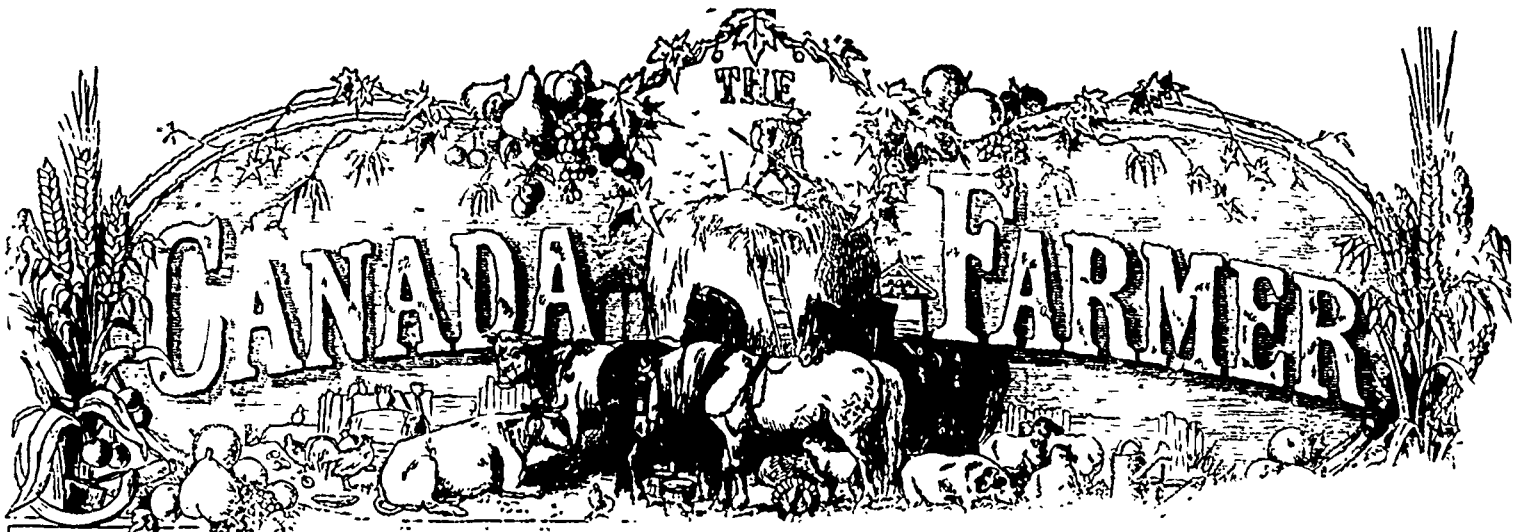
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Vol. IV. No. 24.

TORONTO, CANADA, DECEMBER 16, 1867.

POSTAGE FREE.

The Field.

Cheap Farm Gates.

To the Editor of THE CANADA FARMER :

Sir,—In your journal for July 1st, I took occasion to say that a good farm gate was much to be desired. I now propose to present your readers with a couple of plans, which come almost, if not quite, up to the standard of excellence, as given in my former communication, and which may be of interest to some.

Fig. 1 is a modification of "Robinson's Farm Gate." Its most valuable features are the mode of hanging adopted, its heavy top piece, and its simplicity, which renders it not liable to get out of order. The upper horizontal bar is eleven feet long, three inches in diameter horizontally, and five inches deep at the hinge, and two and a half at the latch. Its mortices are only two-thirds through to shut out rain, and five-eighths by three inches—except at the heel-piece, where it is an inch and a quarter. The heel-piece is three by five inches, and the four lower bars are boards, one by five inches. The cross bars, the braces, and the two pieces forming the head-piece are one by three inches—these and the heel-piece should be of some tough and hard timber, as white oak. They are secured at each crossing with bolts.

An important advantage is the protection of every mortice and the hinge from the weather. The hinge is made by driving an iron rod, at least three quarters of an inch in diameter, into the top of the post, which turns in a hole seven-eighths of an inch across, bored two-thirds of the distance through the large end of the upper bar. A short iron plug driven into this hole makes a hard resting point, that will not wear, for the gate to turn upon. Fig. 2 shows the form of wooden collar, which fits the round post and completes the hinge. It is secured to the gate with a bolt. The latch is simply a notch cut in the top of the fixed post at the head of the gate, and is found to be the best, as it is the simplest fastening that can be devised, (see Fig. 3). A pin can be inserted between the two vertical bars forming the head-piece, and into a hole bored in the post, as an additional fastening, if required, to prevent hogs from lifting the gate. A pin or spike may also be driven into the post on which the hinges turn, just above the lower hinge, and will make all secure.

The expense of this gate need be little greater than that of a pair of bars, and it would not be easy to find a structure of this kind containing so many valuable features requisite in a farm gate, at a less cost.

The contrivance represented in Fig. 4 should commend itself to every farmer as a model farm gate. It is entirely constructed, posts and all, of round timber cut from the pole and log, in the woods. A

farmer having the necessary iron parts, can go into the woods armed with an axe, saw, auger, and gouge, and construct several in a day.

The gate itself is formed of an upper and lower horizontal bar, which may be three to four inches in diameter. These are connected by rods about four feet in length, and which may be of half inch iron. The diagonal braces are cut from three inch poles,

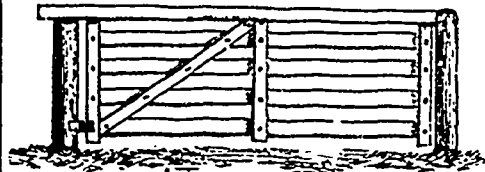


FIG. 1.

and halved in the middle for the intersections. They are made of equal lengths, and their ends formed with the gouge so as to fit around the iron rods, and the upper and lower bars. Then being placed in position with the two horizontal pieces, and the rods inserted in holes bored in them at equal distances, all are screwed up tight. It will be seen that there can be no "sag" in a gate of this principle.

Additional bars can be bolted to the frame as shown in the engraving—these can be smaller than

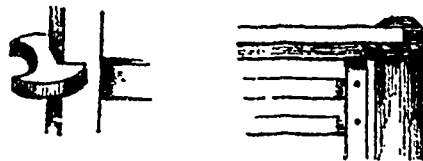


FIG. 2.

FIG. 3.

the others. Fig. 5 shows the construction of lower hinges; the other portion is the same as that described in the gate preceding. The fastening arrangement may be somewhat similar; to open the gate the forward end is lifted off its post.

Cedar, with the bark on, would be a suitable timber for making this gate—the upper bar might be better of some tougher wood—and would give a rustic appearance much more in harmony with the

FIG. 4.

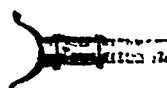
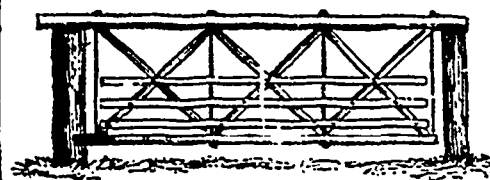


FIG. 5.

surroundings of most farm fields, than any structure formed of sawed lumber could possibly present.

The writer is indebted to the "Illustrated Annual Register of Rural Affairs," a work which gives more

information of interest and value to dwellers in the country, for a given sum, than any in the whole catalogue of rural publications, for most of the details of this gate, which is a modification of a plan given in that work. J. F. C.

L'ORIGINAL, Ontario, Dec. 1867.

Calcined Bones.

To the Editor of THE CANADA FARMER :

Sir,—Will you please inform me, through the columns of your valuable journal, what is the manurial value of Calcined Bones, and to what crop they are most particularly serviceable on sandy soil? Also the same in regard to the liquor in which raw bones, &c., have been boiled—i. e., gelatine—and the best way of applying it, in compost, or alone.

A YORKSHIREMAN.

Ottawa, Nov. 2nd, 1867.

Ans.—Calcined bones possess a high manurial value, especially in soils already supplied with sufficient organic matter. They absorb with avidity both air and water, by which the phosphate of lime, amounting to about seventy-five per cent., is rendered soluble, and in that condition enters freely into the circulation of plants. In soils that are poor in animal and vegetable matters, bones that have not been subjected to either burning or boiling are much to be preferred, as these processes deprive them of their organic matter, which yields by decomposition in the soil nearly 5 per cent. of ammonia. Burnt bones may be applied with special advantage to turnips, and they will be found to act beneficially both on root and cereal crops generally. Bones in any shape are considered to act more powerfully on light sandy soils than on such as are wet and stiff, arising partly, no doubt, from the porous character of the former, freely admitting air and water, which are nature's great forces in effecting decomposition.

The liquor in which green bones have been boiled being rich in ammonia, we should prefer using it in a compost consisting of dried earth and peaty matter, with leaves and partially rotted barn-yard manure. This being well incorporated by once or twice turning, would make an excellent manure, generally adapted to all sorts of soils and crops.

North Wellington Turnip Competition.

To the Editor of THE CANADA FARMER :

Sir.—Having seen a communication in the last number of the CANADA FARMER, from a Montreal correspondent, respecting a crop of turnips grown by him in the Township of Shipton, in which he states that "a square rod, selected, 'topped and tailed,' weighed 384 lbs., or 1,024 bushels, being nearly 28 tons to the acre," following which he says, "he should be glad to learn if any prize

turnips in Ontario exceed these."—to satisfy his craving after knowledge, I herewith send you a tabular statement of 'some turnip raising' in North Wellington, as originally communicated to the *Elora Observer*, by Mr. Beattie, and would particularly call your correspondent's attention to No. 4 in the table, as well as to the note.

DOMINIE.

PILKINGTON, Nov. 21, 1867.

NOTE BY ED. C. F.—We have not space to publish the whole of the tabular report sent us, but would state in reference to the above communication that the best yield was that of Mr. John Brockie, of Nichol, (the "No. 4" mentioned above), who raised 1,150½ bushels per acre. The drills were twenty-seven inches apart, and the space between the turnips was nine inches. Twelve loads per acre of farm-yard manure had been applied in the spring, and in addition fifty pounds of plaster per acre were applied after the second hand hoeing. The turnips were sown between the 15th and 20th of June, and singling commenced on the 4th July. The next yield was that of J. and F. Rennie, of Garafraxa, who raised 118 bushels to the acre, having applied twenty-eight loads of manure to the acre, besides plaster. Alexander Watt, of Nichol, followed very close in the competition, and had raised 94½ bushels to the acre. The spaces between both drills and turnips were larger than in the preceding instances, being twenty-eight and twelve inches. Fifteen loads of barn-yard manure had been applied. Robert Lawin, of Pilkington, raised 926 bushels, and W. B. Telfer, of Pilkington, 921 bushels to the acre. The Judges' note referred to is as follows:—

The 'loads' are understood to be waggon loads.

The Judges, for their own satisfaction, weighed a rod square amongst the largest of Mr. Brockie's turnips, and found them to weigh at the rate of 1220 bushels per acre; and at Mr. Rennie's request they weighed a plot amongst a few drills of "East Lothian Purple Tops," growing side by side with "Sutton's Champion," and ascertained it to yield at the rate of 1237½ bushels per acre.

It may also be mentioned that they weighed another field for Messrs. Hunter, with larger turnips than the other, but which yielded only 789½ bushels per acre; width of drill fully thirty inches; distance apart twelve inches, but somewhat irregular."

Culture and use of the Teasel.

ALTHOUGH teasel heads are now very generally superseded by belts of fine wire cards, worked by machinery yet it may be interesting to furnish a few particulars about this special culture, which is still carried on very generally in this country, in North America, and on the Continent.

The fuller's thistle (*Dipsacus fullonum*) is cultivated in Yorkshire and woollen cloth manufacturing districts for its rough flower heads, which are used in raising the nap upon cloths, which is done by means of the right hooked awns or chaff of the heads. The teasel throws up its head in July and August; these are cut from the plant with a peculiarly formed knife, and then fastened to poles for drying. When dry they are picked and sorted into bundles. Upwards of twenty million teasel heads are annually imported into the United Kingdom from France. The use of the teasel heads is to draw out the ends of the wool from the manufactured cloth, so as to bring a regular pile or nap upon the surface, free from twistings and knottings, and to comb off the coarse and loose parts of the wool. The head of the true teasel is composed of incorporated flowers, each separated by a long, rigid, chaffy substance, the terminating point of which is furnished with a fine hook. Several of these heads are fixed in a frame, and with this the surface of the cloth is brushed until all the ends are drawn out, the loose parts combed off, and the cloth ceases to yield impediments to the free passage of the frame of teasels.

Should the hook of the chaff, when in use, become fixed in a knot, or find sufficient resistance, it breaks without injuring or contending with the cloth; and care is taken, by successive applications, to draw the impediments out. The dressing of a piece of cloth consumes 1,500 to 2,000 heads. They are used repeatedly in the different stages of the process; but a piece of fine cloth generally breaks this number before it is finished. There is a consumption answering to the proposed fineness, pieces of the best kinds requiring 150 to 200 runnings up.

