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Deep Cultivation.

Twenty years ago, a prominent English Agriculturist spoke of shallow ploughing as one of the principal curses of British Agriculture, and the same writer in a recent communication to an English paper, says:—

“I am sorry to be obliged to state, that in my opinion, formed from observation, four inches (solid) is still the full average depth of the British agricultural pie-crust, in which plants are to grow whose roots would, if permitted, descend many feet.”

We question if the “agricultural pie-crust” of Canada is any deeper on an average, and though it yields a large supply of food for man and beast, let it not be forgotten that there is something *below* the crust, which is capable of adding immensely to that supply. In point of fact, nearly every farmer in the country has a *second* farm of the possession of which he lives in total ignorance,—a new farm under the old one. Farms not only lie side by side, but in layers, and if the rage for *broad acres* could be displaced by a rage for *deep acres*, the amount of soil under cultivation might soon be doubled.

The objects of ploughing are chiefly these:—to pulverize the soil so that the air can get into it, and the roots of plants find their way through it; to mingle the different portions of it as thoroughly as possible; to cover manures; to kill weeds; and to keep the surface open and fresh. By bringing fresh portions of earth to the surface, moisture is attracted from the air, and along with moisture, various fertilizing gases are absorbed. By keeping the pores of the land, so to speak, open, this process goes on more thoroughly than it can do if the surface is suffered to grow hard and stiff. Deep ploughing extends these benefits to a greater depth. It opens a larger proportion of the soil to the beneficial action of air and moisture, and furnishes a more roomy bed for plant roots, and a more spacious store-house for plant-food. It has, to some extent, the same effect as draining. It carries off more or less of the surface water, warms the soil, and renders it more easy of cultivation. Land thus tilled, is not so soon exhausted. The roots of grain by penetrating farther take firmer hold, and the stalks are less liable to give way and lodge. It also saves labour. It is less work to raise thirty bushels of wheat from one acre than from two of three, to say nothing of the zest and pleasure connected with getting a large instead of a small yield. Deep culture is especially important in the growth of root crops. Those who have only a four-inch “pie-crust” to operate upon, have little idea of the size to which turnips, mangolds, carrots, &c., will attain, when they have ample scope in a rich soil. The Rev Mr Smith, of Lois Weedon, one of the most noted Agriculturists of the present day, gets his rows of Swedes to “shake hands” by their leaves at five feet intervals. He ploughs back all his topsoil, and leaving thus laid bare the poor sub-soil, puts manure on it until topsoil and sub-soil are alike rich. Dr.

Dixon, of Rivenhall, once pulled up a Parsnip with a vertical root 13 feet 6 inches long, besides a further piece left by its breaking off. This was in a bank of earth 20 feet deep, that fell over loosely when excavated. The roots of strawberry plants, grape-vines, &c., have been known to descend several feet in search of food and moisture. The exposure of a cold, barren subsoil to the action of the atmosphere without the addition of manure, will, in due time, render it capable of producing a crop. How great then must be the advantage of both loosening it up and dressing it liberally with dung. Gardeners understand this. A four-inch “pie-crust” will not raise choice vegetables. Hence the land is trenched to the depth of a couple of feet, or at least double-spaded, and manure worked in at a rate that seems almost wasteful, and yet is the very best economy of land, labour and money. Why should not the farm be as deeply tilled as the garden? The reply probably is, because of the expense. This objection would lie if we were confined to slow hand labour with the spade. But the same result can be attained by the use of team and plough. These are inadmissible to gardens because of the limited space for turning and working, and also because there are trees, plants, walks, &c., that would be injured by this mode of culture. But in the open field, team and plough can get down as deeply as the spade. There are two modes by which greater depth of tillage can be attained. One is by deeper ploughing with an ordinary surface plough, and the other by the use of the subsoil plough. The surface plough driven deeper down, throws the subsoil to the top,—the subsoil plough follows in the furrow made by the other, and simply tears up and loosens the hard pan. It stirs and mixes up what is under the “pie-crust.” The change from shallow to deep ploughing must be made gradually when it is accomplished with the common plough put in more deeply, and manure sufficient to enrich what is thrown up from beneath, must be applied. An inch at a time may be taken until by successive deepening, the plough can be driven to the depth of nine or ten inches. The subsoil plough, an implement almost unknown in this country, will effect a gradual deepening of the soil without throwing the broken hardpan to the surface. By loosening the subsoil so that the air can penetrate it, and particles of manure work and wash down into it, it will soon improve and be assimilated to the topsoil. Stronger implements and heavier teams will be needed for the deeper cultivation we are urging, but the results in heavier crops will soon justify and reward the outlay. “A little farm well tilled” is better than a large one merely skimmed over, and every consideration enforces Poor Richard’s maxim:—

“*Plow deep while sluggards sleep.*”

The subject referred to in this article is of great practical importance. We have only touched upon a few of the points connected with it, but we trust the hints we have thrown out will awake thought and suggest improvement.

Planting Potatoes.

The question as to the best mode of planting potatoes has afforded food for much keen discussion, and the importance of the subject entitles it to the best attention of every one owning a plot of ground. As a help in the discussion, the well-known experiment of Mr L. G. Brown, a New England farmer, is very valuable. This gentleman planted eight rows, and each row had twenty hills—all occupying the same space. He weighed the seed of each row as planted, and the produce of each row at harvest. Each row was manured and cultivated in precisely the same manner. The result he reported as follows:—

	Produce.
1st row, 2 pieces in a hill, weighed 3 lbs.	- 45 lbs.
2d row, 1 whole one, “ 10 lbs.	- 83 “
3d row, 1 “ halved, “ 10 lbs.	- 77 “
4th row, 2 whole ones in each hill, 2½ lbs.	- 56 “
5th row, 3 “ small, 1½ lbs.	- 46 “
6th row, 3 “ very small, 1 lb.	- 42 “
7th row, 3 pieces, one eye in a piece, 2½ lbs.	- 48 “
8th row, 3 pieces, seed end, 46,	2 lbs. - 46 “

The result of this experiment, therefore, was decidedly in favor of seeding with large potatoes. It showed that 1 lb. of seed divided among 20 hills gave but 42 lbs. of potatoes at harvest; while 10 lbs. of seed divided among 20 hills produced 83 lbs. of crop. Let us apply these results to an acre of ground. In an acre planted as in the above experiment, there would have been 7,260 hills. To plant 7,260 hills with 1 lb. of seed to every 20 hills would take 6 bushels of potatoes, and the product would be 254 bushels; while to plant 7,260 hills with 10 lbs of seed to every 20 hills would take 60 bushels, and the return would be 502 bushels. Valued at 30 cents per bushel, the cash return would stand thus:—

Heavy planting, seeding cost \$18.00; return, \$150.00.
Light “ “ “ 1.80; “ 76.20.

Thus the investment of \$16 20 in additional seed, produced \$73 80 of additional crop.

Clover.

It is an accepted axiom of English farming that if you can raise good clover crops, you can raise good crops of everything else. But the clover must be consumed on the farm. In Canada, where produce is low, capital dear, and artificial manure little used, clover is invaluable to our farmers. It cannot be too widely cultivated. It is equally valuable as green food for stock, as hay when well cured, and as an invigorating crop for the land. It is said by good authorities that at the end of the second year, the quantity of dry vegetable matter left in the form of roots, is equal to upward of one-half the weight of the whole hay which the clover has yielded. We suspect, however, that the annual increase of clover roots, after the second year, is far less than in the

rest and second years, and that there is little gained a let the land lie in clover more than two years.

For clover, plaster of Paris makes a capital top-dressing. It has sometimes a marvellous effect. 100 lbs per acre will answer. It should be thrown on the land just before or after rain, or early in the morning, while the dew is yet on the ground. A top-dressing of well-rotted manure has an excellent effect on the clover crop. A top-dressing of plaster immediately after haying often secures a heavy aftermath.

Beans as a Field Crop.

BEANS are too little cultivated in Canada. For years past they have been selling very high; and at all times they are most valuable as food for man and beast. Bean meal is said to be the very best food for cattle cows. Speaking of the cultivation of the white bean, the late Judge Buell wrote thus:—

They are a valuable crop, and with good care are as profitable as a wheat crop. They leave the soil in good tuck. I cultivated beans the last year in three different ways, viz. in hills, in drills, and sowed broadcast. I need not describe the first, which is a well known process. I had an acre in drills which was the best crop I ever saw. My management was this. On the acre of light ground, where the clover had been frozen out the preceding winter I spread eight loads of long manure, and immediately ploughed and harrowed the ground. Drills of furrows were then made with a light plough, at the distance of two and a half feet, and the beans thrown along the furrows about the 25th of May, by the hand at the rate of at least a bushel on the acre. I then gauged a double mold-board plough, which was passed once between the rows, and was followed by a light one-horse roller, which flattened the ridges. The crop was twice cleaned of weeds by the hoe, but not earthed. The produce was more than forty-eight bushels by actual measurement.

An idea prevails very generally that the kinds of bean sown in England as a field crop will not do in this country. Our impression is that this is a mistake. We have heard that some old country farmers have had good success in raising them in Canada. We shall be glad to hear from any of our readers who have had experience in this direction.

The Farmer's Wood Lot.

This being the season of the year when farmers generally are cutting, or preparing to cut, their year's supply of firewood, a few suggestions will not be out of place.

Supposing a farmer requires ten cords of wood a year to supply his family fires, and depends entirely on his wood-lot for it, his wood-lot should consist of about fifteen acres. Taking into consideration the amount of firewood he will annually pick up from other sources, like trimmings and old trees from the orchard, old fencing stuff, &c., &c., we think that fifteen acres will be found ample for almost any farmer while a less amount will supply a large proportion of them.