It is worth while for farmers to consider whether teasels, as a crop, are not worthy of more attention. We have seen it stated that a fair average crop is 200,000 burrs per acre, and a fair average price is one and a half dollars a thousand. Their cultivation is not a new thing in the States, though but little attended to. Nor is it difficult. A Mr. Wills, of East Windsor, Connecticut, grew them many years, and found them profitable. The most suitable soil is a rich, clayey loam, of rather a moist nature, such as would produce two tons of hay per acre. The time of planting is when the ground is in good order, about the 1st of June. In about two weeks the rows can be seen, when a hand or horse hoe must be put to work. At the second hoeing the plants may be thinned out, leaving them four or five inches apart.

The after culture is to keep the ground absolutely clean till about the middle of November, when the plants are covered with straw, held in place by earth, to remain till the 1st of May, or till freezing nights have passed, when the plants are uncovered, and the weeds kept down till the plants grow, as they soon do, to cover the ground closely. Soon after the flowers drop, the burrs must be cut with the stems about four inches long, and carried to the drying house, where they are spread upon shelves of poles, or small rails, in tiers one above another, so as to give free circulation of air. They may be placed a foot thick upon shelves of this sort. A good hand can cut 15,000 or 20,000 a day, and the harvest should commence by the time half the flowers in a field are off. The top burrs drop their flowers first; these are called "kings," but are not quite so good as the burrs next below, which are called "queens." A stalk has from four to six No. 1 teasels, and twenty to thirty, and sometimes fifty which are merchantable. The most common method of disposing of the teasel stalks is by mowing, drying and burning on the ground. Two crops in succession generally do well, but more than that is not recommended. The growing of fuller's thistles, in Austria, was commenced as far back as 1827, and furnishes a yearly produce of about forty to sixty millions of teasels, representing a value of about 100,000 florins, and the gross profit is 200 to 300 florins per yoke of land. In commerce, these teasels, which rival the Styrian and Bavarian in quality, are packed in boxes, and sell at one to three florins the thousand. The heads of the wild plants are less strong and serviceable than those of the cultivated plants. The fuller's thistle is indigenous in France as in England, and the bees find an abundant harvest in the fields where they are grown; as each head contains more than six hundred flowers, there are necessarily millions of flowers on an acre of land.

In France the culture is carried on around Louviers, Elbeuf, Sedan, Carcassone, and other seats of the woollen manufacture, and the teasel heads of the wild plants are utilized, to some extent, in the factories. The harvest there commences about the middle of July, when the flowers have fallen from the heads, and the teasels are of a whitish color. The heads are sorted according to their size, the finest being termed "males," and the others "females." The best are those which are long, cylindrical, and armed with fine hooks. The produce of each head is about five teasels; but in good soils and favorable seasons it reaches seven to nine, which would yield twenty to thirty bales per hectare.—*Technologist*.

ROTATION OF CROPS.—Gen. N. H. Halstead of Newark, N. J., President of the New Jersey Agricultural Society, whose farm on the Pacific gives evidence of his skill in management, recently gave the following account of the system of rotation pursued by him for enriching his grass lands, the success of which is shown by the fact that he often obtained three and sometimes four tons of hay per acre:—1st year.—The ground having been ploughed and harrowed, clover is sown alone, or without any grain or other crop, early in the spring, and remains untouched during the season. 2nd year.—A crop of clover hay is cut in June, and the second crop is turned under with the plough for enriching the land—remaining inverted all winter. 3rd year.—Corn is planted by manuring in the hill and dressing with ashes; and after cutting up, the stubble is ploughed under in ridges for winter, by first inverting the line of hills with a furrow, and then turning two other furrows upon it. 4th year.—Manure is applied early in the spring, and oats sown—or the manure is spread on the oat stubble—or both. Lime is applied to the oat stubble, which is harrowed before ploughing. Turnips are then sown, (the strap-leaved) and the crops removed before winter. 5th year.—Early potatoes are manured in the furrow, and after digging, the land is subsoiled, and rye and timothy grown. 6th year.—The following year the rye stubble is rolled, and fifty bushels per acre of manure added. This finishes the process, and the field is laid aside to grass for ten or twelve years. The land is sandy loam, and heavy cattle are not allowed to tread upon it.

The Dairy.

Advantages of Spayed Cows.

IN a notice of Prof. McClure's late work, the *Utica Herald* says:—

We add another extract from the work on the advantages of spayed cows, a subject which perhaps will be of interest to dairymen, especially at this time, when there is so much difficulty in obtaining good milking stock, and so many losses are constantly arising from abortive cows. The following reasons are given by the professor why dairymen should spay their cows when not intended for breeding:—

1. Spayed cows are more easily kept in good condition than cows not spayed.
2. They are less liable to sickness of an epizootic kind, and when sick, more certain and easy of cure.
3. When epizootic diseases are present in the vicinity, or even in the herd, spayed cows are always in condition and fit for the butcher, and to prevent loss and save expense in the treatment with the attendant risk of loss of some, and loss of condition and milk of all that are affected, they can be sold, not at a loss, as is the case with cows not spayed, and when pleuro pneumonia is among them.
4. Spayed cows give the same quantity and quality of milk all the year round, if they are properly fed and cared for.
5. Ten spayed cows will give the year round as much milk as double the number of cows not spayed, thus saving the interest on the outlay for ten cows, together with the absence of risk from loss of some of the principal by the death of one or more from sickness or accident, not to speak of the feed of ten cows. The feed of ten cows and the manure of ten cows, the farmer can best tell the difference in their value.
6. With spayed cows there is no risk to run from milk fever, nor trouble with cows called bullers.
7. Spayed cows are easily fattened.
8. Spayed cows cannot abort or sink their calves."

The disadvantages are summed up under the two following heads:

"The expense of the operation and attendant risk of the animal dying, although this is not great—about one in a hundred—and the expense of the operation will be from \$3 to \$5, which will depend upon the distance the operator has to travel, and how many animals are to be operated upon.

"Spayed cows are apt to accumulate fat and flesh, so that they will become dry much sooner than cows not spayed. Still there can be little loss, for a fat cow is always ready for sale. These, then, are the objections to spaying cows, if objections they may be called. We now leave the subject to those who are immediately interested."

We have never heard of any trial being made of spayed cows in the dairy districts of New York, but have frequently seen statements of the profits resulting from cows which had been spayed in Europe. The question of profit is one of considerable importance to the dairymen, and we should be glad to see the experiment tried on a few animals, at least, to fully test its comparative merits.

A Massachusetts farmer says he can winter his cows on steamed feed for one-third less expense than on dry feed, and get one-fourth more milk. This is the result of five years' experience.

The influence of food on the quantity of milk is very striking. A half-starved cow not only yields but little milk, but what it yields is miserably poor. On the other hand, the liberal supply of food rich in nitrogenous and phosphatic elements of nutrition tell directly on the milk. Nothing, therefore, can be more injurious than to stint dairy cows in food.

SHILTON CHEESE.—The manufacture of this cheese, justly renowned for its many commendable qualities, was begun by the Scarborough cheese factory late in the past season. An improvement has been effected by this company in the manner of packing the cheese, it being put up in porcelain pots instead of the cans, as is that of English manufacture. It is thus less liable to mixture with foreign and unhealthy ingredients. The company have been, since starting, extensively manufacturing Cheddar cheese, a description for which they took first prizes at the last Provincial Exhibition, and at the Scarborough, Pickering, and Yorkville shows, and twice in Toronto.

To save his face from the whisking of his cows' tails, while milking, a Harkimer county, N. Y., dairyman stretches a stout wire across the stable, immediately back of the cows. In the brush of each cow's tail he fastens a small iron ring. A hook upon the wire secures the offensive member out of the way of the milker. As soon as the cow is milked, the hook is removed from the ring, and the animal turned out of the stable.

EXPORT OF CHEESE AND BUTTER TO BRITAIN.—We find, on referring to the British Board of Trade returns for 1865—the latest we can readily lay our hands upon—that in that year 30,007,021 pounds of cheese were imported into the United Kingdom. British North America, one of the finest dairy countries in the world, occupied a very unsatisfactory position with regard to the quantity which it furnished towards this great quota of food of the British people, for the whole of its cheese export to Britain during the same year only amounted to 112,000 lbs.—a figure remarkably trivial compared with the vastness and resources of this country. The extent of our butter export was equally unsatisfactory. The returns already referred to show that in 1865 Great Britain imported 121,376,394 lbs. of butter, 3,511,216 pounds of which came from "British North America." These figures should command the earnest attention of every cheese and butter manufacturer in Canada. They have only to use a little extra care and attention, and see that a uniform quality of good flavour is placed on the English market, in order to take high rank in a market so vast that it can never be monopolized. They would also do well to remember that one county alone in the State of New York—Herkimer, and not the best grazing one either—sells butter and cheese to the amount of four millions annually, simply because its manufacturers spared no expense to produce a good article, and have now begun to receive their reward. —*Montreal Gazette.*

THE DROUTH—THE AFTER-FEED—THE ESTIMATED PRODUCT OF AMERICAN CHEESE.—So far as we can learn, the whole dairy region of New York has suffered greatly from drouth. The after-feed has been everywhere in the central counties scanty, and the herds have greatly fallen off in their usual yield of milk. We are told, and so far as our observation has extended we find it true, that a less breadth of sowed corn was grown this year for soiling than usual. This was unfortunate and necessitated turning the herds upon meadows in many instances earlier than the growth of after-feed would warrant. Of course this thin, scanty and immature feed is soon consumed, leaving meadows bare and in an unfavourable condition for the next grass crop, while scarcely improving the quantity of milk. Last year, it will be remembered, we had a wet harvest, and the after-feed was abundant. This kept up a maximum yield of milk and a corresponding yield of cheese. From information in our possession, and from observation, we believe the product of cheese this year in the State of New York, for the month of August, may be safely put at one-third less than last year, and the prospect is that this estimate will hold good for the succeeding months of cheese-making. In other words, that the cheese product of New York for 1867 will be no more than it was in 1866, and from the 1st of August to January, 1868, a third less than last year. Now, will the increase of dairying in other localities make up this deficiency? It will be remembered that the drouth has been severe in Canada and in Ohio, and in other portions of the West, so that it may be doubtful after all whether the whole American cheese product of 1867 will be much in excess of last year. But the shipments to Europe, up to this time this year, have been greatly in excess of last year. In fact, we find that New York State cheese has been sold off closer this year than ever before, and how this is to affect the future market or fall sales is an important question, which it would be well for dairymen to consider. If there is any considerable amount of cheese accumulating in the new districts, it will be borne in mind a large proportion must be out of flavour, and will not supply the requirements of the English market for "strictly fine goods." The great bulk of "fancy and gilt edge cheese" must come from New York; and the quantity on hand, and that likely to be made, we can assure our English friends and shippers, will be very much less than has been estimated earlier in the season. We do not write to mislead, but that the facts may be presented in their true light, believing that all those interested in the dairy will do well to give this matter their sober consideration.—*Utica Weekly Herald.*

Veterinary Department.

Knuckling in Colts.

To the Editor of THE CANADA FARMER :

SIR,—I had a foal this season born with a weakness in one of his fore legs, causing it to fall over in the fetlock. There was also a soft lump or swelling under the knee, not very big. About three weeks after it was born, a man, professing to be a Veterinary Doctor, proposed an operation as the only means of preventing a chronic lameness. This operation consisted in a cut of about two or three inches downwards, from the knee, taking therefrom a sac of matter, severing it from a leader or string that ran down the leg. The wound leaves a hard fleshy lump below the knee, and a slight enlargement of the leg, fetlock and pastern, causing a little lameness in trotting, although the fetlock does not now turn over.

What should have been the proper treatment? and can anything be done now to relieve the defect?

R. J. O.

Orillia, Nov. 1867.

ANS.—Knuckling, or bending over of the fetlock joint, is a common occurrence in foals, and is the result of a weakness of the structures composing the leg. It does not often prove a very serious detriment to the foal, for as the animal increases in strength the limb gradually assumes its natural position. The mare should be well fed, and as soon as the foal is able to eat it should have plenty of nourishing food.

The swelling at the joint of the knee, unless it showed symptoms of suppurating, should not have been opened, as the enlargement would have become absorbed as the colt increased in age and strength. We would now recommend the colt to be kept in a loose box and have a liberal allowance of good food, and the chronic enlargement rubbed twice a week with mild Iodine ointment.

Poultry Yard.

Mr. Meehi on Poultry.

This eminent agriculturist writes as follows on poultry matters :

"Nothing pays better on a farm than a good stock of poultry properly managed. With them everything is turned to account; not a kernel, wild seed, or insect, escapes their scrutinizing eyes. Their industrious claws are ever at work, uncovering, ready for appropriation, every hidden but consumable substance. Fowls must have free access to chalk or lime to form the shells of their eggs, and grit or gravel to grind the food in their gizzards. They luxuriate on grass or clover, which are a necessity for them; in winter they like mangold or swedes. They must have access to plenty of pure water. The quality of the eggs depends upon the quality of the food. They, like ourselves, like shade in summer, and warm sheltered corners in winter. They must have access to shelter in wet weather. Fowls will not be long healthy on the same ground or yards—the earth gets tainted; therefore, to prevent disease, lime and salt your yards and their usual pasture once a year, say in autumn, when the rains will wash it well in and sweeten the surface.