If then, a farmer has a wood lot of a size just about sufficient to furnish his fires, he should go about the work of cutting his wood in a systematic manner so as to make the most of his supply. Let him begin on one side of the lot—say on the southerly side, if convenient, and cut clean as he goes. The young shoots will then receive the sun, and will grow rapidly and evenly. Supposing his lot to furnish thirty cords of wood to the acre, it will take him forty five years to go over the whole, and he may then go back to the first one cut and again cut thirty cords to the acre. This is, we think, a very moderate statement, because upon ordinary land wood will grow thirty cords to the acre in about thirty years. We have in our mind a piece of fourteen acres which was cleared sowed to rye, and then pastured a year or two, and in twenty-seven years from the first cleaning, it was again cut over, when it yielded at least thirty cords to the acre. The growth was oak, chestnut and maple.

But few of our farmers seem to be aware how rapidly young wood will grow, under favourable circumstances; and as there is an increasing scarcity of wood in New England specially, we have thought it best to call attention to the importance of pursuing some well-defined plan, so that the supply may be equal to the ordinary demand.

We hardly need add that a wood-lot needs to be looked over occasionally, sometimes to be thinned out more or less. Our farmer readers already know this, and only need to be reminded of the importance of keeping a sharp eye upon their family wood lot.—*Ploughman.*

Agricultural Progress in Berwickshire.

MR. WILSON, of Edlington Mains, thus reports the improvement he has witnessed during the past thirty-four years:—

When I began farming, exactly thirty-four years ago, the application of bone-dust as a manure for turnips was just getting into general use in this district, and the slicing of turnips for hoggets was then unpractised among us. In 1830 or 1831 I happened to procure a turnip-slicing machine from one of the midland counties of England, which—so far as I have been able to find out—was the first that was used by a tenant farmer in this county. In a very few years after that date the universal use of bone-manure caused an immense increase of the acreage annually under turnips, and also of the weight of produce per acre. The general adoption of the practice of slicing turnips for hoggets soon after, changed our whole system of sheep management. Our hoggets began to be sent to market as soon as they were shorn, say at 15 months old, instead of being kept until about two years old, as had been the previous practice. The use of bone manure produced nearly as great an improvement upon the seeds as upon the turnip crop to which it was directly applied. This increase of the green crop and earlier marketing of the hoggets produced, of course, a greatly-increased demand for lambs, and thus led to corresponding changes of practice on the upland sheep farms, from which the supplies of store sheep were drawn. Instead of an annual crop of two or three years old widders of the pure Cheviot or Blackfaced breeds, they began to cross their ewes with Leicester rams, and sold these cross-bred lambs at weaning time to the Low country farmers. The command of portable manures has enabled the occupiers of these uplying farms to bring much additional land under tillage. This process is steadily extending, and as it does so, the command of green crops thus obtained is regularly accompanied by a change to a sheep-stock of a more valuable class. All these practices date earlier than twenty years ago; but they have been greatly extended and developed since then. The introduction of pipe-tiles for draining, and of guano, nitrate of soda, and bones in the form of superphosphate as manures, has supplied great additional facilities for all this. Until thirty years ago, linseed-cake may be said to have been unknown in this district. About that time it began to be used in the rearing of calves, and gradually a good many farmers began to give a little of it to their fattening bullocks for a short time before sending them to market. Now cakes of various kinds and other farinaceous feeding stuffs are in general use for the fattening both of sheep and cattle. The trade in these articles and portable manure has here as elsewhere grown to an important branch of business. Thorough draining, portable manures, artificial feeding stuffs, are now trite expressions; but when it can be reported of a district or county that all of them are included less or more—in the cultivation of very nearly the whole of its farms, it is superfluous to add that a very great increase of produce has been the result. It has been said that every cwt. of guano applied to our farms is equivalent to the importation of a sack of wheat. Whether this be a strictly accurate statement or no, there can be no doubt that green crops, live stock, dung, corn, is a true sequence in agriculture, and that an increase of the first item really means an increase of all the rest.

"FINING" MANURE.—An English gardener lays great stress on what he calls 'Fining Manure.' He means breaking up the lumps, tearing in pieces the long, strawy parts, and bringing it all into such a fine state that it can be thoroughly mixed with the particles of the soil. Having broken it up, he mixes it with ashes, leaves, sawdust, turbar, and all the refuse of his garden, laying it up in thin layers. When it has become partly decomposed, he overhauls it, turning it over with the shovel, and making it one homogeneous mass. After the heap has lain a few months, it gets another working, when it is thoroughly 'fined' and ready for use anywhere. He is a very successful gardener, and ascribes no small part of his success to this careful preparation of his manure. Farmers and others may learn a hint from his example. It is plain that coarse, lumpy manure cannot benefit land as much as that which is broken up and finely diffused through it. One reason why liquid manure and guano act so efficaciously, is because they are so minutely divided among the soil.

TAN BARK.—Fresh tan bark is not of any manurial value, yet after years of decay and decomposition it becomes fair vegetable mould. The waste lime from the vats will exert a beneficial effect on any soil which requires lime, or where slaked lime is valuable for an application. Hair is a highly concentrated and valuable manure.

Failure of the Spring Wheat Crop.

To the Editor of THE CANADA FARMER

SIR, As you invite communications on subjects of importance to farmers, I beg to draw attention to the partial failure of the spring wheat crop of Middlesex during the past season. The loss to the farmers of Middlesex I find to have been heavy, as a great breadth of land was sown for spring wheat, and the yield was inferior both in quantity and sample, not exceeding ten bushels per acre as an average while the field produced straw enough for twenty-five bushels per acre and gave promise of that yield at mid-summer and just before harvest. Various opinions have been expressed as to the cause of the failure. Some farmers think that a sort of blight struck the wheat about the time it was in blossom, caused by too much rain in spring and too much heat and sun-burn just before harvest. Others affirm that the seed has run out, and that a fresh importation of seed from foreign parts would produce an old-fashioned crop of twenty-five or thirty bushels per acre. Others say a too constant cultivation of wheat without a proper rotation of green or root crops has exhausted the properties of the soil necessary for the production of wheat. The subject was discussed at the recent Annual Meeting of the West Middlesex Agricultural Society, and the majority of the Board of Directors, without ignoring the foregoing causes, as accounting to some extent for the failure, attribute the greatest share of damage to the depredations of the Aphis or Plant Louse, which almost blackened every field, and in many instances so completely covered the stem just below the wheat head, as not to leave room for the insertion of a pin point, and as the insect must subsist on the juice or sap contained in the stalk or straw, the immense numbers to be found on every stalk must have had a tendency to shrivel the berry and reduce the yield.

In 1859 the frost so injured the fall wheat of Middlesex as to deter many farmers from sowing it, so that spring wheat became the staple crop and main dependence. The failure of that in 1863 has set the farmers hereabouts to thinking how they may avoid a recurrence of the disaster. Therefore, if any of your contributors will ventilate this subject, and enlighten us as to the true cause of the failure throughout Western Canada, it will much oblige,

Yours truly,
COUNTY CLERK'S OFFICE, } JAMES KEETER
London, February 2nd, 1864.

Experiment in Flax-Growing

To the Editor of THE CANADA FARMER.

SIR,—Observing an ably-written article on the cultivation of flax in the first number of your excellent periodical, I am induced to send you a sample of flax grown in this neighbourhood the past season. The grower, Mr. Wm. Blair, a flax-grower for thirty years in the North of Ireland, settled here, in North Orillia, in the Fall of 1862. He says he never saw in Ireland flax in its raw state so clear and bright in colour; and but for his having left it a day too long in the water—by which it is rendered too soft—he doubts whether he ever grew a better sample in fibre. The mistake in the time of soaking occurred from the fact, that in Ireland it requires to be in the water from eight to twelve days; whereas, in this case it only remained seven, that being a day too much. Mr Blair is not prepared to account for the difference whether it be in the water, the climate, or from any other cause, but in the saving of time, it must be admitted to be a great advantage in favour of Canada. He is fully satisfied with his experiment, and, as soon as his farm will admit of it, will cultivate flax for the market. Had the sample been "scutched," it would of course have had a far better appearance, but it was only hand-worked. Mr Blair has sent two samples to Ireland for inspection, and should any thing arise out of it worth communicating, I will do so with pleasure.

I may add, that both flax and tobacco have been grown in the new settlement of Muskoka with equal success, and are much used as domestic articles.

Orillia, 29th January, 1864.

[NOTE BY ED. C. F.—The sample of flax sent by our correspondent has been duly received, and seems to be an excellent one. We shall preserve it for examination by any parties who take an interest in the cultivation of an article which is destined yet to rank high among the products of Canada.]

R. J. OLIVER

Action of Plaster as a Fertilizer.

PERHAPS no subject connected with agriculture has given rise to more speculation than the action of plaster or gypsum on vegetation. Why it should produce such striking results at one time, why it is apparently useless at others, or why it should be beneficial at all, have been problems which the agricultural chemists have found difficult of solution. The columns of some of our contemporaries have recently been occupied with communications upon this subject, which served to show a lack of chemical knowledge on the part of the writers, without increasing that of the readers. In cases like this, one direct experiment is worth a host of speculations, and M. Deherain, of Franco, has, by his labours in this direction, given us some light upon this much-voiced subject. These experiments indicate that the use of plaster is mainly to liberate the potash contained in the mineral constituents of the soil. In the disintegrated rocks of which the soil is composed potash exists in an insoluble combination. The plaster is sulphate of lime, which is soluble, and when this, in the moist state, is in contact with minerals containing potash in an insoluble form, the lime and potash change places. The potash is liberated, while the lime of the plaster takes its place in the insoluble mineral. This change is effected very rapidly, as it was shown that soil which contained only a trace of potash, gave, twelve hours after the application of plaster, an appreciable amount of that substance. Another effect of plaster has been suggested by Professor S. W. Johnson in his lecture at the Smithsonian Institute. It has been found by experiment that the presence of certain substances, plaster among the rest, in the juices of a plant, have a marked tendency to prevent evaporation by the leaves. It is of course necessary that a certain amount of the liquid contents of the plant should pass off in this way, but in a very dry time the evaporation may be more rapid than the processes of vegetation demand. The use of plaster upon the soil may enable a crop to withstand a drought much better than upon unplastered land. *American Agriculturist.*

Weights of Produce.