"Broods of chickens never do better with us than on the grassy brows or patches abutting upon the growing crops, either of corn or pulse, into which they run either for insects or for shelter. The roofs of the coops should be water-tight, and the coop should often be removed, having only the natural ground for the floor. That natural ground soon gets tainted unless you remove the coop.

"You can hardly make some people good managers of poultry if they lack observation and judgment. These are especially necessary in the breeding of poultry. Your male birds should be often changed, say at least once in two years, and they should be young and vigorous. Breeders, in and in will not do any more than it will with an tal. Those who wish to understand the proper management of poultry and winged game, should read the admirable little pamphlets of Mr. Baily, Mount Street, London. Very few people know so much of this matter as he does:

From him I obtain pure blood occasionally, at a moderate price.

"I consider winged game, poultry, and birds, the farmer's friends. My poultry have access at all times to my fields. Fowls are very useful in clearing off flies. I have often been amused at seeing the neat and quick manner of their taking flies from reposing bullocks and sheep, much to their comfort."

Standard of Excellence in Poultry.

HAMBURGHES.

GENERAL SHAPE—COCK.

Beak—Medium.
Comb—Double, not so large as to overhang the eyes or beak, square in front, fitting close and straight on the head without inclining to either side, no hollow in the centre, uniform on each side, the top covered over with small points, with a peak behind, inclining very slightly upwards.
Head—Rather short and small.
Eye—Full and quick.
Deaf ear—Not pendent but fitting close to the face, flat, of medium size, round, and even on the surface.
Wattles—Broad, thin, and well rounded on the lower edge.
Neck—Taper, the higher part carried well over the back, back full, the lower part floating well on to the shoulders.
Breast—Round, full, and prominent, carried well forward.
Back—Short, well furnished with saddle feathers.
Wings—Ample, points carried rather low.
Tail—Full, expanded, sickle feathers well curved.
Thighs—Short and neat.
Legs—Slender, rather short, very neat, and taper.
Plumage—Rich and glossy.
Carriage—Upright and strutting, graceful, quick, and restless.

GENERAL SHAPE—HEN.

Beak—Rather small.
Comb—Same shape as that of cock, but very much less; smaller in the pencilled than in the spangled varieties.
Head—Small and very neat.
Eye—Full and very quick.
Deaf ear—Small, flat, rounded in the lower part, fitting close to the face, and not pendent.
Wattles—Small and thin, rounded on the lower edge.
Neck—Taper and very graceful.
Breast—Broad, plump, and carried forward.
Back—Rather short, but not so much so in appearance as in the cock.
Wings—Ample, carried very neatly to the body.
Tail—Full, expanded, and well carried.
Thighs—Short and neat.
Legs—Very slender, neat, and taper.
Plumage—Close and glossy.
Carriage—Graceful, quick, and restless.

GOLDEN PENCILLED HAMBURGHES.

COLOR OF COCK.

Comb, Face, and Wattles—Rich red.
Deaf ear—Pure opaque white, free from red on the edge.
Head and Neck—Clear reddish bay.
Back, Saddle, Base of the Wing, Shoulder and Wing Coverts—Rich deep reddish bay.
Flight—Reddish bay on the outside web, black on the inside web.
Secondaries—Reddish bay on the outside web, the inside web pencilled across with broad black marks, each feather ending with a rich black spot.
Breast and Thighs—Reddish bay.
Tail—Black.
Sickle Feathers and Tail Coverts—Rich black down the middle of the feather, the entire length edged with bronze, each bronze edge as near one-fourth the width of the feather as possible, the more distinct the two colors the better.
Legs—Slaty blue.

COLOR OF HEN.

Comb, Face and Wattles—Rich red.
Deaf ear—Pure opaque white, free from red on the edge.
Head and Neck—Clear deep golden bay.
Remainder of the Plumage—Clear, deep golden bay, free from either lacing or mottling; each feather (including tail feathers) distinctly pencilled across with rich black; the pencilling not to follow the outline of the feather, but to go straight across on each side of the shaft. The two colors distinct, well defined, and not shading into each other.
Legs—Slaty blue.

SILVER PENCILLED HAMBURGHES.

The same standard will apply to the Silver Pencilled Hamburgs, substituting a clear silvery white ground for a golden one. The silver cock as free as possible from yellow tinge.

PENCILLED HAMBURGHES.

POINTS IN COCKS.

Comb.....	3
Deaf ear.....	2
Color of plumage, except tail, sickle feathers and tail coverts.....	3
Color of tail, sickle feathers, and tail coverts.....	3
Symmetry.....	2
Condition.....	2
	15

POINTS IN HENS.

Comb.....	2
Deaf ear.....	2
Purity of color in head and neck.....	3
Purity of ground color, and accurate and distinct pencilling in every part, except head and neck.....	4
Symmetry.....	2
Condition.....	2
	16

DISQUALIFICATIONS.

Hen feathered cocks, crooked backs, wry tails, combs single or falling over to one side, red deaf ears, shanks of any other color except blue.

GOLDEN SPANGLED HAMBURGHES.

COLOR OF COCK.

Comb, Face and Wattles—Rich bright red.
Deaf ear—Opaque white.
Head—Deep reddish bay.
Hackle—Rich deep golden bay, each feather striped down the centre with rich green black, each color well defined, and not clouded.
Breast, Underpart of Body and Thighs—Golden bay, free from mousing, streaking, or lacing, each feather ending with a round, large, rich black moon or spangle, the moons increasing in size in proportion to the size of the feather.
Back and Shoulder Coverts—Rich deep reddish bay, distinctly spangled with rich metallic black, the texture of the feather giving the spangle a starry or rayed appearance.
Saddle—Rich reddish golden bay, each feather striped down the centre with rich metallic green black.
Wing Bow—Rich reddish golden bay, distinctly spangled with black.
Bars—The greater and lesser wing coverts clear reddish golden bay, free from lacing, each feather ending with a large, round, green black spangle, forming two distinct parallel green black bars across the wing.
Primaries—Bay, ending with a black spot.
Secondaries—Rich golden bay, each feather ending with a rich green black spot.
Tail—Black.
Nickle Feathers and Tail Coverts—Rich green black.
Legs—Slatey blue.

COLOR OF HEN.

Comb, Face and Wattles—Rich bright red.
Deaf ear—Opaque white.
Head—Golden bay, distinctly tipped with black.
Neck—Golden bay, each feather distinctly striped down the centre with rich green black, the colors distinct and not clouded.
Breast, Underpart of Body, and Thighs—Clear golden bay, free from mousing or lacing, each feather ending with a distinct, large, round, rich green black moon or spangle, the moons increasing in size in proportion to the size of the feather.
Back, Shoulder Coverts and Rump—Rich clear golden bay, free from mousing or lacing, each feather ending with a distinct large round rich green black spangle.
Wing Bow—Rich clear golden bay, each feather ending with a distinct round rich green black spangle.
Bars—Greater and lesser wing coverts rich clear golden bay, free from lacing, each feather ending with a large round rich green black spangle, forming two distinct parallel green black bars across the wing.
Primaries—Golden bay, each feather ending with a black spangle.
Secondaries—Golden bay, each feather ending with a rich green black half-moon or crescent-shaped spangle, termed by the Lancashire fanciers, "lacing on the top of the wing above the flight."
Tail—Black.
Tail Coverts—Golden bay, free from mousing or lacing, each feather ending with a rich green black spangle.
Legs—Slatey blue.
Hens in a pen to match as nearly as possible in size of markings and depth of color.

SILVER-SPANGLED HAMBURGHES.

COLOR OF COCK.

Comb, Face, and Wattles—Rich bright red.
Deaf ear—Opaque white.
Head—Silvery white.
Hackle—Silvery white, free from yellow tinge, the longest feathers ending with a small black spangle.
Breast, Underpart of Body, and Thighs—Clear silvery white, free from lacing or mousing, each feather ending with a distinct large round rich black moon or spangle, the moons increasing in size in proportion to the size of the feather.
Back and Shoulder Coverts—Pure white, free from yellow tinge, distinctly spangled with black, the texture of the feather giving the spangle a starry or rayed appearance.
Saddle—Silvery white, free from yellow, the largest feathers ending with a small black spangle.
Wing Bow—Pure white, distinctly spangled with black spangles.
Bars—The greater and lesser wing coverts clear silvery white free from lacing, each feather ending in a large green black moon or spangle, forming two distinct parallel black bars across the wing.
Primaries—Pure white, each feather ending with a distinct black spangle.
Secondaries—Pure white, each feather ending in a half-moon shaped green black spot.
Tail—White on the outside, each feather ending in a large black spangle.
Nickle Feathers and Tail Coverts—White, each feather ending with a rich green black spangle.
Legs—Slatey blue.

COLOR OF HEN.

Comb, Face and Wattles—Rich bright red.
Deaf ear—Opaque white.
Head—Silvery white, distinctly spangled with small black spangles.
Neck—Clear silvery white, each feather distinctly striped towards the end with rich black, each color well defined and not clouded.
Breast, Underpart of Body, and Thighs—Clear silvery white, free from lacing or mousing, each feather ending with a distinct large round black moon or spangle, the moons increasing in size in proportion to the size of the feather.
Back, Shoulder Coverts, and Rump—Clear silvery white, free from mousing or lacing, each feather ending with a distinct large round rich green black moon or spangle.
Wing Bow—Clear silvery white, each feather ending with a distinct round rich green black spangle.
Bars—Greater and lesser wing coverts clear silvery white, free from lacing or mousing, each feather ending with a large round green black spangle, forming two distinct parallel black bars across the wing.
Primaries—White, each feather ending with a distinct black spangle.
Secondaries—Clear silvery white, each feather ending with a large half-moon shaped green black spangle, termed by the Lancashire fanciers "lacing on the top of the wing."
Tail—White on the outside, each feather ending with a large round black spangle.
Tail Coverts—Clear silvery white, free from mousing or lacing, each feather ending with a distinct large round green black spangle.

Legs—Slatey blue.

Hens in pens to match as nearly as possible in size of markings and depth of color, &c.

POINTS IN SPANGLED HAMBURGH COCKS.

Table with 2 columns: Feature and Points. Features include Comb, Deaf ear, Color and marking of head, back, saddle, and tail, Breast, underparts of body, and thighs, Wings and bars, Symmetry, and Condition.

POINTS IN SPANGLED HAMBURGH HENS.

Table with 2 columns: Feature and Points. Features include Comb, Deaf ear, Neck most distinctly and evenly striped, Remainder of plumage (except tail in Golden) clearness of ground color, evenness and distinctness of spangling, with rich large round spangles in accordance with the foregoing rules, Bars, Symmetry, and Condition.

DISQUALIFICATIONS.

Hen-feathered cocks, crooked backs, wry tails, combs single, or falling over to one side, red deaf ears, birds without distinct bars across the wings. Legs of any other color except blue.

BLACK HAMBURGHES.

Comb, Face and Wattles—Rich bright red, the face perfectly free from white.
Deaf ear—Pure opaque white; round and small, fitting close to the face; not pendulous.
Plumage—Very rich glossy green black.
Legs—Blue or dark leaden blue.

POINTS IN BLACK HAMBURGHES.

Table with 2 columns: Feature and Points. Features include Comb, Head, and face, Deaf ear, Plumage, Shape, correct Hamburg shaped body and limbs, and Condition.

DISQUALIFICATIONS.

Comb falling over to one side, or so large as to obstruct the sight, red deaf ears, crooked backs, wry tails, or legs of any color except blue or dark leaden blue.

Entomology.

Use of Natural History.

A correspondent of the Scientific American paid a visit, in 1862, to Col. Pike, of Brooklyn, N. Y., an amateur naturalist. During the visit, the Colonel said: "I am very frequently asked what is the use of this study of natural history. Some of our very intelligent citizens say to me, 'How are you going to make anything out of this? What good does it do to catch butterflies?' Not long ago, I saw one of the wealthiest men in Brooklyn at work on the trees in front of his house. He had them all scraped and whitewashed at an expense of \$80. Said I, 'Mr. Hunt, what are you doing that for?' 'To keep off the worms,' he said. 'That's no use,' I remarked. 'Oh,' said he, 'I think it is.' Well, now, the insect was a Geometer, or measuring-worm; the moth that produces these worms, lays its eggs on the ends of the branches, and it is almost impossible to kill the eggs. The strongest northwest winds have no effect upon them; I have seen them in Maine, and it is difficult to crush them with your nail. When they hatch in the spring, the young worm eats off the tender leaves. You can judge what good the scraping of the trunk would do. I went by some months afterward, and Mr. Hunt was in front of his house, looking up at his trees, which had not a leaf on them, and I remarked, 'Your trees are looking finely, Mr. Hunt; the scraping was more profitable than hunting butterflies.'" —Practical Entomologist.

The Borer.