The following are the standard weights fixed by Statute in Canada as equal to a bushel of the several kinds of farm produce:—

Corn Meal 50	Dried Apples 22
Onions 60	Blue Grass Seed 14
Castor Beans 40	Hemp Seed 44
Beans 60	Flax Seed 50
Peas 60	Timothy seed 48
Beets 60	Clover Seed 60
Parsnips 60	Buckwheat 48
Carrots 60	Barley 48
Turnips 60	Oats 34
Potatoes 60	Corn 56
Salt 56	Rye 56
Dried Peaches 33	Wheat 60

"ONE YEAR'S SEEDING WILL GIVE SEVEN YEARS' WEEDING."—It has been calculated that one plant of sown thistle produces over eleven thousand seeds. Thus one plant gives seed enough to stock 2½ acres with plants three feet apart. Down with the thistles. Do not let one go to seed on the farm, or between the fences, or on the highways.

MEASURING OPERATIONS AND RESULTS.—The farmer only who measures the result of his experiment, can know with any certainty what course is most profitable. One young farmer, by the use of a weighing machine for weighing all his cattle weekly while feeding them, "saved hundreds of dollars" by two years of its use. All the fields of a farm should be measured and marked on a map, by which the acreable product of all crops may be easily ascertained. The greatest deficiency among good farmers generally, was found to be a want of accurate accounts, both with their crops, and for the purpose of ascertaining their profits.—*Country Gentleman.*

GRASS SEED FOR THE LAWN OR YARD.—A mixture of seeds thickly sown is best. A very good "lawn grass seed" for general use is prepared by the seedsman as follows:—1 lb. white clover seed; 2 lbs. sweet vernal grass; 8 lbs. orchard grass; 14 lbs. bluegrass; 20 lbs. ray grass; and 80 lbs. red-top, or in these proportions. These varieties can be procured at most seed stores, or such as can be got may be used. Any two or three varieties of these grasses sown thickly, and kept mowed or shaved down, will form a thick mat. One advantage of using a large variety is that you are pretty sure to get two or more kinds peculiarly adapted to the particular soil.

LIMING LAND.—This was the subject of discussion before a Scotch Farmers' Club, when one of the leading speakers said that "his experience taught him to be no advocate of liming land heavily at the outset. Where land was requiring lime, he gave first a small dose, and then lime every five years; and he thought this kept the land in better heart than by giving it a larger quantity at once." He subsequently remarked: "Some people spoke of giving the lime as manure; but if they did not give dung at the same time, it would not do much good. The great thing was to give plenty of dung and there was not much fear of over-liming. Many a time land was said to be overlimed, he believed, when poverty was the ailment; and if they gave lime along with plenty of dung, there was no fear of getting good crops of all kinds."

SWAMP LAND.—"A thing of beauty is a joy forever." This is true, we suppose of everything, without reference to its past history. But there is a special beauty about an object, redeemed from positive waste and ugliness, and made to minister to human wants. There is a bit of swamp land in view from our window, where three years ago we could not walk without wet feet, and which, from the erosion down, had only borne brush and sour grasses. It is now thickly covered with a beautiful sod of herds-grass and white clover. It has been drained, and the surface is now as dry as upland. Last year the acre and a half cut three tons of good hay, and this season it has pastured two cows from June to September, giving them a full flow of milk, and the feed is still good. The pasturing is worth at least twenty dollars. Muck enough has been taken from the ditches to pay for the whole cost of reclaiming. Three years ago it was not worth thirty dollars. It is now worth three hundred, and will pay the interest on that sum while grass grows and water runs.—*Colonial Farmer.*

STIRRING THE SOIL.—CULTIVATORS VS. PLOUGHS.—The gradual extension of steam power in the cultivation of the soil in England, has tended to produce sounder views as to the advantages which result from stirring the soil by cultivators or grubbers. At one time it was deemed essential for the luxuriant growth of a grain or bulbous crop, that the soil should be inverted. This is now proved not to be necessary; on the contrary it has been shown that on retentive soils the crops produced on lands which have been stirred but not inverted, are more abundant than where the soil has been turned over by the plough. An intelligent correspondent residing in Buckingham, who has the best opportunities of ascertaining the results produced by the use of cultivators compared with ploughs, draws attention to this fact in his report for that county. It is highly probable that, as the steam engine is more generally brought into requisition in cultivating the soil, that the implement most commonly used will be a cultivator or grubber. Those farmers who are preparing land for wheat—whether the previous crop had been beans, potatoes or turnips—could undertake experiments to ascertain the difference of produce from one part of a field stirred by a cultivator or grubber, compared with that produced on the other portion of the field which has been stirred by the plough. The question is one of such great importance, that it is to be hoped several farmers will conduct experiments, not only in the preparing of land for wheat, but for other grain crops, and report the results.—*North British Agriculturist.*



The Apiary.

GREAT progress has been made in the science and art of bee-keeping during the past ten or fifteen years. More than sixty years ago, Francis Huber, of Geneva, Switzerland, published a work on this subject, in which are embodied the results of a long continued series of observations, but many of his views were regarded as fanciful, and only quite lately have they been practically tested by intelligent experimenters, so as to show their general and substantial correctness. The history of Huber is a most instructive one, proving as it does, that great things

may be accomplished in spite of almost insurmountable difficulties, and that the discovery of truth, though ridiculed at first, will, in the end, vindicate itself. This distinguished naturalist became blind in early manhood, but aided by his wife, and a faithful servant, he pursued his investigations with unflagging zeal, and produced a work, which now commands the mingled wonder and admiration of all who are qualified to judge of its merits, and will send the name of its gifted author down to posterity with ever increasing honour. There are many who during the past few years have distinguished themselves in this branch of natural history and rural economy. Prominent among them are two clergymen, one a Prussian named Dzierzon, (pronounced Taurtsone), and the other an American named Langstroth, who almost simultaneously discovered the "movable-comb" principle of constructing bee-hives. This method gives perfect command of these insect workers, and enables the ordinary bee-keeper to inspect their movements, ascertain their condition, and control their operations to an extent that is perfectly marvellous. An entire revolution in bee culture may be said to have taken place as the result of modern discoveries and improvements, and there seems now no good reason why every civilised country on earth should not become a land flowing with milk and honey. There are several recent manuals of bee-keeping, by the study of which beginners may profit greatly. Probably the two best are "Quinby's Mysteries of Bee-keeping," and "Langstroth on the Honey Bee." The latter work contains a short but interesting chapter, entitled, "The Honey-Bee capable of being tamed," and we cannot better conclude this article than by briefly stating the three principles set forth by the author, by the knowledge and application of which, all serious risk of being stung may be avoided.

"FIRST—A honey-bee when filled with honey, never volunteers an attack, but acts solely on the defensive."

Bees when intending to swarm always fill their honey bags to their utmost capacity. They are, therefore, in their most peaceable mood at that time, and allow themselves to be treated with considerable familiarity. Like Englishmen, they have a propensity to be good-natured after a hearty meal.

"SECONDLY—Bees cannot under any circumstances, resist the temptation to fill themselves with liquid sweets."

Hence by furnishing them a treat of sweet things when it is desirable to perform any operation among them, it is quite safe to proceed. It will not do, however, to handle them roughly. They allow no rude liberties. If on opening a hive the exposed bees are gently sprinkled with water sweetened with sugar, they will feed with great eagerness, and behave very quietly. Bees thus managed, are glad to get a visit, as they always expect to receive an acceptable peace-offering.

"THIRDLY—Bees, when frightened, immediately begin to fill themselves with honey from their combs."

By the use of a little tobacco-smoke, or smoke from decayed wood, (sometimes called touch-wood,) a slight panic can be created among them which will secure thorough submission. As soon as the smoke is blown among them, they retreat before it, and as if afraid their treasures are about to be stolen from them, they begin to fill their honey-bags, and prepare for the worst. Keeping these facts in view, and provided with a bee-hat and india-rubber gloves, the Apianian can manage his little subjects without a use of fear.

VENTILATION IN BEE HIVES.—The *Ohio Farmer* says that bees in winter do not apparently suffer from cold even when many degrees below the freezing point. Their great enemy is damp. I have known hives from which the bottom board had fallen and which were fully exposed to the air, winter well, while others carefully tended lost thousands of bees, and yet both had sufficient stores. Hives made of thin boards are bad quarters for bees, unless well ventilated, and for the simple reason that when such are exposed to the weather, they part rapidly with their warmth in cold weather, and unless carried off by currents of air, the moisture from the bees condenses on the inside and then congeals, and this process will go on until the comb next the sides is involved, and the bees are constantly huddled together in an ice house. When combs are thus frozen or kept steadily exposed to an atmosphere of moisture for some time, they will mould whenever the weather becomes warm. It often happens that the principal portion of the honey is laid up in the outer combs, and if these are frozen, the bees cannot get their food and may thus starve with food abundant, but locked up by frost.

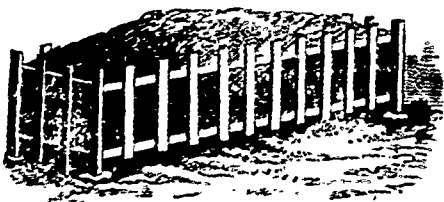
Sheep Husbandry.

Sheep Racks.



In feeding sheep and cattle through the winter, a large amount of fodder is wasted by being trodden under foot, for want of proper conveniences for holding hay and other feed while the animals are taking their meals. Beside the waste thus occasioned, discomfort and inconvenience are caused to the animals by their food getting into the dirt before it finds its way into their mouths. What tables, plates, and dishes are to human beings, mangers, troughs, and racks are to sheep and cattle. How to construct these conveniences, is a question often asked, and we doubt not many will be glad to receive suggestions how to get up neat, cheap, and suitable conveniences for economical and clean feeding. We proceed therefore to give a few illustrations and directions about Sheep Racks, beginning with one of the simplest and cheapest form which has been highly commended, and an illustration of which heads this column. Our cotemporary, the *Country Gentleman*, speaks favourably of it.

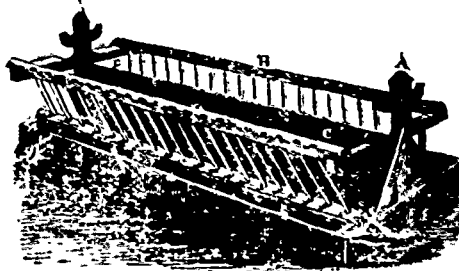
A brief description will enable our readers to understand its construction and use. The corner posts are about three feet high, and are made of 3 by 3 inch scantling, one piece twelve feet long making the floor. Inch boards are nailed on these posts, as represented in the figure, the top board being five or six inches wide, the bottom one about ten; the length of the rack may be about twelve feet, width two feet. On the horizontal boards are nailed short vertical strips, each five or six inches wide, and leaving spaces six inches wide, through which the sheep thrust their heads in eating. Boards are laid in the bottom on cross pieces, which connect the lower edges of the lower horizontal side board. These may be narrow strips with open spaces between them. The rack is now complete, hay being thrown in at the top



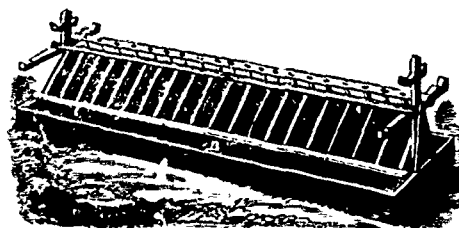
Here is another rack of a very simple and cheap character, which is much praised by the *Register of Rural Affairs*. It consists of four scantling posts about three feet long, (which should stand on flat stones,) into which the horizontal rails are let or mortised, so that the face of the rail shall be one inch within the outer side of the posts. Strips three or four inches wide are then nailed on, and should be far enough apart to admit freely the head of the largest sheep; and as animals vary in size, each farmer should first ascertain by measurement, before constructing his racks, the proper size. Six inches will be a proper distance in most cases. The advantages of this rack are its lightness; facility of construction; cheapness; compactness, rendering it easily packed away; it may be used for making sheep pens; and does not allow the hay seed to enter the wool, as is the case with all open racks inclining outwards. The only disadvantage is the want of a feeding trough; but for ordinary purposes these troughs are most convenient and most easily cleaned, if made separately. Troughs for sheep are usually made the shape of a common pig-trough, only longer. They are better, however, with flat bottoms. The Y

shaped trough allows the grain or meal to get wedged down in a mass at the lower angle, and tempts the animal to eat too fast, while a flat-bottomed trough admits of the feed being strewn in a thin layer, and compels the sheep to eat more deliberately.

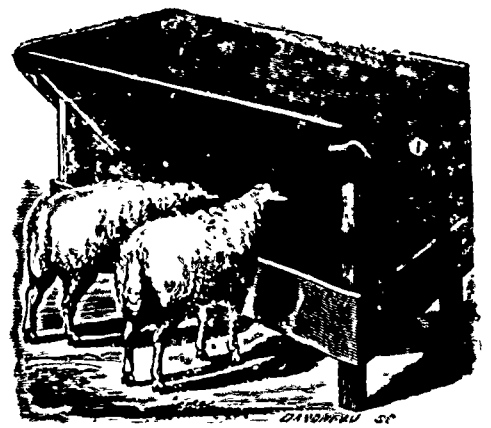
But little lumber is required for either of these racks. We specify what will be needed for the first, as follows—One piece of 3 by 3 scantling twelve feet long, two inch boards, ten inches wide and twelve feet long, two five inches wide and twelve feet long, four end boards, five and ten inches wide respectively, and twenty-five feet of slats; fifteen feet of bottom boards complete the materials—the whole of these would be about ninety feet and would cost seventy five cents to a dollar and a half in different localities. Any farmer of fair ingenuity would make one in half a day—costing not to exceed two dollars for the whole—and paying for itself every month while in use in the amount saved.



We now come to something more elaborate, and give two illustrations of another rack which the *Wisconsin Farmer* pronounces to be "just the thing." While setting forth the merits of this particular rack, our Western cotemporary makes some excellent remarks on the general subject of conveniences for feeding animals, a portion of which we quote—"Whatever will contribute to the relish and good feeling, in a word, to the general satisfaction of an animal, will in the same proportion promote health and facilitate fattening. And yet nothing is more common, even with those farmers who take the trouble to provide racks and troughs, as herein urged, than to allow the depositories of provender to become foul and disagreeable to such an extent as to deprive them of a good share of the advantages they were intended to secure." In the above illustration, A is the standard or centre post, 2 by 4 scantling; height four feet. B is the rack, two feet wide, the slats 4 inches from centre to centre. C is the centre board, 16 inches wide, closes at the top, 8 inches apart at the bottom. D is the trough which catches the seed and fine stuff pulled out with the hay; space from bottom of rack to edge of trough 4 inches. E is the arm, 42 inches long, to support the upper rail of the rack when thrown open, the entire width of platform 42 inches, side pieces to platform 5 to 6 inches. When the hay has been placed in it, the upper rails of the rack are pushed towards the centre post into the groove which is seen near the post. The rack, when filled, lies pressing on the hay, thus preventing more hay being pulled out than is eaten. From the position of the feed to the sheep when eating, there is no dropping of seed and dirt into the wool and eyes, which is the case with racks inclined the other way.



The rack is to be hoisted to the upper pin or notch when the long hay has been eaten; then the trough affords an opportunity for the sheep to eat the seeds and the fine hay. The trough is also a good place in which to feed grain or salt.



Our next illustration is of a new "PREMIUM SHEEP RACK," invented by an ingenious American named Eaton, and highly spoken of in a recent number of the *Scottish Farmer*.

The engraving represents one side, A, of the rack turned in, disclosing the feeding troughs, B, and the internal arrangement of the rack or box, more properly speaking. These feeders, A, are swung on pivots on the upright bar C, and when in the position indicated in the engraving on the side where the sheep are feeding, permit them to have access to the fodder at all times. When roots or fine feed are used in the feed-troughs, it is necessary to clean them out occasionally; and to do this, the feeder-boards, A, are turned up, as shown at D, and the attendant can go inside and sweep out the troughs through the door, E, without being hindered or delayed by the crowding or desire of the sheep to get at the feed. The feeding-boards can also be turned up in a horizontal position, so that by merely placing a bar underneath the two leaves, when so turned up, a table is made which may be used for shearing on in the spring; or by partially inclining the side in the form of a roof, and placing a ridge piece over them, the salt, with which it is usual to supply the sheep at certain seasons, can be thrown in the troughs instead of being scattered under foot and elsewhere to be wasted; the inclination of the roof serves to keep off rain and dew and is thus turned to good account in this respect.



We give yet one more illustration. The above engraving represents a Combined Rack and Trough for sheep and other stock, patented by Andrew Ralston, of West Middletown, Washington Co., Pa., in May, 1862, who thus describes his invention and its advantages:—

"A is the trough, B the rack, and C the railing placed on the rack to prevent sheep from getting on or over it. The rack is hinged to the trough, so that when thrown open it is easily filled and cleaned out. This rack has been extensively used and much approved. It obviates all the difficulties usually experienced in feeding sheep, such as wasting feed or hay, rubbing wool off the neck, getting hay seeds into the wool, strong sheep crowding out weaker ones, &c. &c. Wherever it has been introduced, it is regarded as a public benefit, and by its use thousands of dollars worth of hay and other feed may be saved annually.

These racks, constructed as above described, may be made portable, and so put under the sheds during the summer. In this way they will last many years, and pay for themselves many times over in the saving of feed.

FAT SHEEP.—A Vermont farmer recently killed a three year old ewe sheep, of the Leicester breed, that yielded fifty pounds of tallow. It is said the fat was three inches thick on the ribs.

LAMBS FOR THE BUTCHER.—The New York *Tribune* says that if a South Down ram is crossed upon selected ewes of the common stock of the country, lambs may be obtained of an average value to the butcher of 25 per cent higher than lambs of the same age, from the same stock, of the native breed. Where South Downs can not be obtained, the Leicesters will do nearly or quite as well.

TO CURE SHEEP FROM JUMPING.—A correspondent of the *Ohio Farmer* gives the following curious account of the method adopted by him to prevent his sheep from jumping the fences of his pasture:—“I want to tell you about my jumping sheep, and how I broke them. I got them in a pen built sufficiently to hold them; I then caught the ringleaders one at a time, and made a small hole in each ear. I then took a cord or string and run through the holes in the ears together close enough to keep them from working the ears; I then let them out and they are as quiet as any sheep.”

SHEEP SHEEDING WOOL.—Mr. Lewis Clark, in the *Wisconsin Farmer*, says the best plan to keep the wool on sheep is to keep them fat, and that if sheep run down from any cause, and are fed high at once, their wool will start. Even a change of pasture, from a poor to a timothy and clover pasture, will start the wool from a lean sheep. But the feeding of corn, beans, wheat, rye, barley, oats, vegetables, or anything that sheep will eat that makes fat, avoiding sudden changes, will not only cause the wool to stick, but will increase it more than enough to pay the additional cost.

AGE OF SHEEP.—The age of sheep may be known by examining the front teeth. They are eight in number, and appear during the first year of a small size. In the second year the two middle ones fall out, and their place is supplied by two new teeth, which are easily distinguished by being of larger size. In the third year, two other small teeth, one from each side, drop out, and are replaced by two larger ones; so that there are four large teeth in the middle, and two pointed ones at each side. In the fourth year the large teeth are six in number, and only two small ones remain, one at each end of the range. In the fifth year the remaining small teeth are lost, and the whole front teeth are larger. In the sixth year the whole begin to be worn; and in the seventh, sometimes sooner, some fall out or are broken.—*Mountain Shepherd's Manual.*

GRASS LANDS MANURED BY SHEEP.—A correspondent of the *Boston Cultivator* writes that he has practiced folding sheep on his meadow lands for two years past with excellent results. He uses the moveable hook and eye fence, and encloses a space of fifty feet square, which is moved daily. Into this enclosure the sheep (150 in number) are driven every night, and remain until morning. Two men, after a little practice, will easily move the fence in fifteen minutes.” He commenced folding the sheep in this way immediately after haying, and has thus top-dressed several acres in the best manner, and at a very slight cost. The editor states that the spots where his sheep were folded last year, were chiefly on the top of a ridge, where the soil was thin. We examined these spots closely in June last, just before the first crop of grass was cut. The crop was as great apparently, as could stand on the ground, presenting a most gratifying contrast with the crops which had been previously produced. The whole field was also improved by having been grazed by the sheep, as was evident from the grass being thicker and finer.