A "YOUNG ORCHARDIST" enquires what is the best time of the year to examine trees for "the borer." It is impossible to answer this question briefly, because there are hundreds of different kinds of borers, as different from one another as a horse is from a cow or a deer from a goat. Each has its own peculiar habits, and each is restricted to one certain kind or several kinds of trees. For example, there are two perfectly distinct borers that attack the apple tree, one of which is cylindrical and bores a cylindrical hole about the size of a goose quill, generally close to the

but of the tree, and changes to a long-horned beetle about an inch in length, striped with cinnamon-brown and white (Saperda divittata); the other is hammer-headed, and bores a much smaller hole, oval, and about twice as wide as high, anywhere in the trunk, or even in small limbs, three-fourths of an inch in diameter, and changes to a small, flattish, brassy-looking beetle, about half an inch in length, with very short horns (Chrysobothris femorata). The former is two or three years in the larva state, and consequently may be hunted for at any time of the year. The latter is only one year in the larva state, and therefore can only be found in that state in the fall or early in the spring, as in the latitude of St. Louis it becomes a perfect beetle about the latter end of May. Again, the borer of the peach tree (Clergia celtica) changes, not to a beetle like the true apple tree borer, but to a moth or "miller," and comes out at irregular seasons all through the summer, so that no fixed time can be set to find him. Lastly, the borer of the locust (Clytus robinia) is a long-horned beetle, like the true apple tree borer, and yet is distinct from all the above and is exclusively confined to that tree; for I have recently proved that the insect which bores the hickory, though it has always hitherto been confounded with the locust borer, is as different from that insect as a buffalo from our common horned cattle.

For my own part I do not believe in spending time in hunting for borers. I find it much more economical to prevent the mother beetle from laying her eggs in my apple trees, than to dig them out after they have hatched and done all the mischief. If "Young Orchardist" will take a bar of common soap—the newer and softer the better—and rub it on the trunks of his apple trees about the middle of May, he will find that no borer will lay its eggs there, and of course, "no eggs, no borers." My trees used to be badly bored up, but for the last four or five years I have followed this plan, and since that I have never been troubled by the borer. Dr. Fitch, the State Entomologist of New York, who first discovered this remedy, tried the experiment of soaping a certain number of trees in his orchard and leaving the others unsoaped, and next spring found all the soaped trees unbored and healthy, and all the unsoaped trees full of borers, and some of them killed outright.

I have tried this same plan with the borer of the peach tree, but it seemed to have no effect on that insect. This will not seem strange when we reflect that the apple tree borer, as has been stated above, is as widely distinct in every respect from the peach tree borer, as a hog is from a cow. Now we know that there are many substances which would be extremely offensive to a cow, which a hog would eat with avidity. Benj. D. Walsh.—Rural World.

Canadian Natural History.

BEAVERS.—In a paper on the habits of the beaver, read before the American Association for the advancement of science, Mr. L. H. Morgan, of Rochester, said that on the southern shore of Lake Superior, in Marquette County, he found remains of long canals and dams constructed by them for the purpose of transporting their cuttings, consisting of trunks of trees two or three feet long, from the place where the trees had fallen to their lodges. Some of these canals were 300, 400 and 500 feet long. They were generally three feet wide, with an average depth of three feet. In order to maintain a continuous depth of water, they made dams at certain distances, and followed the Chinese plan—to whom the lock was unknown—of drawing their cargo from one level to another.

LONGEVITY OF THE ROACH.—In the spring of 1859 a schoolboy friend of mine presented me with a roach about three and a half inches in length, which he had bagged without much injuring its mouth. It was carefully deposited in an aquarium in my office, holding four and a half gallons of water, and containing at the time two very small perch. In the course of time the perch sickened and died. Year after year has passed by, and the youngster who gave it to me has grown to manhood, and the roach is still to be seen wandering to and fro in his glass mansion. During the winter a small piece of meat from a sandwich is his usual meal; in the summer a common fly or daddy-longlegs is a great relish; and at other seasons, perhaps for a week occasionally, he gets nothing but what can be imbibed from his natural element. There are neither weeds nor water-plants of any description in the aquarium, and the water is changed but once a month, and frequently neglected for a longer period. I would add that the roach has not apparently increased in size, but has assumed a more silvery appearance, and the fins are gradually losing their pink tinge, doubtless from old age.—W. TIGHE, (Royal Laboratory, Woolwich, June, 10.)—The Field.

The Household.

Domestic Receipts.

We subjoin a few useful receipts, which at the present season of the year may be found serviceable, and help the thrifty housewife to make the best use of her materials and at the same time afford a little variety for the table. The first two are particularly applicable to the pig-killing season, and with regard to the first we will guarantee that if the directions are carefully followed the result will be a pork pie equal in every respect to the far-famed productions of Melton Mowbray.

RAISED PORK-PIE.—Boil two pounds of lard, in three pints of new milk. Pour the boiling mixture gradually upon eight pounds of flour, stirring constantly so as to incorporate the whole evenly together. Add a little salt and knead it well until it is smooth; cover the paste with a cloth, and let it stand and be kept hot for half an hour before the fire. Then raise the pie, that is to say, mould it with the hand according to the fancy. It is then ready to receive the meat, which should be prepared beforehand in the following manner:—Cut up the pork in small pieces, and season with one ounce of salt and a quarter of an ounce of pepper to three pounds of meat. One pound of meat to one pound of flour is sufficient for a pie of convenient size. Pour over the meat a pint of gravy made from the pork bones, mixing the gravy well with the meat before putting it into the pastry, or else add the hot gravy carefully by means of a funnel to the pie as soon as it comes out of the oven. This obviates the risk of the gravy running over in baking. Put the meat into the pie, and roll out a piece of paste for the lid, which should be closely pressed upon the edges, a hole being left in the centre. Bake in a moderately heated oven.

BRAWNS.—Carefully clean the face, ears and tongue of a pig; put them into pickle for three weeks; then steep them in cold water for one night; after which boil them for about four hours until the meat comes off the bones. Put the tongue in the middle of a tin mould; and lay the rest of the meat round it, after seasoning with pepper. Press with a sufficient weight for two or three days.

POTATO PIE.—Cut some potatoes into thin slices, lay them at the bottom of a pie-dish, then fill up with meat, previously cooked, cut in small pieces and seasoned. If the meat is uncooked it is better to place it at the bottom of the dish, and the potatoes on the top. Add a little gravy, or if not convenient, a little cold water will do. Cover the whole with a paste, made with a pound of lard or suet, to two pounds of flour. Rub these together and mix into a paste with water, stirring with a fork. Roll the paste half an inch thick. Bake in a moderately quick oven for an hour and a half.

RISOLS.—Chop fine any cold meat with a little fat; season with chopped chalom and parsley, and a little cream to moisten it. Boil the whole until thick with a little butter. Let it grow cold; then make it into rolls with a little flour. Dip the rolls in egg, then in fine bread crumbs, and fry in boiling fat until brown.

A WIFE AND HER HUSBAND.—A Mrs. Smith, having lost her husband, thinks that the best plan is to advertise, which she does after this fashion: "Lost, strayed, or stolen—an individual whom I, in an urgent moment of loneliness, was thoughtless enough to adopt as my husband. He is a good-looking and feeble individual, knowing enough, however, to go in when it rains, unless some good-looking girl offers him her umbrella. Answers to the name of Jim. Was last seen in company with Julia Harris, walking up the plank road, looking more like a fool, if possible, than ever. Anybody who will fetch the poor fellow, and bring him carefully back, so that I can chastise him for running away, will be asked to stay to tea."—*American Paper.*



Grape Soils.

DR. JOHN A. WARDER, President of the Ohio Pomological Society, has, in the report of the Society, made some very interesting remarks on grape soils, from which it appears that grapes may be grown on almost every variety of soil in a suitable climate, but that each soil has its peculiar kind of grape, which is better adapted to it than to any other situation.

It follows, therefore, that the great secret of success in grape culture is to select those varieties best adapted to the peculiar soil on which it is destined to plant, and this must be decided by the rigid test of experiment.

"Geologically," he says, "these plants appear to be equally diverse in their selection, for they are found upon the granites of Arkansas; upon the trap-pean rocks of Europe and Asia; upon the modern volcanic scoria of Italy, and of the Western Islands; upon all limestone formations of whatever age and character, upon the shales and sandstone of the coal measures; upon the chalk prairies of the Southern States; upon the tertiary sands and clays of the Atlantic coast, as well as those of the great western plains, and upon the half-formed tuffaceous rocks. Gravels and sands and clay diluvians also have their grape vines."

The Catawba, Diana, Ionia, etc., are adapted to clays, and the majority of the vine planters upon the lake shore prefer stiff clays. No matter how stiff, no matter how close, even if it be poor, hard, white clay, the successful cultivators in this region pronounce it good grape land, needing only thorough drainage to grow abundant crops, especially of the Catawba variety.

The Doctor remarks that it is the very common opinion, after many years' experience, of those who have been eminently successful in the culture of the vine, that the clay cannot be too hard and compact for the roots of the grape to penetrate. Among the plants which are an indication of good grape lands is the blue grass or *Poa compressa*, which always takes possession of such clays, particularly if they contain lime.

He says that the pioneer planter of the lake region even declares that those vineyards which were prepared in the most thorough manner by trenching, always heretofore recommended, are the most unsatisfactory in their results, and that the best and most productive are heavy soils, that were merely ploughed, and the roots were placed into holes dug into the hard and previously undisturbed clay, and then firmly trodden in at planting. Drainage, however, is necessary, it being preferred that the tiles be laid sixteen feet apart, or between the rows. To show that the variety of grapes which we chiefly cultivate love a clay soil, an instance is given of the vineyard of Mr. Buchanan of Cincinnati, where a pit was opened among the vines in the hard clay below the trenched soil. The clay was so hard as to be loosened with difficulty with the pick, and yet after reaching a depth of four feet an abundance of grape roots were found forcing their way through the unpromising soil. These facts are interesting and suggestive to those who are looking forward to the culture of the vine.

TYING UP ORNAMENTAL CLIMBERS.—The *Gardener's Monthly* advises that in tying up climbers to wire or other kinds of trellis or lattice-work, they should never be allowed to twine themselves in and about the meshes, as it is often necessary to take off the plant to paint or repair the trellis.—Half-hardy climbers, which require a slight protection in winter, may thus be easily taken down and coiled in a circular form at the roots of the plant, and covered with soil. Among these half-hardy climbers, we may mention the *Tecoma grandiflora*, *Ayrshire roses*, as well as many other varieties of the rose.—*Country Gentleman.*

Nova Scotia Fruit Growers' Association.

To the Editor of THE CANADA FARMER:

SIR,—Since the establishing of the "Dominion of Canada," it is but reasonable to suppose that the people of the heretofore isolated Provinces will feel a far greater interest in each other's welfare and prosperity, and what might have heretofore been considered a Provincial interest, is now a Dominion matter.

Of late years the cultivation of fruit, especially the apple, has become quite a matter of importance with us, and a very large number of orchards have been planted by our farmers. The trees have heretofore generally come from the United States, but we are now producing our own supply, and in a few years shall raise all we require.

Some four or five years since, the fruit culturists formed themselves into a society, called the "Fruit Growers' Association and International Society," and I am pleased to say that we are progressing very well under all the difficulties which surround us. We have annual exhibitions, besides monthly exhibitions of the smaller and earlier fruits.

Our last exhibition was a decided success, an account of which I forwarded to your office.

In order that the fruit grown in different portions of the Dominion may be compared, and that the apples may be rightly named, their growth, peculiarities and value properly understood, I send for examination a bag of apples containing forty-six sorts, two of each sort, and ask you to examine them and report at your earliest convenience. I enclose a list which will correspond with the numbers on the apples.

Many of them are old varieties, of standard value, but there are several new sorts which have lately been introduced here from the United States, whose value for cultivation is unknown to us. Perhaps you have some of the same sorts, and know more about them than we do. Nos. 28, 30, 36, and one marked Bishop Bome, are seedlings of this county. Are Nos. 10, 11, 12, 13, 16, 18, 20, 27, 32, 33, 35, 38, 40, 41, 42, 43, 45, 46, correctly named? If not, what are their proper names?

I sent the parcel of apples to Halifax, to be forwarded by express to Toronto, at which place I hope they will arrive safely. Any communication or remarks on the parcel of apples will be thankfully received.

C. C. HAMILTON.

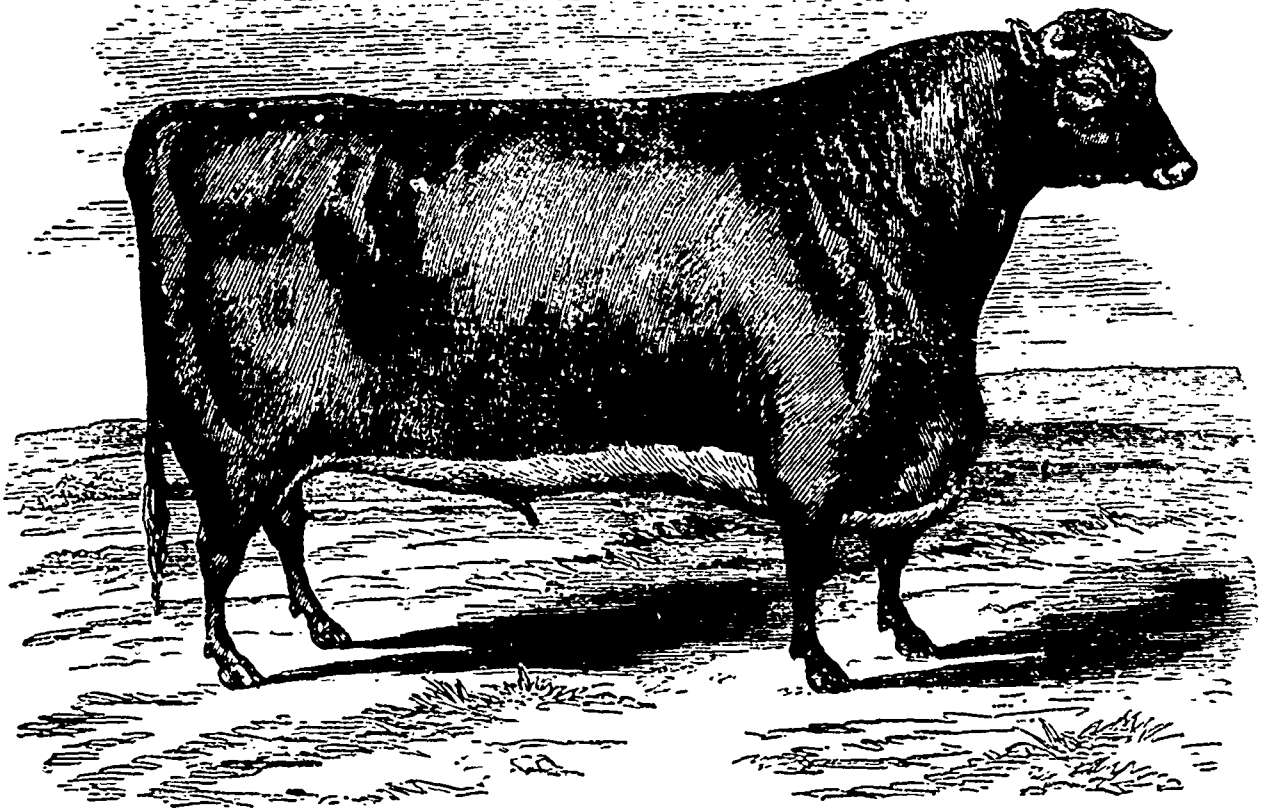
President Fruit Growers' Association.

CORNWALLIS, King's Co., N. S., Dec. 3, 1867.

NOTE BY ED. C. F.—We have much pleasure in receiving and publishing the foregoing communication from our friend in Nova Scotia, and heartily reciprocate the sentiment that our closer political connection may bring about a more frequent and intimate social intercourse. We have not yet received the samples of apples, but shall look for them with interest, and if they come safely to hand, we shall hope to submit them at the next annual meeting of the Ontario Fruit Growers' Association, to be held in January.

The following is the list of apples referred to:

NO.	NAME.	NO.	NAME.
1.	Gravenstein.	25.	Milster.
2.	Ribston Pippin.	26.	Swar.
3.	Yellow Bellefleur.	27.	Colvert.
4.	Baldwin.	28.	Calkin's Pippin.
5.	Rhode Island Greening.	29.	Bullone.
6.	Nippareil.	30.	Starr's Seedling.
7.	Flushing Spitzenburg.	31.	Keswick Codlin.
8.	Esopus Spitzenburg.	32.	Blue Pearmain.
9.	Pomme Grise.	33.	20 ounce apple.
10.	Northern Spy.	34.	Talman Sweet.
11.	Blenheim Pippin.	35.	Red Winter Pearmain.
12.	Pound Sweet.	36.	Bee's Beauty.
13.	Broadwell.	37.	Porter.
14.	Emperor Alexander.	38.	Sweet Pippin.
15.	King of Tomkins County.	39.	Autumn Beauty.
16.	Hubbardson's Nonsuch.	40.	Northern Spy } So called by
17.	Gloria Mundl.	41.	Northern Spy } the producers
18.	Yellow Newtown Pippin.	42.	Unknown Red.
19.	Herefordshire Pearmain.	43 or 44.	English graft, name unknown.
20.	Sweet Russet.	45.	Roxbury Russet } last two, so
21.	Drap d'Or.	46.	Roxbury Russet } called by
22.	Golden Russet.		the producers of the apples.
23.	Delaware Harvey.		
24.	Mother.		



"DUKE OF BOURBON."

First Prize Durham Bull, at the recent Provincial Exhibition. The Property of JOHN SNELL, Esq., Edmonton.

Stock Department.

"Duke of Bourbon."

FIRST PRIZE TWO-YEAR OLD DURHAM BULL.

WE have received from Mr. Snell a photograph, which he considers a good representation of his fine bull, "Duke of Bourbon," and which our artist has faithfully copied in the accompanying illustration. This noble looking animal was the winner of the first prize as a two year old bull at the Provincial Exhibition at Kingston, and also the Sweepstakes prize for the best Durham Bull of any age on the same occasion. He had won distinction previously, as a calf by taking the first prize at the Bourbon County, Kentucky, Fair in 1865, and in 1866 he took the second prize as a yearling at the Provincial Exhibition in Toronto. The following is the pedigree furnished with the photograph by his owner:—

"Duke of Bourbon" 184, red, calved 31st December, 1864, bred by George M. Bedford, Esq., Paris, Bourbon County, Kentucky, the property of John Snell, Edmonton, Ontario. Sire Clifton Duke, 3760, Dam Queen Mary Fourth, by Duke of Airdrie, 2713, G. Dam Queen Mary by King Cyrus, 609, Gr. G. D., Sarah by Young Paragon, 1155, Gr. Gr. G. D., Miranda by Ashland, 220, Gr. Gr. G. D., Imported Harriet by Young Waterloo (2317),—by Hero, (1110.)

Breeding of Twins.

A CORRESPONDENT of the *Albany Cultivator* writes as follows:—

Having had more experience in breeding twins than usually falls to the lot of one man, it may be as well to corroborate what is stated by J. W., excepting that twin sisters generally have bred well with

those under my charge. In 1840, I bought a bull-calf from a breeder of shorthorns, which was a twin with a heifer calf; the cause for my buying him was my employer grumbled at high prices, and I got him for less money. This animal was a sure stock-getter, but, though his progeny were several hundreds, he sired no twins. However, when the heifers of his getting became two years old, I used a bull which I bought the previous season as a calf from the same herd. This second bull was a single calf; he got no twins excepting from the heifers by the twin bull, and about two-thirds of them brought two calves at a birth, and the ones of the succeeding years did the same, so that there were scores of twins—not one of the heifers ever breeding when she had a twin brother, much to my disappointment, as it prevented continuing to bring into the milch herd the descendants of some of the best milkers. Consequently, I would not care to use a twin bull again.

We called these heifers "martins;" they make fine beef, their horns grow rather like an ox's.

Being on the subject of twins, it may not be uninteresting to state that one of my great uncles, who rented a farm at "Edgecott" of old Esquire Carter, which is some of the best grass land in Northamptonshire, had a flock of pure Leicester sheep, which, by breeding from none but twin ewes, and weeding out all the while for years every one coming single, he succeeded in having about sixty-four bring twins out of seventy, and enough having three to make up for the others; however, the Downs and Dorsetshire horned ewes will bring many more lambs than the Leicesters, especially the Dorsetshires, which will also breed twice a year if fed well. The having twins in the flock makes no difference to the females when a male is born with them.

The laws of nature are singular. Mules are produced by a great many crosses, besides the horse and the ass—that is, animals which like mules won't breed.

Working Bulls.

I HAVE one of Emery's endless chain powers to drive my hay cutter. My bull is an Alderney, two years old, weighing a little over 900 pounds. I put on the brake and had him led into the power, where he had a small feed of oats given him. While he ate these he was groomed and caressed. This was repeated two or three days in succession. Then, while he was eating, the brake was slacked a little, and as the floor moved down, (slowly, so as not to alarm him,) he stepped up to keep his muzzle at the oats. At the fourth lesson, he walked an hour, and cut hay enough to last my stock—some eighteen head in all—two or three days.

I have not had the slightest trouble, and so much does he appear to like the exercise and the pleasant remembrance of the reward of good behavior, that I shall not be surprised if, when he happens to find the door open, he should go in and "run the machine" on his own account. I intend to put up a circular saw and let him cut my fire-wood.

Now for the advantages: The pampering and confinement which makes a horse run away, will, in time, make a bull devilish. The work I give him requires no harnessing; it is only an hour's walk up a hill of 13° elevation. It gives him an outlet for his superfluous spirits, it keeps him "in hand" and gentle, it wears away the growth of his hoofs, develops his muscle, and improves his health. Have I not a right to expect my herd to be benefitted by such management? I thought so before I knew Prof. Agassiz' opinion.—*Cor. Country Gentleman.*

A fat cow of Durham grade was recently slaughtered in London, which weighed, when killed, 1,950 pounds, and yielded 310 pounds of rough tallow.



Straw for Fodder.

To the Editor of THE CANADA FARMER:

Sir,—In the supplement to the *Mark Lane Express* of 21st October last, there appears a very lengthy and seemingly able article on the composition and feeding value of straw, by a Dr. Charles A. Cameron, M.R.I.A., delivered before a Farmers' Club in Ireland. The misery suffered by farmers and their stock during the winter of 1866, and the spring of this year in Canada East, renders any information on the nutritive value of the various kinds of straw of immense importance to the farming interest, and the more so in this part of our Dominion, as the majority of farmers are necessitated to carry on their business with the veriest minimum of capital, and notwithstanding this, the feeding value of straw seems not to be known to them. If you could find a place in your very useful journal for the article I have spoken of, if not in whole, it would, even in a condensed shape, be of great value to the denizens of our sparsely reclaimed forests. There is also another straw, not touched on by Dr. Cameron, but largely grown in Canada East, I mean buckwheat straw, of which we have two sorts, and if your own experience, or that of any of your numerous readers, will enable you to include them, or make them the subject of another article in the CANADA FARMER, you will be diffusing information on a subject that is very much needed.

W. M.

NOTE BY ED. C. F.—The article referred to is too long for insertion in the present number, but will appear as soon as possible in a condensed form, adapted to the requirements of Canadian farmers.

DYEING SHEEPSKINS.—A lady asks:—"Will you please inform me as to the method of dyeing sheepskins with the wool on?"

ANS.—We are unable to answer this inquiry. Can any of our subscribers give the desired information?

HARD AND SOFT FOOD.—The following enquiries have been addressed to us over the signature "C":—"In the feeding of stock I think there are some fallacies, which your replies to the following questions might help to remove:—It is considered necessary to finish pigs with whole peas or corn in order to harden the meal. Would the pork not be as hard if the peas were ground into meal? We often hear a man remark that his horse is soft, and must have hard feeding, which means hay and whole oats. Now, if the oats were crushed, would the horse be less fit for work on the road? What is soft feed and what is hard? Are ground peas, corn, or rye, soft feed? Why are oats the best food for horses? And would not other grains, or mixtures of grain, containing the same amount of flesh, fat and bone, be as good?"

ANS.—There cannot be any advantage in feeding whole grain, especially of the harder varieties, over the same food crushed. Crushing is merely a mechanical operation, and cannot certainly influence the essential nature of the food, or its physiological effect in giving firmness, or otherwise, to the muscular fibre or flesh. Grain is therefore just as much "hard" food, to use an unscientific and not very appropriate term, as regards its effect on the system, whether whole or crushed. The latter, however, has no small advantage in being much more easy of digestion, and more completely assimilated. The excrement of animals fed on whole grain, as pigs and chickens know very well, contains a large quantity of undigested grain, which would therefore be wasted as food, but for the assistance of the poultry and swine aforesaid. The use of crushed grain will be found both economical

to the farmer and beneficial to his stock. We do not like or use the terms "hard and soft food" in the sense in which they are frequently employed, and will leave others to define them. Oats contain a large proportion of nitrogenous or flesh-forming ingredients, and are consequently among the most nutritious articles of food for the horse. Beans are even superior. But all animals derive considerable benefit from a mixture and change of food. A degree of variety is indeed essential to good health. There is no doubt that many horses and other domestic animals are often too exclusively fed on one kind of diet.

To the Readers of "The Canada Farmer."

Subscribers to "THE CANADA FARMER" will please observe that this Issue is the last of the year, and that the next paper will not be sent to any one who does not remit for 1868. Our Club terms will be found advertised elsewhere. Persons engaged in getting up Clubs are requested to close up their work at once, so that subscribers may receive their papers without delay.

Bound Volumes.

The current volume of "THE CANADA FARMER" is now ready, consisting of 24 numbers, and comprising 387 pages of reading matter in a bound form. The binding will be charged 30 cents in addition to the subscription price, making \$1 30 in all for the volume. Parties desirous of having their Nos. for the present year bound, will please send them to us prepaid, securely packed, with their name and address, together with 30 cents in stamps or otherwise, and we will return them bound. Vols. I, II, and III, containing the numbers for the years 1864, 1865 and 1866, as well as the volume just completed, may also be had in bound form at \$1 30 per volume.

The Canada Farmer.

TORONTO, CANADA, DEC. 16, 1867.

Our British Exchanges.

As our readers are well aware, this journal is much indebted to the British press for items of information, choice extracts, and valuable articles on agricultural and horticultural topics. We invariably make acknowledgment of the sources whence we derive our selected matter, but have never given any detailed account of the periodicals that are published in Great Britain in the interests of the farm and garden. Very briefly we propose now to do this.