EFFECTS OF ROOTS ON SHEEP.—On this subject, Randall, in his *Practical Shepherd* says:—“Having habitually and regularly fed turnips daily to breeding ewes, rams, and wethers, [when I have kept the latter,] for the last fifteen or twenty winters, I am able to affirm of my own positive knowledge, that green feed, administered in proper quantities, does not in the least diminish the appetite for dry feed, and that proper green feed, so far from weakening, adds to the condition and strength of the sheep, besides producing other good effects which will be adverted to when I speak of the relative value and influence of winter feeds. The experience of the great body of English farmers fully sustains these conclusions. The practice of wintering sheep exclusively on dry feed—say on meadow hay and straw, with or without grain or pulse—is substantially unknown in the arable districts of England. For sheep of every class not to receive green feed daily would there be an exception; and fattening sheep receive it in abundant quantities.”



The Breeder and Grazier. Smithfield Club Show.

THIS Society has now existed for more than half a century. Originally consisting of some score of noblemen and enterprising farmers, it has gone on uniformly progressing, till at length it assumes the character of a great metropolitan institution, and the Christmas Fat Cattle Show keeps London, and a great portion of England, astir for a whole week. It is now held in a new Agricultural Hall of gigantic dimensions at Islington, where twenty thousand visitors need not incommode each other, with ample space for implements and machinery, as well as live stock.

The *Mark Lane Express* observes that “so far as the mere number of entries could make a good Show, there is every reason to be gratified with this second great week in the Graziers' Palace. The cattle classes give 245 entries—an increase of 64 over last year.

The *Devons* about equalled their last year's appearance as far as numbers are concerned. Mr. Wortley's first prize steer is described as being quite remarkable for size and weight. The old *Devons* were in great force, Mr. Heath's ox, from the stock of Mr. Passmore, being all meat, of rare touch and quality, and a very small proportion of bone. Other animals are noted for superior points, particularly a cow bred by the late Prince Consort.

The *Herefords* rather exceeded in number last year, but in point of quality as fat beasts, were hardly equal. The crack steer of the Show was Mr. Heath's Silver Cup, or *quondam* gold medal ox, the best male animal in all the cattle classes. He is described as a great and grand specimen of the breed, very large in frame, broad, deep, wonderfully straight level, and heavily covered at every good point; girthing 9 feet 4 inches; bone fine; head handsome, coat of the right character, and handling indicative of superb beef.

The *Short-horns* were better represented than last year, and the Smithfield Show is certain to bring out more or less fully the characteristic specimens of this world renowned breed. The steers numbered 20; the old class of oxen 17, with 6 heifers and 12 cows. Mr. Swaisland's heifer obtained the Gold Medal for the best cow in the yard, the same animal that carried every thing before her the preceding week at Birmingham.

Last year only eleven *Sussex* cattle were exhibited, this time that useful breed amounted to thirty. It is worthy of remark that the *Sussex* cattle were not recognized till lately either by the Smithfield Club or the Royal Agricultural Society as a distinct breed, and were consequently excluded from their Shows. They are strong powerful animals, much resembling, but larger than the *Downs*; the oxen making capital workers; and on the whole we consider this breed admirably adapted to Canada, where they are as yet entirely unknown.

The Show comprised some half dozen excellent specimens of *Norfolk* cattle, a capital breed of first rate dairy value, with great aptitude to fatten, and about the same number of *Long-horns*. The *Scotch* classes were very well filled, containing animals of great beauty and of unequalled quality. Mr. Snoyd's West Highlander, is a splendid animal, grand in every point, and with some it was really a question whether he was not entitled to the Champion Cup, as the best ox of the Show. The *Scotch Polls* were very good, commanding alike the admiration of butchers and visitors.

Sheep—This important department was by no means as extensive as usual; but, perhaps, with the exception of the *Cotswolds*, it was fully up to the usual mark of excellence. In *Leicesters* there were only a dozen entries, compared with 21 last year. A larger frame and more substance, with a greater richness of wool, seem to characterize this breed, in comparison with the fineness and quality which once won all the prizes. Of the *Cotswolds* the less said the better. There were but two entries against eight last year; and the specimens sent were so little characteristic of this noble breed that the prizes were justly

withheld. The *Romney Marsh* sheep put in an appearance with three pens. The *Southdowns* numbered only 24, instead of 32 entries, as last year. Lord Walsingham's First Prize Wethers got the silver cup for the *Down* classes. These were most perfectly formed and handsome animals, true and level, fully equal to anything ever seen in quality with very fine wool; and beyond all this, they had the merit of carrying great weight upon their delicate bone. It is alleged that the three sheep weighed alive, 49 stones (Imperial) and 12 lbs.; or 3½ stones more than the prize sheep of last year. The *Hampshire* and *Wiltshire Downs* contained some superb animals, with extraordinary backs, rare legs, great frames heavily loaded with beautiful mutton, and with a considerable weight of fine good wool; but while very long, not so symmetrical as a perfect model requires. *Shropshires* comprised 10 entries, and in point of appearance and quality fully sustained the rising reputation of this valuable breed. The *Oxfordshires* numbered four entries, as last year, Mr. Overman, Mr. Drure, and Mr. Stilgoe being the prize winners. But the trimming and greasing were alleged to be scandalous. There were six entries of *Mountain* sheep last year; this time we find eight. The little white breed *Barnmoor* horns are much improved; in fact they are so good that they don't like being beaten by Mr. Downey's excellent pen of old *Herefords* or *Ryheads*. Mr. Eastwood's old *Lancashire*, or “*Lonk*” sheep, of immense length, though not so symmetrical as *Downs*, with black and white speckled faces and fine wool,—longer than *Down* wool, but shorter than *Leicester*,—gained the first prize in the “*Black-faced* or speckled-faced” class, and are certainly a very valuable sort for moor and mountain.”

Midland Counties' Cattle Show.

THE annual exhibition of Fat Cattle was held at Birmingham, the beginning of December, and it appears to have well sustained the high position to which of late years, it has attained.

The *Herefords*, as was to be expected in the very nursery of that distinguished breed, stood first in the catalogue, and comprised several excellent specimens though, taken as a class, they appear not to have been superior to former years. The gem of the whole collection was a remarkably fine three and a-half year old heifer from Shrewsbury, which girthed 8 ft 4 in., and 5 ft. 3 in. in length from the shoulder, and was well bred and fed, exhibiting almost to perfection the principal characteristics of the breed. Here *fords*, we may add, are as yet but little known in Canada, and till Mr. Stone, of Guelph, about three years since, imported at great expense some first-class animals, we had none worth looking at.

The *Short-horns*, as a whole, were not quite up to the mark either in symmetry or quality. There were a few *Long-horns* present, a breed that had almost become extinct, but which appears to be somewhat reviving; they make excellent beef, but require a much longer time to mature and fatten than their rivals, the *Short-horns*. The fine, fat and fair, little, thick-set *Devons* were very well represented, the best being from the Norfolk farm of the late Prince Consort.

In the *Scotch* polled breeds there were some fine specimens, especially two from his grace the Duke of Buccleuch, and another two from Messrs. Martin and Stewart, of Aberdeen, one of which girthed 9 ft. 10 in. The *West* and other *Scotch* breeds formed a splendid class. The *Galloways* were much admired and highly commended as a lot by the judges. The meat of these Northern animals is of very superior flavour, and of delicate quality, commanding higher prices in the market than the heavier and coarser breeds.

In *Sheep*, the *Southdowns* were splendid; Lord Walsingham, as usual, here, carrying all before him. The *Leicesters*, as a whole, were not considered quite equal to former years, and this will apply, also, to the *Cotswolds*. The *Shropshires* and crosses of this breed, and *Southdowns*, were much admired, both for size, symmetry and quality, for both meat and wool.

The display of *Pigs*, especially the medium and smaller breeds, was very good; in some cases, however, over-fattened, a remark that will apply to most of the other classes, but not to so great a degree as formerly. The *Poultry* was excellent in almost every department. The *Midland* Society has always occupied a high position in this respect. The first-prize *Aylesbury* duck and two *drakes* weighed 25½ lbs.; the three prize white geese above one year old, 67 lbs.; and the three under one year old, 52 lb. The three prize grey and mottled geese sent by Mrs. Ferguson-Blair weighed 77 lb.; while her prize turkeys, this year's birds, reached 62 lb. This lady, who has

become so distinguished an exhibitor of Poultry, and the writer of one of the best treatises on the subject, is a daughter-in-law of our late and much-respected friend, Hon. Adam Ferguson, of Woodhill.

A novel feature of these fat Cattle Shows is the exhibition of Dogs, which is equally interesting and attractive. The sum of £600 was given away in prizes. For these, no less than 570 dogs competed; "animals belonging to all varieties of which Jesso or Stonehinge have written, were entered for competition; and as a general rule, they may be described as the very best of their class to be found in the country. For use, ornament, sport, and courage; for useless, ugliness, and cowardice; for enormous size or infinitesimal diminutiveness, all persons may be suited according to their fancy in this great dog bazaar, and at prices from £1 to £1,000!" The Flower Show was likewise exceedingly attractive, and with that of the Dogs, tended very much to fill the coffers of the Cattle Exhibition.

Hog-raising and Pork-making.

[BY A BACON-CURER.]