The *Mark Lane Express* must be put at the head of our list. It is wholly devoted to practical agriculture and the markets, barring the briefest possible digest of the more important news of the week, and a "MISCELLANEOUS" page, which contains choice cullings of literature, history, anecdote poetry and wit. It is a weekly journal, and the issue of Nov. 18, 1867, now on our table, is No. 1873, so that it is in its 36th volume. Its editorial articles are of the highest order, and its correspondence also is first-class. It contains weekly reviews of the home and foreign corn trade, and market price lists from all the great cities, towns, and more important agricultural centres in Britain, Europe, and the United States. Its advertising columns are highly illustrated with engravings of implements, &c., and are often so crowded as to necessitate the issue of a four page supplement. It is the highest authority in Britain on all subjects pertaining to the farm and markets. Any Canadian wishing to subscribe for this excellent journal, can do so, by sending a P. O. order for £1 1s. 4d. sterling annually, to George Parker Tuxford, No. 246 Strand, London, W. C.

We are at some loss which of several papers to name next, but on the whole must give our prefer-

ence to *The Farmer*, formerly *The Scottish Farmer*. This journal is also a weekly. Its page is the same size as the CANADA FARMER, but each number contains thirty-two pages, just double our number. It is printed on paper of the best quality, in beautifully clear type, a large proportion of it leaded, while it is illustrated with a goodly number of admirably executed wood cuts. Until about three years ago, *The Scottish Farmer* and *North British Agriculturist* were very similar journals; but on changing its name to *The Farmer*, the first-named periodical struck out a new line of things for itself, and shot far ahead of its rival. It became a journal of the forest, field, and fireside, as well as of the farm and garden, and devoted considerable space to natural history, outdoor sports, recreations, &c. It is not so severely practical as the *Mark Lane Express*, yet its market reports are most carefully prepared, and brought up to the latest moment by extras in the form of one column slips, one or more of which are contained in almost every number. It is conducted with much vigor, intelligence, judgment and taste. Like the journal first named, its advertising department is profusely illustrated, and largely patronized. It is printed and published by John Grant, 26 Cockburn Street, Edinburgh. Price, four pence per number, stamped, five pence. We observe no advertisement of the yearly subscription price.

The *North British Agriculturist* is an exceedingly well conducted journal, and although inferior in quality of paper and general typographical appearance to *The Farmer*, is equally able in its treatment of all subjects which it deals with. It scarcely touches horticulture, and does not go into matters of amusement and taste; but it has a wider scope of news, and takes a general survey of things, often containing very valuable articles on great public questions, and advocating very sound common-sense views. Its veterinary department is very valuable, and cannot fail to maintain for the journal a high reputation. It has full and well prepared market reports, and judging by its advertisements, must have a good circulation. Published by David Guthrie, No. 377, High Street, Edinburgh. Price not stated.

Bell's Weekly Messenger is a long established and ably managed journal, largely devoted to agricultural matters, but still bearing many of the characteristics of a general newspaper. Its corn trade reviews and markets are well done, and of high authority among the farmers and grain dealers of Britain.

The Field is a splendidly got up journal, the costliest of its class, and is largely devoted to hunting, racing, and sporting in general. It circulates mainly among the nobility and gentry, and is what it professes to be, "the country gentleman's newspaper." It devotes considerable space to agriculture, horticulture, and rural affairs. Whatever it contains on these topics is first class. But it smacks far more of horses, dogs, guns, fishing rods and athletics, than it does of the plough, harrow, spade, rake, and practical matters.

The Gardener's Chronicle and Agricultural Gazette is, as may be gathered from its title, chiefly devoted to gardening, though it deals also to a less extent with farming affairs. It is a solid, sensible, well edited, useful paper, and deserves fuller notice and higher commendation than we have space at command to give it.

The Journal of Horticulture, Cottage Gardener, and Country Gentleman, leaves the farm to take care of itself, and bestows its entire attention on the garden, poultry-yard, and apiary. It is very full on the two latter topics. Canadian beekeepers who have any curiosity to know what is going on in this direction in England should subscribe for this journal. It is issued weekly—3d. stg. per number, stamped 4d. Office, No. 171 Fleet Street, London.

The Farmer's Magazine, an octavo monthly, is made up from the columns of the *Mark Lane Express*,

and consists of the more permanently-valuable articles which appear in that journal. Each number contains two steel plate engravings, one of some prize animal, and another usually of an artistic, instructive, or even amusing character. Its price is 2s 6d per number.

The Gardener's Magazine is issued weekly, or, with coloured paper cover, in monthly parts. It is conducted by Shirley Hibberd, whose name, wherever he is known, is a guarantee as to the excellence of any periodical or work on horticulture. Its calendar of operations for the week renders it very valuable for English readers, though of course it is utterly inapplicable here.

Besides the above-named periodicals devoted to agriculture and horticulture, there are other journals that bestow more or less attention on rural topics.

The Illustrated London News contains full accounts of the great shows of cattle, implements and produce, and occasionally furnishes choice engravings in connection with these accounts. Local newspapers are more or less given to noticing matters of interest to farmers and gardeners.

We purposed dwelling on some of the features of the class of journals above named, but have more than occupied the space we meant to devote to this subject, and will only remark that they contain articles of greater length, and of more solid and even scientific character, than would be thought interesting or perhaps tolerable by readers of agricultural journals this side the Atlantic.

It would be mock modesty not to confess how greatly we have felt flattered and encouraged by the notice taken by several of the above-named journals of the CANADA FARMER, and the copious extracts made by them from our columns. We refer not merely to items of information about Canadian Agriculture, but to articles discussing the principles and practice of farming. Several of our "Familiar Talks on Agricultural Principles" were copied, always with acknowledgement, and sometimes with complimentary expressions. This was especially the case with the *Mark Lane Express*. If at any time we had felt tempted to depression, since the commencement of our labours on the CANADA FARMER—which by the way we have had no reason to do—this circumstance would have put new life and vigour into us; and it may surely be taken by our readers, as at least one evidence that they have, in the contents of this journal, good value for the small outlay it costs them.

The Weather.

At the time of our going to press with our last issue, which, as the CANADA FARMER is uniformly stereotyped, was some days prior to the date it bears, there were, as we intimated, but few signs, except the leaflessness of the trees and the death of vegetation generally, to indicate that winter was upon us. But as November silently glided into December, a mighty change came over the scene. The two or three closing days of November were cold and frosty, and the night that ushered in December was keen enough for mid-winter. So was the night following, the thermometer marking at Hamilton 6° below zero. Ever since, up to the time of going to press with this number, Dec. 12th, all the appearances indicate that winter has set in. Indeed this is the severest day we have yet experienced, the thermometer being in Toronto 6° below zero at noon. The great peculiarity of the season is the scarcity of water. We have not had the usual fall rains. The swamps are dry. So are multitudes of wells. Creeks that always have a winter flow, though they dry up in summer-time, are wholly innocent of water, and streams depended on for motive-power are so low, that many saw, woollen and grist mills are idle, to the great loss and detriment of their owners. The distress in some quarters is great from want of water. We hear of farmers in certain localities having to drive their cattle

eight miles for water, and being compelled to team supplies for the house that long distance. This condition of things is general, but by no means universal. We believe that all through the northerly sections of the country there is abundance of water, and the state of the rivers that flow southward would indicate no lack at their sources. It is, however, a very singular circumstance that winter should have apparently closed in so early, and that we seem likely to pass out of dust into snow. We invariably count on a time of inconvenience with muddy roads late in the fall, from which sleighing is a welcome escape. At this writing, there is capital wheeling in most parts of the country; while in some localities there is good and in others bare sleighing. Weather-wise people predict another break-up yet before we have established winter, or failing that, a thorough January thaw. We shall see. Meantime, the characteristics of the season that is passing over us are certainly remarkable, and we shall find perhaps that they will have some influence in shaping next spring-time and harvest.

Information Wanted for Emigrants.

We have received from A. C. Buchanan, Esq., the Government Emigration Agent at Quebec, a copy of a letter addressed to him by a Scotch correspondent, and which he has forwarded to us for publication in the CANADA FARMER, in the hope of eliciting from some of our more experienced and observant farmers the information which the writer desires, and which is needed in the old country for the guidance of persons intending to emigrate. The letter addressed to Mr Buchanan is written from Perth, Scotland, and is as follows:—

Sm,—I intend removing to Canada as soon as I can get my affairs here wound up, probably in the spring of 1869, and would feel obliged if you can direct me to any pamphlet or work on Canada having special reference to the returns in farming, stocking, necessary expenses of labour, marketing, &c. I have a copy of the "Emigration Gazette" for 1867; but while it supplies most valuable information, I think it much too general in its nature. If you could include in it the balance sheets of a few farms of various sizes, and in different localities, I believe it would enable many here to arrive at a business-like opinion of the advantages of settling there, in preference to the United States or Australia."

It is much to be regretted that so few Canadian farmers keep farm accounts; but though their number is small, there are those who adopt this most important method of recording and estimating the results of their operations. We should be glad to receive from parties of this class, and to publish, such particulars relating to Canadian farming as the writer of the above letter refers to, and which would, no doubt, prove extremely valuable to practical men at home, especially to those who are contemplating a removal to some other country.

One Way of Gaining Information about the Farming Interest.

Mr. T. S. Gould, Secretary of the Connecticut State Board of Agriculture, has issued a circular asking information from all parts of the State on the following points:—

What breeds of cattle are most common in your section?

What breeds are most esteemed, and for what purposes are they employed?

Method of rearing calves, and feeding cattle for work, dairy or beef?

Training of steers and use of working oxen?

System of dairy management, with amount of produce and value?

Cost of rearing cattle and their annual keep?

Are most of your cattle raised or bought, and from what source?

At what age are your cattle sold and in what markets?

Give account of any remarkable animals within your knowledge, with history of their origin?

The answers obtained will be embodied in the report of the Board for the current year, and in this way it is hoped much useful information will be collected and disseminated. We publish this item as a hint and an example, both as to the method of collecting and making known desirable facts in practical agriculture, and an illustration of one mode in which the Board of Agriculture can make themselves useful.

MOORE'S RURAL NEW YORKER.—In another column our readers will find a full advertisement of the well-known Agricultural and Family paper, *Moore's Rural New Yorker*, which we cordially commend to their notice. This excellent Journal has been long established, and takes deservedly a high place amongst the many able and interesting Journals which issue from the United States Press. Besides agricultural matter, it contains a large amount of interesting general reading.

THE AMERICAN DAIRYMEN'S ASSOCIATION.—We publish the following notice on the authority of the *Utica Weekly Herald*:—The next Convention of the American Dairymen's Association will be held at Utica, on the 8th and 9th of January, 1868. The annual address will be delivered by Prof. Wm. H. Brewer, of Sheffield Scientific School, Yale College. Subject: "Cattle Breeding in its Relations to Dairy Farming." The prospects are that there will be a large gathering of Dairymen and others at this Convention, and the address by Prof. Brewer will be well worth hearing, and of itself must induce many to be present. Those desiring information in regard to the discussions, &c., at the Convention, can address the Secretary, Mr. G. B. Weeks, Verona, who will be glad to reply to any inquiries.

POULTRY ASSOCIATION.—A meeting of the Poultry Association was held at the Agricultural Hall on Friday evening, for the purpose of electing officers for the ensuing year. The following gentlemen were elected.—President, Mr. A. McLean Howard; Vice-President, Mr. Alexander McNabb; Auditors, Messrs. G. D. James and T. McLean; Secretary, Mr. J. Ellis; Asst. Secretary and Treasurer, Mr. J. K. McDonald. Lieut.-Col. Hassard resigned his position in the society in consequence of the pressure of military duties. It was afterwards resolved, on motion of Mr McNabb, seconded by Mr. Graham, that Lieut.-Col. Hassard be made a life member, as a slight acknowledgment of his services to the association and the efforts made by him towards its formation. We are glad to learn that though no longer holding special office, the late Secretary will continue to take an active interest in the Society which owes so much to his indefatigable exertions.

BRITISH AMERICAN COMMERCIAL COLLEGE.—We direct attention to an advertisement in the present issue respecting the British American Commercial College, and have much pleasure in commending this very important and useful institution to the notice of farmers and their families, as well as to the members of the commercial class for whom it is more especially designed. Farming, to be successful, must be carried on, like any other calling, on true business principles, and it is to the neglect of regular accounts and correct calculations that so many failures are due. No young farmer should think his education complete without a competent knowledge of at least the elementary principles of commercial science, and the acquisition of a good handwriting. We very cordially bear our testimony, from personal knowledge, in regard to the efficiency of the instruction given in the College, under the superintendence of Messrs. Muggrove and Wright. Young farmers cannot do better than devote a portion of the comparative leisure of the winter months, where they have the opportunity, in acquiring the practical knowledge of business which such an institution will supply. If they have not time to go through the whole course and obtain a diploma, they may yet in a few weeks acquire an amount of information and practical skill which will be useful to them through life, and in any calling.

Agricultural Intelligence.

Irish Agricultural Statistics.

The following statistics are both interesting and suggestive.