To the Editor of THE CANADA FARMER:

DEAR SIR, - We have to complain that the majority of the hogs brought to market are coarse, ill-bred, or only half fattened, or if fine-bred and fat, they are so badly worked as not to come up to the proper standard. Frequently all these faults are combined. Now it must be clear to the dullest comprehension, that if by altering this state of things the farmer can obtain from 2⁵/₁₀₀ to 5⁰⁰/₁₀₀ per 100 lbs. more for his pork he will be a gainer. I think I speak the sentiments of the trade when I say, that we would rather give the outside value for a strictly fine article than have the old-fashioned race-horse bred at a figure considerably under the market price. I would say, then, to those farmers who have already a good breed of hogs seek to improve them, and to those who have not feed your hogs, all of them, and kill them off. [pork is now a good price.] and provide yourselves with a sow or more, according to your requirements, of some improved breed such as the Berkshire or Suffolk. Let them be a good length, for it is an error to suppose that a pig as round as a ball is a desirable shape. These short, thick pigs are all shoulders and hams. There is no room for the prime cuts, so much appreciated in England, and I may say everywhere, by all who know what good eating is. The points most in favor with the curer, are a small head, body a good length, legs small and short, and skin fine and thin. In addition to the farmer obtaining for such hogs the highest price, their early maturity and aptitude to fatten are by no means trifling advantages.

Having started fair with a good breed, the farmer should be very particular to have all the males he intends to fatten castrated early, as their running entire for six, nine, and twelve months, is very injurious to the meat, and has the effect of making them heavy in the shoulder, (the very place where they should be light,) and thick in the skin, both faults which are very heinous in the eyes of a practical man. In Berkshire and Wiltshire, England, the sow pigs intended for fattening are played at about six weeks old; the advantage to the meat is very great.

Now for the fattening. The greater part of the pork procured in this country is fed on good food, and it is almost needless to tell an intelligent farmer not to let his pigs get beech nuts, but if the peas were ground for hogs they would get fat much quicker, and the meat would be much firmer, finer in the grain, and would waste less in boiling. A mixture of barley with the peas is a very great improvement to the meat. It is a poor plan to kill your pigs just as they are beginning to look pretty well. Remember a pig thoroughly fat is worth half as much more as a lean one.

Now for the killing. If this is done early in the Fall, choose a cold day, and be sure to let the pigs hang till they are thoroughly cold and stiff before cutting them down. Farmers have no idea of the importance of this. Many cut their pigs down two or three hours after they are killed, and rattle them fifteen or twenty miles to market, and the probability is they will be tainted when they arrive there. If they escape that fault, they are out of shape, full of blood, and the meat never becomes firm, as it should.

In dressing, see to it that the hair is well cleaned off every part, then open them from the tail to the snout, and take out everything that is not strictly pork. Many open them only partially, and leave in blood and part of the gut. This is a filthy practice, unworthy of a civilized country. Left in this way they get into a bad state, if not cut up for a few days, especially if the weather is warm. Take care that the throat is well rinsed out with cold water, then prop open the belly with a stick seven or eight

inches long, (not longer,) and if hung as described above, they will come to market in good order. Avoid the foolish plan of rolling up the belly and flank, thus exposing the lard, and putting the side so out of shape that nothing can be done to make it neatly. When I state, that in consequence of excellence on the above points I lately paid half a cent per lb. for thirty hogs above the general price, you will see at once that the farmers will consult their own interests by giving them attention.

Let me add, if you kill in winter choose a mild day, and if possible get your hogs to market without their being frozen. When hard frozen, the meat is never so good, and turns to a dull, dark colour instead of a nice pink in the lean, and white in the fat. This bad colour has made very much against the sale of Canadian bacon in England. The pork trade of Canada is yet in its infancy, and if the quantity now raised was trebled, there would be ready sale for it. The faults alluded to have been very much against its manufacture for exportation to Britain. Let these be remedied, and our pork will stand high in the home market.

I am,

Yours respectfully,

WILLIAM DAVIES.

Packing House,

35 Front-st., Toronto, Jan. 27, 1864.

Nutritive Values of Food for Stock.

It is of very great importance to the breeder and grazer to know the relative feeding values of the different kinds of food for stock, and many experiments have been made with the view of preparing a correct table of values for their guidance. Special circumstances, however, interfere to affect differently all such experiments, and to prevent more than a near approximation to the relative values. As for instance, the ripeness of the crop when it is the weather during harvest, the feeding quality of the animals experimented with, &c. Sufficiently accurate results have, however, been arrived at for all practical purposes—and some of them may be useful to many of our readers.

A high English authority declares 100 lbs of good hay to be equal to

275 lbs green Indian corn stalks	40 lbs wheat,
442 lbs. rye straw	59 lbs oats,
164 lbs. oat straw	45 lbs peas or beans,
153 lbs. pea straw	64 lbs. buckwheat,
201 lbs. raw potatoes	57 lbs Indian corn,
175 lbs. boiled potatoes	64 lbs acorns,
339 lbs. mangold wurtzel	105 lbs wht at bran,
501 lbs. turnips	109 lbs rye bran,
54 lbs. rye	167 lbs wheat, pea and oat chaff,
	170 lbs rye and barley chaff.

Striking a mean between the results of Bous-sault's and Fresenius's experiments, we have the following as the equivalents of 100 lbs. of good hay:—

Red Clover Hay	95	Peas	44
Rye Straw	355	Indian Corn	56
Oat Straw	220	Barley	51
Ruta Bagas	262	Rye	49
Field Beets	346	Oats	59
Carrots	280	Buckwheat	64
Potatoes	195	Wheat	43
Beans	46	Lansed Oil-cake	64

German chemists have made experiments specially with the view of ascertaining the relative value of different kinds of food for Milch Cows, and they find 100 lbs. of good hay to be equal to

200 pounds Potatoes	
460 "	Beetroot with the leaves
350 "	Siberian Cabbage.
250 "	Beetroot without the leaves.
250 "	Carrots.
80 "	Clover, hay Spanish trefoil or vetches.
60 "	Oil-Cake, or colza.
250 "	Pea straw and vetches.
300 "	Barley or oat straw.
400 "	Rye or wheat straw.
25 "	Peas, beans, or vetch seed.
50 "	Oats.

Although not strictly accurate, these tables may be of immense service to many farmers.

PROTECTION FOR ANIMALS.—Intelligence flows from all parts of the West, of the death of domestic animals in large numbers as the result of exposure to the excessive cold at the coming in of the new year. The loss in sheep especially, has been very heavy. One farmer lost 430 out of a flock of between 800 and 900. It is miserable economy to keep stock without proper shelter. Sheds, stables, groves and wind breaks, should be amply provided on every farm.

Points of Excellence in Farm Stock.

To the Editor of THE CANADA FARMER.

SIR, - I think there is a very wide-spread and anxious disposition on the part of the farming population of the Province to improve the stock they keep upon their farms, whether such stock is kept for working, grazing, or dairy purposes. But as a general rule, I fear there is a want of knowledge in many would be purchasers, some exhibitors, and even judges, so that they are not really qualified to determine whether the animal under inspection is really good and desirable.

To secure the best and most reliable information for our guidance in such cases, I would suggest that you publish, under the auspices of the Board of Agriculture, a small hand-book of the best known marks and characteristics of the most useful and esteemed breeds of horses, cattle, sheep and pigs, and, if you like, barn-door fowls also, for the guidance of judges at cattle shows, and for the information of the general agricultural public. To complete the thing, I would further suggest that you name the different points which animals ought to show, and the number of marks to be given to each point, according as it may be perfect, or approximating to perfection. In the animal exhibited. I can have no doubt that something of the kind has received the sanction of one or all of the great National or Provincial Agricultural Societies of England, Ireland and Scotland, the Canadas, and the United States. It is right that the decisions of judges appointed to fix the relative value of different animals should be guided by fixed rules, and not be given at hap-hazard, as I am afraid is sometimes now the case; and it would be well that every farmer should know them also.

It may be well to add any known and approved rules for ploughing matches, or, indeed, for any other agricultural matter open to competition, for the guidance of managers, exhibitors, and those who may be appointed judges.

Your s obediently,

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There is to be a Fat Cattle Show at Namburgh, Europe on March 17 20 next. Besides liberal prizes for Continental breeds, three premiums are offered for oxen bred in Great Britain and Ireland, viz.: £30, £15, and £7 10s.

COOKING FOR PIGS. Samuel H. Clay, of Bourbon experimented in feeding several lots of hogs, changing them from raw to cooked, and from ground to un-ground food, and he declares that one bushel of dry corn made five pounds and ten ounces of live pork; one bushel of boiled corn made fourteen pounds and seven ounces of pork, one bushel of ground corn, boiled, made in one instance sixteen pounds seven ounces, and in another nearly eighteen pounds of pork.

The Winter Show of the Royal Dublin Society was held Dec. 15-17. The oxen were ordinary; there were some superior cows of the Shorthorn, Hereford and Kerry breeds, - and the best beast in the show was a heifer, two years and eight months old, a cross between a Hereford cow and a Short-horn bull. The Silver Challenge Cup, value £50, was awarded to her. Of this prize animal, the *Irish Farmers' Gazette* says: "She was decidedly the plum of the show; a mass of meat of the best quality, and without patchiness. There was not a word of dissent as to the propriety of the award."

The first-prize 3-year old Ayrshire cow at the Dumfries and Galloway Union Show in October, 1862, was shipped to Africa. She arrived in safety, and became the property of Mr. Charles Dickson, of Messrs. W. Dickson and Co., agents for Lloyd's. The cow has been gaining additional honours where Africa's sunny fountains roll down their golden sands," as at the Cape of Good Hope Agricultural Society's Exhibition, held on the 24th September last, she gained the silver cup for the best cow in milk, there being fifty-six cows of all breeds shown in the class.—*Dumfries Courier*

POINTS OF A GOOD MILCH COW. 1. Purity of breed and qualities of the dam for yielding rich and yellow butter. 2. Small head, large and bright eye, small muzzle, small ears, orange-colour within. 3. Straight back from the shoulders to the tail, and chest wide. 4. A fine and loose skin, with soft and short hair. 5. Sides well rounded, flank small between the side and haunch, tail fine. 6. Fore legs straight and well proportioned, hind legs broad above knee, fine and clean below; hoofs small; legs should not cross in walking. 7. Udder large, and the teats large and springing from the four corners of the udder milk; vein large and well defined.—*Gardener's Chronicle*



The Dairy.