According to the census of 1861 the surface of Ireland was divided as follows:—

Arable land	12,464,200 acres
Plantations	4,296,735 "
Cities, &c.	42,929 "
Rivers and lakes	430,823 "
Miscellaneous	574,492 "
Total	17,809,279

Of this only 5,672,980 acres were then under cultivation, and that held in the following way:

1 acre holdings	39,210
2 "	74,141
3 to 15 "	104,006
15 to 30 "	127,529
30 to 50 "	99,886
50 to 100 "	48,681
100 to 200 "	20,575
200 to 500 "	9,616
Above 500 "	2,487
Total	523,001

In 1854, the total value of live stock in Ireland was computed at £30,085,082 sterling, showing a falling off in value of £5,000,000 (five million) in five years.

In regard to the present state of agriculture in Ireland the Registrar General has made the following return to the British Government, dated Sept. 12, 1867:—

The total acreage under all crops in 1867 was 6,468,945
The total acreage under all crops in 1866 was (revised numbers) 6,920,568

Showing a decrease in the extent under crops in 1867 of 61,623

Compared with 1866 the area under wheat decreased by 37,282 acres, oats by 40,283 acres, bere and rye 415 acres, and beans and peas by 1,327 acres. Barley increased by 20,411 acres. In green crops the area under potatoes diminished by 48,808 acres, and cabbage 12,510 acres, Turnips increased by 18,513 acres.

From the same returns it appears that while there has been a decrease of 61,623 acres in the total area of land under crops in 1867, compared with 1866, grass has increased by 52,828 acres, fallow by 772 acres, bog and waste (unoccupied) by 13,176 acres. Woods and plantations show a decrease of 5,153 acres.

The returns of live stock for 1867, compared with 1866, show a decrease in the number of horses of 13,451; of cattle, 43,799; and of pigs, 263,381; and an increase in the number of sheep of 651,733. This increase in sheep is spread over every county in Ireland.

The total estimated value of horses, cattle, sheep, and pigs this year was £35,035,224, being a decrease of £114,491, compared with 1866.

These statistics of diminished acreage under cultivation are a sign of capital withdrawn and demand for labour so much lessened; for land under cultivation yields four times the amount of employment as compared with that permanently in grass.

This will always take place where there is insecurity. Fenian troubles and chronic uneasiness and threatenings of revolution and confiscation, naturally make men chary of being at much expense with their land, and such has long been the condition of Ireland. It is very curious that in the north of the island, where the land is comparatively barren—comparatively we say—there is prosperity and general contentment, while in the fertile south there is nothing but decay, depression, distrust and disorder.

The man who will solve the Irish social problem successfully will be a world's benefactor. Meantime, it is very clear that windy liberators who bawl themselves hoarse with outcry about wrongs they do not understand, and trade on ignorance and poverty which they use for their own selfish purposes, are not the men to bring round this result.

Agricultural Statistics for 1867.

The following has been issued from the Statistical Department of the Board of Trade:—

Agricultural returns for Great Britain in 1867—These returns have just been made up, and under corn crops of all kinds there were in England and Wales 7,947,678 acres, against 7,921,244 acres in 1866; and in Scotland 1,367,012, against 1,366,540 acres in 1866. The land under wheat is returned for England and Wales at 3,255,917 acres, against 3,276,293 acres in 1866; and for Scotland at 115,118 acres, against

110,191 acres in 1866. The number of cattle is returned for England and Wales as 4,017,790, against 3,843,435 in 1866; and for Scotland as 979,170, against 934,401 in 1866. Sheep are returned for England and Wales to the number 22,097,286, against 16,793,201 in 1866; and for Scotland to the number of 6,893,603, against 5,255,007 in 1866.

The large increase in the number of sheep returned in 1867, as compared with the previous year, is to be accounted for by the fact that the returns in 1866 were made, for the purpose of the cattle plague inquiry, at a date preceding the lambing season in some parts of Great Britain.—*Farmer* (Scottish.)

Combing Wools.—American & Canadian.

The New York *Economist*, a paper devoted to the protection of manufactures, has the following in its issue of the 10th ult:—

“Domestic combing sells at low prices; American manufacturers have found they can use combing wool if it is not raised in Canada, and that class of domestic wools which a year or two ago they thought they could not use at all, they now buy freely. The poorest kind they will take at about fifty cents per pound, and so up to fifty-five. Good Cotswold and Leicester is worth about sixty cents. There is little of this, however, in the market, and the best Canada will not bring over sixty-five cents. There is a sermon with a moral and a very big truth combined in that word sixty-five. During the time of the Reciprocity Treaty, when gold was no higher than now, Canada combing sold for ninety-five cents. Then there was no duty of ten cents and ten per cent ad valorem, making about eighteen cents per pound currency, and yet the wool is thirty cents less. The Canada farmers made money out of the reciprocity treaty. The American farmer now makes something out of his rough, coarse wool, and if he would only take a little more pains with his rough, coarse wool, by obtaining for his ewes a full blooded Cotswold or Leicester ram, he would soon have the American market to himself and a fair price for his wool. We do not think the American ought to despair about his wool crops.”

There is a sermon with a moral in that word sixty-five cents, but it teaches the American farmers a different lesson from the one inculcated, to wit: that high duties give him better prices for his wool, and ultimately the market to himself. When the Canadian got ninety-five cents for his wool, American Merino was worth one dollar.

There is a meanness about American manufacturers that I can't comprehend. I sent to Boston last year seventy fleeces from the backs of sheep imported from Canada. I was told it was first rate, but I only got 65 cents when Canadian wool was seventy-five. I sent the fleeces of the same sheep this year, with a protection of eighteen cents per pound, and I am told there is no sale, and the best United States combing is fifty-two to fifty-five cents. For very common fleeces last year I got forty cents; now I have no offer, much less fifty cents.

Let me tell you a practical fact. I saw in your office last year, a strip of very long wool. I asked you what it was. You said it was Cashmere. We walked to it and found it to be Cotswold, with the name of the owner—a Canadian—beneath; it measured eighteen inches long. I sent to the owner, got from him a pair of his lambs, on which I paid a duty of twenty per cent. gold. I sent the fleeces of these two sheep, one weighing sixteen pounds and the other over eleven, with the rest of my wool to Boston, and called the attention of the commission merchants to them, without saying where I got them. I am curious to know if the Canada owner will not get a price in Boston above mine, which will equal the duty he has to pay.

If manufacturers suppose we can be gulled by such stuff as I have quoted, I hope they will find out their mistake. Canadians in Iowa tell me that they can raise wool from combing sheep in Iowa at least as cheap as they did in Canada. I believe them, and if that be so, restore the Reciprocity treaty. Let us import Canada sheep, duty free, and if our manufacturers will pay more for Canada wool than United States combing wool, we can ship ours by the Grand Trunk and sell it to them in Toronto as Canada combing.—*J. G., in Prairie Farmer.*

Over 40,000,000 gallons of sorghum syrup are annually manufactured in the United States.

Ireland is exporting large quantities of oats to France. This is a new turn to the commerce between the two countries.

It is said that “vegetable gas” has been invented which gives a brilliant light, has no offensive smell, and can be generated in any ordinary kitchen range.

THE MUD CROP OF PARIS.—Among the many economies of municipal administration in Paris is the sale of the yearly “mud crop.” In 1823 this yielded only \$15,000. It now brings \$120,000, and when left for some time in rotting tanks is sold for manure, at the increased value of \$600,000.

FRAUDS IN SE LING WOOL IN CALIFORNIA.—The *San Francisco Bulletin*, Aug. 2nd, states that extensive frauds have been discovered in selling lots of wool purchased and weighed at Red Bluff, Marysville and other places. They were found to have lost from seven to thirteen per cent. on being again weighed at San Francisco, and careful investigation disclosed the fact that the growers or packers at the first named places sprinkled water on the fleeces before baling. The fraud is said to be difficult to detect without careful examination. It is to be hoped the perpetrators of it will be adequately punished, and their names should be published, to hold them up to public contempt.

ROYAL AGRICULTURAL SOCIETY—PRIZE ESSAYS.—The following premiums for essays and reports, which are to be sent in not later than the 1st March next, have been offered by the Royal Agricultural Society of England:—

1. Farming of Middlesex.
 2. Improvement of grass lands.
 3. Woods, mountains and wastes.
 4. The domestic economy of the agricultural labourer.
 5. Preservation of timber.
 6. Arable and grass lands.
 7. Retention of moisture in grass lands.
 8. Succession of green crops.
 9. Devon breed of cattle.
 10. Leicester breed of sheep.
 11. Any other agricultural subject.
- The amount of the prizes varies from ten to thirty guineas.

THE MASSACHUSETTS AG. COLLEGE.—This institution was opened for the reception of students the first week of October. A goodly number of young men applied for admission, so that, as far as numbers are concerned, the opening may be considered auspicious; and if the course of study and training accomplishes all that is expected by the friends of the institution, there is no danger but that the number of students will increase as fast as there is accommodation for them. According to a circular issued by President Clark, the daily routine at the college for this term is as follows:—At 6 A. M., bell for rising; at 7, breakfast; at 7.45 prayers; 8, recitation in chemistry; 9, recitation in geometry; 10, recitation in physiology; 11, exercises in gymnastics or military tactics, on Mondays, Tuesdays, Thursdays and Fridays, and in agriculture on Wednesdays; 12.30 P. M., bell for dinner; 2, study or labor, till 5 P. M.; 6, supper. On Saturdays, exercises in reading and spelling at 8, exercises in English composition at 9, and at 10 an exercise in agriculture, and the remainder of the day, from 11 o'clock, is devoted to recreation. On Sundays, attendance at church will be required in the forenoon, and in the afternoon a Bible class. Every student is expected to labor six hours a week, without pay, for the purpose of learning the operations of the farm and garden; and any student will be permitted to labor for wages for twelve hours a week, provided it does not interfere with his studies, and will be furnished with work at vacation, at fair prices, when desired.—*Country Gentleman.*

FLOUR IMPORTED INTO NEW BRUNSWICK.—The following figures, compiled from reliable sources, make up a significant statement of the movements of the flour trade during the past three years. In 1865 there were imported into our Province.

From the United States	205,373
From Canada	28,000
Total	233,373

In 1866 the importations were—

From the United States	69,915
From Canada	144,399
Total	214,314

In 1867, for nine months ending September 30, the importations stood as follows:—

From Canada, via Portland	123,219
From Canada, via Boston, and New York	11,686
From Canada, via Shelburne	5,500
Total from Canada	140,405
Total from United States	16,921
Total for nine months	157,326

Up to 1866 our flour imported came almost entirely from the States: in that year the course of trade changed, and the imports from Canada were considerably in excess of those from the States; and this year, or, at least, up to the end of September, the quantity of American flour imported represents but a tithe of the whole. We notice, however, that a number of merchants are again advertising American brands on hand and to arrive.—*N. B. Journal.*

Miscellaneous.

Empirical Nostrums.

It is pitiful to see how intelligent men and women will allow themselves to be fooled—there is no other word for it—by the brazen quacks of our day. There is generally just one sentence in their lying announcement that tells truth; it is that in which "all other preparations" are denounced as dangerous; the only improvement would be in leaving out the word "other." Reckless of the fact that thousands are suffering from the foolish use of one or another "patent medicine," other thousands rush blindly along the same road. Our attention has been called more particularly to the poisonous compounds sold as hair-washes, reinvigorators, &c., by an article in the *Journal of Applied Chemistry*. The point is that the most of these washes which are "not a dye," (that is, do not produce an instantaneous darkening of the hair), contain sugar of lead, which, by uniting with the sulphur of the hair, or in the wash itself, forms, when exposed to the atmosphere, a dark sulphuret of lead, which, of course, colours the hair. The use of these lead washes frequently produces paralysis. Two cases are mentioned from the personal knowledge of the writer of the article, one being a paralysis of the left eyelid and tongue, the other beginning in the left arm and extending gradually over nearly the entire body. This is a subject that deserves attention. The cases of partial or total paralysis traceable to the use of these dangerous compounds are many, and are growing more numerous. If people are not satisfied with the color which nature or time has given their hair, let them use no "wash" until they become satisfied by analysis that there is no sugar of lead in it. The manufacture of these insidious, unlabeled poisons ought to be prohibited by law. Their bad effects are more extensive than could be believed by unthinking people—and they are many.

Roads and Road Making.

D. C. Richmond, the noted fruit man near Sandusky, who has traveled a great deal in both hemispheres, writes to the *Register* concerning roads:

We are getting waked up in our town about road matters, and it is high time, for one is likely to break his neck, wagon or something else if he travels on them.

Perhaps the best roads and drives are in and around Paris. In their construction, they first drain them, and then lay down a heavy superstructure of large flat stones, and cover them with small stones; then, with a heavy coat of fine flint and large gravel, which they moisten and roll down with a heavy iron roller, until it becomes perfectly solid and smooth, so that a carriage-tire will not even make a mark on it.

The roads in England are smoothed out something like our railroads, and graded so that span of horses will take the usual load of two tons on them with ease. The culverts are all arched with stone and made durable. They lay a heavy bed of large flat stone lapped one on another, something like a lapped furrow slice, then cover with smaller stone, then with a gravel coat or broken stone of small size. These roads never cut through.