English Cheese vs. American Cheese.

[BY JOSEPH HARRIS, OF ROCHESTER.]

I FIND from the last London *Mark-Lane Express* that English cheese is quoted at 12½ cents to 15 cents per pound, and American at only 8½ to 11½ cents per pound—the English cheese bringing 4 cents per pound more than the American. Now this difference in price is enormous, for it must be recollected that the increase in price is all profit. I do not know how much profit you ordinarily make on cheese, but at present rates I should not estimate it more than 2 cents per pound, after allowing a fair compensation for labour, etc. Now if American cheese in England brought the same price as the English cheese, that is, 12½ cents per pound more than at present, the profit would be three times as great—for the cost of sending it to the market would be the same in either case. John Bull is a great cheese eater, and he will be very glad to get his cheese from this side of the Atlantic if he can get it a little cheaper than it can be had anywhere else. I think it may safely be asserted that in everything that relates to the mechanical operations of cheese making American dairymen are ahead of the Old World. I have visited the best dairy districts of England, and have seen nothing to be compared with the appliances used in the neighbouring counties of Levis and Herkimer, and I doubt not in St. Lawrence, also. Take Rowe's Western Reserve Cheese Vat and there is nothing equal to it in the world, unless you have something better in this section. With such an apparatus and one of your simple mechanical presses, cheese making is nothing but a pleasant pastime.

Come with me into a Cheshire dairy. It is 5 o'clock in the afternoon, and punctual to a moment the cows, forty in number, are brought to the yard and tied up. The mistress and her two stalwart maids, with a man to help them, sally forth with their clean, bright tin pails. Now all is still, not a sound is heard save the dropping of the milk as it flows regularly and rapidly from the udder to the pail, which is held up from the ground firmly between the knees of the miker. An old man carries in the milk to the dairy, and by 6 o'clock the forty cows are milked, and stripped, and on their way to pasture. Four o'clock in the morning finds the maid and her mistress in the dairy taking off quickly and almost slyly—for she is a little ashamed of it—the cream from the surface of last night's milk. It is then put into a large, round, heavy, old-fashioned cheese tub—a portion of it being heated by putting it in a tin standing in a cauldron of boiling water. By 5 o'clock the old man has the cows again in the yard, and by six the new milk is in the tub mixed with that of last evening, and with the portion that has been heated. The whole is at a temperature of about 82 degrees. The rennet is then added; the tub covered with a cloth, and they then sit down to breakfast.

In an hour the cheese has come. It is then carefully and gently cut up into small, square pieces and allowed to settle. As it settles the whey is dipped off with a wide, flat-bottomed, shallow tin. When nearly all the whey is thus removed, the tub is tilted on one side and the curd placed so as to allow the whey to drain off. A semi-circular board is placed upon it, and two fifty six pound weights are put on the board to press out the whey. The curd is then placed in a cloth and put under a hand-press, and pressed till it is quite dry. It is then taken out, broken up and salted, and placed in a cheese mould with a cloth around it. It is now ready to be pressed, but where is the press? There in the corner stands three large square blocks of stone, the lightest weighs perhaps half a ton, and the heaviest three or four tons. These are raised by means of a common screw. The freshly made cheese is placed under the lightest one and remains there till the next morning, when it is taken out, skewered, and a dry cloth put around it, and placed under the next heaviest press. The next day it is again removed, the cloth changed, and then placed under the heaviest press. THREE days to press a cheese! think of that ye cheese makers of St. Lawrence, and bless your stars that you were not born in Cheshire? You congregate the milk, cut up

the curd, scald it, draw off the whey, break up the curd, salt it, put it in the press, pull down the lever and the whole is done. Unquestionably the American process, so far as mechanical appliances are concerned is the more scientific. And the fact that American cheese has retailed higher in the English market than the best Cheshire, proves that cheese can be made by this process of the highest quality. The differences between the two processes are, first we scald the curd; and second, none of the whey is pressed out before the curd is salted. The process of scalding renders the curd firmer, and the consequence is that less labour and time are required in pressing. Scalding is, in fact, a quick way of pressing. But there is danger of scalding too much on the one hand, and pressing too little on the other. The higher we scald the less we need to press; but I am inclined to think we scald too much and press too little.

The chief fault found with our cheese in England is that the whey is not all removed. Thus Dr. Voelcker, Chemist to the Royal Agricultural Society, has recently analyzed cheeses made in different districts in England, and also some from America, and he found one of our cheeses was full of holes, badly made, and had a very strong smelt. It was evident, he said, that the whey was not carefully pressed out in making. On the other hand, he analyzed one American cheese which he says was as nice as could be desired—exceedingly rich and of good flavour, but on the whole he came to the conclusion that good materials were even more thoroughly spoiled on this side of the Atlantic than in England. I think that the evil lies not in the method we adopt—for I am satisfied that that is excellent—but in the want of due care in carrying it out.

But the one grand error in American cheese making, is the want of care in not ripening the cheese before it is sent to market. We all know that there is considerable difference between a good pear and a mellow one, between a Baldwin apple now and after it has been kept a few months to ripen. So there is much difference between curd and cheese. The curd is the green apple, the cheese the ripened fruit. If you were going to send hay to market you would not send the green grass fresh from the field, and yet you often sell your cheese when it is as green as grass. In the Cheshire dairy, to which I have alluded—and which was celebrated for its cheese—none was ever sold until it was six months old. The cheeses were kept in a moderately warm room until thoroughly ripened and cured, with that outside mould so indicative to a practiced eye of a rich, fine flavoured cheese. I think this selling cheeses whole still hinders else than curd, and allowing them to be jolted and jammied, and exposed to the greatest variations of temperature, is enough to spoil the best cheese that ever was made. The wonder is, not that cheeses so treated sell for 4 cents per pound less than the carefully ripened Cheshire, but that they sell at all.

Winter Butter-Making.

At a recent meeting of the Eye Farmer's Club, Mr. Horn read a paper on "Dairy Produce and Management," from which we take an extract relative to butter-making in winter:—

"During the winter, our cows are fed on roots and chaff in conjunction; the first part of the season on Scotch yellow turnips or Swedes; after Christmas on mangolds. Those in full profit receive about 5 lbs. of cake or corn in addition. It is when fed on roots that the care and experience of the dairy-maid are put to the test to produce a good article. Our dairy people maintain that if we send the milk into the dairy free from taint, they will produce butter agreeable to the palate; therefore, when the cows are on roots we invariably use a small quantity of saltpetre put into the milk warm from the cow, in order to dispel any effluvia the roots may produce. Care must be taken not to use too much; if so, the butter will taste rancid; say an ounce to every 30 gallons. We shall now go into the dairy, and, to use an Irishism, we don't allow the butter to spoil before it is made; that is, stale vessels taint the milk, or stale milk taints the cream, and tainted cream will not produce first-class butter; and as our object is quality before quantity, our customers being rather fastidious in taste, we must endeavour to produce a sweet article. The milk is first creamed at 24 hours, and again at 36; in so doing, both milk and cream keep sweeter that if only once creamed at 36. We churn three a week. We use no artificial colouring. Our spare butter goes to a "West-end Miss," at prices varying from 14d. to 17d. per lb. There are many 'y's and 'a's in order to make good butter where cows are fed on roots; but the dairy-maid claims them as her knowledge of the art, and which would be tedious to describe. Gentlemen's dairies are in

season with home farms." Neither are proverbial for large profits. However, while our injunctions are to produce a first-class article, we at the same time have an eye to profit. Our dairy of milk cows are 24, and they cost us for dairying and attendance 24s. or 1s. a-head per week; and on examining our dairy-book for 1862, after deducting said labour, I find a credit of £10 standing for each cow. Do it remembered, we wean a calf for each cow in addition.

Churning.

Butter exists in cream in the form of minute globules surrounded by a thin film of casein, and to obtain the butter we must first break this film. This may be done in two ways, either by agitating it, or by heating it. There are several conditions which influence the time required for separating the butter by churning; and if these are fully understood and complied with, there will be little or no trouble in getting butter to come. The main and most important condition is the temperature of the cream when it enters the churn; there seems to be a certain medium established, and it seems to make but little difference whether the temperature of the cream is above or below it, there will still be the same trouble in breaking the casein which envelops the globules of butter. The cream when poured into the churn should not have a higher temperature than 55°, nor a lower one than 53°, when put in at this temperature it will rise from five to ten degrees during the operation of churning.

Another important condition, which does much to influence the time required for separating the butter, is the state of the cream when it is put into the churn; if sweet, it will require much longer than if sour, and it is an established fact that before butter can be made the cream must be sour, and if it does not reach this state before it goes into the churn, it must and will afterward, or no butter will be obtained. Some of those who always take the premium at our county fairs, always churn sweet cream to obtain it, and I have often had this thrown in my teeth when advocating the above doctrine, but that does not controvert my argument, for before the butter separates it does get sour. A thermometer hanging in the room where the cream is kept will indicate the temperature of the cream at the time, and this may be either raised or lowered to about 54° after it goes into the churn, by adding cold or hot water as the case may require, while the churn is in motion.

The time occupied in churning has a great effect upon butter, and also upon the temperature of the cream in the churn. If the cream is at 55° when put into the churn, very fast churning will raise it too high, and soft, light-coloured butter will be the result, especially in warm weather; in cold weather the motion should be faster, in order to keep up the proper temperature. Even when the churn fails to separate the butter, we have one unfailing agent left in the form of heat, which never fails to burst the films of casein, but will not produce an article fit to be called butter—but it can be put to uses known to every good housekeeper. Some are in the practice of churning the whole milk; in this case it should have a temperature of at least 65° before going into the churn.—*German town Telegraph.*

Shallow Milk-pans Best.