Very firm roads are made in Central Park, by laying down a heavy body of all kinds of stone, and putting on a thick coat of fine gravel and rolling down smooth; when it cuts up, they harrow it over and wet it, and again roll down smooth. My opinion is that the best and cheapest way of making our country roads is to lay down a heavy bed of large flat limestone, similar to the English mode, about twelve feet in width on the right hand side of the road going to town, and then put a heavy coating of flinty stone, broken fine, and cover with a good coat of common sand. Then on the left side throw up with a scraper a dirt road some fifteen or sixteen feet in width. The dirt will be the best in a dry time, and the stone best in a wet time; besides, it will save the wear of the stone road, which wears most in dry weather, as it is cut into dust and blown away.

We ought to construct a small piece of this road every year, and it need not be very expensive; it can be made after harvest, when we are not very busy. I know that in our own district, if the township will furnish the stone, we will turn out and haul them free, and I suppose other districts will do the same. It is only about one-third of the roads in our townships require stone at all, the other part is sound and needs only to be thrown up well and the water drained off; the draining of our land will pay for that. Our roads will then be growing better instead

of worse, and it will be a good investment, and I think we shall be satisfied with it. I have long claimed that the plan of filling the holes with stone was bad; it may do well for the present, but in the end it will make two holes instead of one, and then you can never use the long road scraper to advantage.

The long road scraper will do more work than ten men, and make a splendid road in dry weather, and should be oftener used.

About the worst feature in the construction of our roads, is the practice of working them only once a year, and then never thinking of them again, no matter how bad they get. We ought to have more or less work on them throughout the entire season, for it is much less work to fill a small mud hole than to fill a large one. In Europe they put men on the road when it is necessary. As soon as the rut is seen it is filled immediately by broken stone, large heaps of which are kept lying along the road ready for use. Our dirt roads should have a broad base, and the ditch should not be too close to the road, well drained, and then the road will dry off. When the ditch is close to the road the capillary attraction will always keep the road moist.

A local paper says that an old sheep gave birth to a lamb in Cambridge, lately, belonging to a widow lady with six legs and fine wool all over her head.

TANBARK FOR FUEL.—The London *Prototype* understands that a description of fuel, similar to that lately described by the Louisville *Courier*, is now exclusively used at the tannery of E. W. Hyman, Esq., in that city, in generating steam. It is found to answer admirably, while it costs simply nothing, being merely the refuse tanbark, which in every other tannery is thrown away as useless.

A GOOD STORY.—The Duke of Argyll tells a good story. He was travelling with the Duke of Northumberland in a first-class carriage on the Northeastern Railway. At one of the stations a little commercial traveller got in. The three chatted familiarly until the train stopped at Alwick Junction. Here the Duke of Northumberland got out, and was met by a train of flunkies and servants. The commercial traveller said to his remaining companion, "That must be some great swell." "Yes," said the Duke of Argyll, "he is the Duke of Northumberland." "Bless me," exclaimed the bagman, "and to think that he should have been so affable to two little snobs like us!"

STORY OF A DOG.—On Sunday morning, October 28th, the house and outbuildings, with their contents, of Ald. Block, of Fredericton, N.B., were consumed by fire. The *Colonial Farmer*, published in that city, gives the following incident, which is worthy of record, as showing the fidelity of this noble animal: "It seems that the fire was first detected by a Newfoundland dog, the property of Mr. Block. The noble brute, with almost human instinct, tore his way into the house by means of one of the doors, and aroused the family by his barking, and then ran to the stable-door, which he endeavored to open, so that the horse, his almost inseparable companion, might escape. There he remained struggling, though every effort was made to entice him away, and when the fire went out he was found lying dead at his post." A correspondent states that the dog effected an entrance to the house by tearing out a panel of the door with his claws, and thus saved the lives of the inmates, who had time to retire, but not time enough to save anything.

TESTS OF CHARACTER.—A great many admirable actions are overlooked by us, because they are so little and common. Take, for instance, the mother, who has had broken slumber, if any at all, with the nursing babe whose wants must not be disregarded; she would fain sleep awhile when the breakfast hour comes, but patiently and uncomplainingly she takes her timely seat at the table. Though exhausted and weary, she serves all with a refreshing cup of coffee or tea before she sips it herself, and often the cup is handed back to her to be re-filled before she has time to taste her own. Do you hear her complain—this weary mother—that her breakfast is cold before she has time to eat it? And this not for one, but for every morning, perhaps, through the year. Do you call this a small thing? Try it, and see. O! how does woman shame us by her forbearance and fortitude in what are called little things! Ah, it is these little things which are tests of character; it is by these "little" self-denials, borne with such self-forgotten gentleness, that the humblest home is made beautiful to the eyes of angels, though we fail to see it, alas! until the chair is vacant and the hand which kept in motion all this domestic machinery is powerless and cold!—*Coburn's Remedy*!

JOHN BILLINGS ON THE GOOSE.—The goose is a grass animal but don't chew her cud. They are good liver, about one acre to a goose is enough, altho' there is some folks who thinks one goose to 175 akers is nearer right. These two calculations are so far apart, it is difficult to tell now which will finally win. But I don't think if I had a farm of 175 akers, awl paid for, that I would sell it for half what it was worth just because it didn't have but one goose on it. Geese sta well, some of our best biographers sez seventy years, and grow tuff to the last. Tha la one egg at once, about the size of a goose egg, in which the goslets lies hid. The golden iz the goose's babe. The goose don't suckle his young, but turns him out to pasture on somebody's vacant lot. Tha seem to lack wisdom, but I generally considered sound on the goose. Tha R good eating, but not good chawing; the reason of this remain a profound secret to the present da. When the female goose is at work hatchin she is a hard burd to pleze, she riles clear up from the bottom in a minit, and will ste a yoke ov oxen if tha sho her the least bit ov thar sass. The goose is excellent for feathers, which shed every year by the handful. Tha R infibicuss besides several other kinds ov cuss. But tha R mostly curious about one thing, tha can haul up one leg into their body and stand on tuther awl da, and not tuch anything with thare hands. I take notis thar ain't but fu men that can dew this.

Poetry.

The Rural Life.

BY MRS. L. H. SIGORNEY.

THE rural life in every clime
Hath been the foe of war and crime,
Its earnest toils have nurtured health
And quelled the vanity of wealth,
And proved with adamantian hand
The strength and glory of a land.

The farmer who, in days of old,
From house to house, his produce sold;
Well ripened fruit and sheaves of gold;
Secured to us, children of the town,
A triffo coarse and wondrous brown;
We wondered how his ample hand
Became so horny and so tanned,
And deemed his heavy shoes would ill
Belt the light-heel'd dancer's skill,
But they who, 'neath his roof, should try
The test of hospitality,
His honesty without a flaw,
His love of liberty and law,
Would find, how'er concealed from view
The roughen'd diamond pure and true.

He need not mark with anxious eye
The fluctuant market's usury,—
Nor had he need to watch or wait
The lightness of the baker's scale,—
His own sweet loaves from oven's maw,
Shall careful wife or daughter draw,
Well pleased the household board to see
Crowned by their active ministry.

His fields of grain that richly spread,
His towering maize, with tassels' head;
His lowing herds that freely pour
The creamy nectar's balmy store;
The poultry roaming proudly blest,
The ivory treasures of their nest;
The bees that hoard in cone-like tower
The honied essence of the flower;
The garden-roots that bide their time,
The fruits that fall, the vines that climb,
A plenteous aliment supply,
Which even Parisian luxury,
With all its wire drawn art and fame,
Perchance might scorn, but need not blame.

Ho! for the flax-field's blossoms blue,
And lustrous leaf surcharged with dew,
Its fibrous stem the wheel shall stir
Of many a thirsty cottager.
Ho!—for the white flock wandering nigh
Through pastures green, with patient eye;
Their silken fleece by woman's care
Transmuted for her household care;
Arms them the keenest blast to bear;
And well such useful labours cheer
With sweet content her shelter'd sphere.

Let the from loom and distaff draw
Not thread alone, or warp and wool,
But strength to bear and will to do,
That kept neuralgic pains aloof.
The arm that in the disty wrought,
Gave I tanslo firm by action free;
While lux-om health and cheerful thought,
The priceless gifts of industry,
Inspired the vigor that sustains
The myrtle nerves and flowing veins
Lends to the cheek a ruddy glow,
And keeps the forehead fair,
Even though chill age hath sifted snow
Amid the lustrous hair.

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December 10, 1867.

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- 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 Farm 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 labor-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 specially 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 Provinces, 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—noting the condition and progress of the Herds and Flocks of prominent Stock-breeders; record the importation of Thorough-bred 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 markets for Canadian Farm Produce.
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BOARD OF AGRICULTURE!

NOTICE TO AGRICULTURAL SOCIETIES.

NOTICE IS HEREBY GIVEN that the Term of Service of the undermentioned members of the Board of Agriculture will expire in January next, viz: - Hon. GEORGE ALEXANDER, Woodstock. R. L. DENISON, Esq., Toronto. F. W. STONE, Esq., Guelph. J. C. RYKERT, Esq., St. Catharines.

It is the duty of each of the County Agricultural Societies, at their annual meeting, in the third week of January, to nominate four suitable persons as members of the Board of Agriculture, in the place of those retiring by rotation. The retiring members are eligible for re election.

HUGH C THOMSON, Sec. Bd. of Ag. BOARD OF AGRICULTURE OFFICE, } Toronto, Nov. 23, 1867. v4-23-21

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Markets.

Toronto Markets.

"CANADA FARMER" Office, Dec. 12th, 1867. THE produce market has experienced a slight revival in trade since our last review. A better demand has sprung up and higher prices have been obtained. Coarse grains remain dull, with no transactions taking place.

Flour. - Last week No. 1 superfine was held at \$6 50, with no buyers. Since that date prices have advanced, and \$6 50 has been freely offered, but holders were firm at \$6 65 and \$6 75. To-day sales were made at \$6 65, which may be considered the market price, several lots having changed hands at that figure.

Wheat. - Last week spring wheat was offering at from \$1 40 to \$1 41, with buyers at \$1 39. An improvement took place, and sales were afterwards made of small lots at \$1 44, but within the last few days so little has been offering, that it is difficult to give correct quotations. Very little fall wheat has been offering. To-day three cars sold at \$1 60. The tendency of the market for both spring and fall is decidedly upward. On the street market there has been very little offering, and our quotations are almost nominal. The following are the street prices: Spring, \$1 43 to \$1 44; midge proof, \$1 45; fall, \$1 63.

Oats. - Continue scarce. The only large sale reported took place to-day, viz., 1 car at 53c, in bags. Selling retail at from 53c to 55c, and, in some instances, as high as 57c.

Barley. - Receipts both by cars and from farmers' waggons continue trifling. The market has been very dull, with not a single sale during the week. Prices are therefore entirely nominal.

Peas. - Receipts both by cars and teams are very trifling. No sales are reported during the week. A few loads on the street market sold at 72c to 73c.

Oatmeal. - Held at \$6, with but little doing. Yesterday a 100 barrel lot sold at \$5 50 at Mitchell.

Bran. - Nominal at from \$16 to \$17.

Pork. - Packers are actively at work. The market is, however, still quiet. The following are the nominal quotations, there being no sales to report: - Mess pork, \$17 50 to \$18; prime mess, \$14 to \$14 50.

Cut Meats. - The market continues depressed. Sales were made during the week at 7c for Cumberland boxed. The following are the prices current: Bacon (rough) nominal, none in the market; Cumberland cut at 7 1/2c; smoked at 10c to 11c; hams (in salt) at 7 1/2 to 8c; sugar-cured and candied, none in the market; beef hams at 15c.

Butter. - The receipts continue very limited and trade dull. There is no shipping demand except for choice dairy. Store packed is neglected. The following are the quotations: - Dairy tub per lb at 15c to 16c; store packed at 12c to 13c; grease at 6 1/2c to 7c.

Cheese. - Quiet, only a retail trade doing; new sell at from 8c to 9 1/2c.

Eggs. - No wholesale lots offering. Selling on the street from farmers' waggons at 23c.

Dressed Hogs. - The receipts have improved since cold weather has set in. Prices are firmer, an advance took place to-day, and from \$4 75 to \$5 75 was paid for from good to choice, with \$6 for a few extra heavy mess hogs.

Lard. - Unchanged; no sales since our last report. Nominally 9c to 9 1/2c in kegs.

Hay. - Selling at from \$12 to \$16.

Straw. - Selling at from \$10 to \$13.

Salt. - American, on the wharf, selling at \$1 75 per barrel.

Freights. - Rates by G. T. R. - Flour to Montreal, 60c; to St. John, 85c; to Halifax, 95c.

Hops. - Unchanged. For the best hops 45c is paid by brewers in wholesale lots. Ordinary ranges from 30c to 40c.

Wool. - Very dull; only small lots selling; prices range from 20c to 24c.

THE CATTLE MARKET.

Butchers at present are busy preparing for the Christmas markets. First-class cattle are scarce and in good demand, would bring \$7 50 to \$8 per 100 lbs dressed weight. Second class cattle, not so many offering. Prices range from \$5 to \$6 per 100 lbs dressed weight. Inferior, none offering. At the late Fair at Guelph, there were very few cattle offering. Sheep and lambs are still in plentiful supply, with little or no demand, and sell at about the same prices as last quoted.

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