It is a very common practice to set milk for cream in deep pans, the milk being from four to five inches in depth. This is a great mistake. Half the usual depth of milk will yield more cream, of better quality, and in less time. Deep pans economise room, and cost less than a larger number of shallower ones, but what is gained on the one hand is lost on the other in the smaller quantity and inferior quality of the cream obtained. On this subject Dr. Voelcker in the *Agricultural Society's Journal*, after expressing his preference for "tinned-iron cisterns" as being more easily kept clean, goes on to say:—

"The quicker cream can be made to rise the better its quality; for cream, like all perishable substances, does not preserve its original properties for any great length of time. The cream, or rather milk globules, being lighter than the fluid portion of milk, necessarily arise in a shorter time from a less depth than from a greater depth, because they have less pressure to overcome than those in the deeper strata; the action is also more complete, as well as more rapid, in shallow vessels. There is another reason for preferring shallow vessels. Milk as it comes from the cow has a temperature of about 90°. If kept in this condition for any length of time, air being freely admitted, it rapidly turns sour. Hence it is of consequence to reduce it as rapidly as possible down to a

temperature of at least 60° Fahr. In a shallow tinned iron milk-pan placed upon stone this change is soon effected; and then, in a good dairy, the milk may be kept from 36 to 48 hours, at a season when in deeper vessels it would soon turn sour. When once begun, the process of acidification cannot be stopped by any available means. Hence it is of great importance to cool down the milk as rapidly as possible. As metals are good conductors of heat, shallow tinned-iron milk vessels, resting on stone, are better adapted to keep milk sweet than glass or earthenware, or slate-pans, placed on a bad conductor like a wooden bench. It must not be imagined, however, that the lower the temperature is allowed to sink the more cream will rise; for we must bear in mind that with the reduction of the temperature the specific gravity of the liquid is raised, and the rising of the cream or milk globules checked accordingly.

"When shallow metallic milk-vessels are employed in a proper dairy, kept at this temperature, all the cream that will rise at all will have to come to the surface in about 24 hours. Under these circumstances it is therefore of no use to set milk aside for a longer period. Some people let milk get sour before they skim it; but although the layer of cream in that case appears more bulky and of greater consistency, it does not produce so much nor so good a quality of butter. On this point we possess an interesting experiment by Sannert, who put aside two equal quantities of milk, of which the first skimmed after 30 hours yielded 30 lbs. of butter, and the second skimmed after a lapse of 60 hours, only 27 lbs. of butter. In another experiment two equal quantities of milk yielded—the one when skimmed after 30 hours, 31 lbs. of butter; and the other after 60 hours, 29 lbs. of butter. In both experiments, in which the milk was skimmed after 30 hours' standing, the skimmed milk was still sweet, and the cream not so thick and less in bulk than that which was thrown up after 60 hours' standing."

Smith's Dairy Farm, Norwich.

To the Editor of THE CANADA FARMER.

SIR.—Let me give you a synopsis of one of our dairy farms for the year 1863, in the hope that it may edify others and stimulate them to keep a record and report progress for our good. The establishment I have selected is that of Andrew Smith & Sons, in the 5th concession, Lot 26, of North Norwich. His residence is made of brick, and the farm embraces 600 acres—550 under cultivation and 50 cedar, used for rails and timber. The soil is a clay loam, and is all well drained by ditch and furrow. It is enriched in portions, as roots, spring grain and grass succeed each other once in about seven years, by the use of about three hundred loads of manure from the open air, where it has been accumulating through the winter. To the piles thus accumulating, Mr. S. has added this year about forty loads of swamp muck. He occasionally top-dresses the meadow in spring, but prefers putting the manure beneath roots and spring grain. say fifteen to twenty loads to the acre, and finds it pay well. Hay: only timothy, from 90 acres, 160 tons. Pasture: timothy, white clover, and the natural grasses. Roots, generally, 1,000 bushels per acre—but, as elsewhere, they are this year almost a failure. Owing to a spring, only 1,000 from four acres. Oats, 300 bushels from twelve acres. Mr. S. raises but little grain, preferring to give all his land and time to cheese-making. As a whole, the farm is quite free from weeds, for only occasionally a Canada thistle and a little wild mustard appears, and these are kept under without much trouble.

The farm is well fenced with rails. There are on it, besides the dwelling house already spoken of, six other dwellings, three hay barns, and two cattle barns, with stalls for 145 cattle, hay-loft and stables for 12 horses, two cheese-houses, and a new one, with ice-house, in building. On the farm are kept 10 working horses, 1 colt, 13 young cattle, 20 sheep, 21 hogs, and 130 cows, (native) 2 bulls, 70 fowls. The cows are confined in stalls by the improved stanchions through the winter, with the exception of an hour or two daily, when they are let out for exercise and drink. They are always milked in the stables. They are fed on hay alone till within two months of calving, when a feed of roots and pea meal is added daily, with cut hay. Made this season 375 cheeses, weighing 30,978 lbs.

Sold in Brantford, at 9 cents per lb.	- \$2,788 02
Add butter and cream for family of 10	60 00
Pork above first cost, and keep	67 00
Deacon skins, \$14 00; wool, \$37 70	51 20
Average income per cow, as they milked not quite 100	30 00

Mr. S. uses all the modern improvements, both in dairy and on the farm, and purposes this next season to add in, factorying all the milk he can secure from neighboring farmers.

SILEX.

Correspondence.

POSTPONED.—Communications from R. N. B., of Niagara, W. T. G., of Toronto, and J. J. G. T., of Wooler, are unavoidably deferred until our next issue.

COLOURS IN LADIES' DRESSES.—We have received a communication on this subject, which is hardly suitable to our columns.

"PADDY FROM CORK."—We shall keep in mind your suggestion about a "Monthly Calendar of Farm and Garden Operations," as likely to be of use it. "reminding parties of what, in the hurry of work, may otherwise be forgotten." You are quite right in your opinion that a good agricultural journal will "save its cost many times over" to an attentive reader.

D. W., MORPETH.—Publishing the Act of Parliament relative to the government of Agricultural Societies now, would be of but little immediate service, as the legal time for holding the annual meetings has passed. We shall keep the matter in view, however, and, so soon as we can command leisure and space, will give the Act, or a synopsis of it, with such explanations and suggestions as seem requisite.

BOOK-KEEPING.—"J. A." recommends his brother farmers to adopt some "simple and clear method of book keeping, which would show the cost of cultivating each field, with the returns; the profit or loss of each kind of stock, &c., in order that they may have a more intelligent knowledge of their business, and be better able to send to THE CANADA FARMER correct information of their experience and experiments." We cordially second the recommendation.

FLAX PULLER.—"T. N." of Bentinck, writes: "I have been trying for three years to invent a 'Flax Puller,' and I think I have a plan that will work. How shall I proceed?"

ANS.—If you have confidence in your invention, apply to N. F. Laurent, the Patent Clerk, Bureau of Agriculture, &c., Quebec, for blank forms, and take out a patent.

QUERIES.—A subscriber would feel obliged by answers to the following questions:—

1. "Does Upper Canada supply any sand of the quality needed for glass-making?"

ANS.—Yes; large quantities of it are found on an island in Charleston Lake, Escott, South Riding of Leeds. There is also plenty at Vandruill, on the Ottawa River, on Isle Perrot, in Beauharnois, and other localities in Lower Canada.

2. "Where could a small quantity, say a peck, of wild rice seed be procured?"

ANS.—At Rice Lake, north of Peterborough. Write Rev. J. Gilmour, Missionary to the Indians in that region. His P. O. address is Peterborough.

3. "Is the *Spilax Stellatarum* found in Canada, and if so, where?"

ANS.—We do not find it in Clemens Monograph of North American Spiligidie. No catalogue of Canadian insects has yet made its appearance, so far as we know, and in the meantime, we commend this question of our correspondent to the attention of the Entomological Society, recently formed.

TURNIP-TASTE IN MILK AND BUTTER.—Mrs. Smith, of Louth, says:—"The surest way to destroy the unpleasant taste in milk and butter, is to feed the turnips to dry cows and young cattle, and give the milk cows carrots or mangolds, and some corn meal."

ANS.—Mrs. Smith's plan is a very good one. We have found that alternating turnips with mangolds and carrots prevented the objectionable taste of the former.

"A BEECH TREE HERE AND THERE."—W. B. of Edgeworth, a new settler in the bush, with twenty acres cleared out of two hundred, says, "One evil of which the CANADA FARMER complains—the indiscriminate cutting down of all the trees,—has been perpetrated by us; except that here and there I have left a beech tree when it was of pretty shape."

ANS.—You have done wisely in leaving a few even. A well-developed beech is one of the handsomest trees in line a road, grace a lawn, or beautify a farm.

CARE AND PROFITS OF SHEEP.—"A YOUNG FARMER" writing from Wallace town, expresses the opinion that Merinos do best in small flocks of 25 to 30 during the winter. In reference to the profits of sheep-keeping he says: "My flock in 1863 consisted of 30 ewes, and 17 young sheep, I have now 30 ewes and 12 young sheep. In looking over my account the other day, I found they gave me a return of \$293 41." Are you sure these figures are correct? We should like to have the full particulars, and so doubtless would our readers generally.

MILK REGULATED BY FOOD.—M. A. M., of Meaford, St. Vincent, says:—"As the quantity and quality of milk are affected by the kind of food given to the cow, it is necessary to give plenty of moist, succulent food, and if possible, green food, for an abundance of milk. But should you require richness rather than quantity of milk, drier food, such as oats, beans, bran, oil-cake, and clover hay, with some turnips, &c., may be used. If as rich milk as possible is desired for making butter, give the same kind of food as in fattening animals—oil-cake, oats, barley, Indian corn-meal, and some turnips; but for cheese-milk, give beans, pease, vetches and clover, or clover hay, with oil-cake."

LONG-WOOLLED SHEEP.—S. E. C., of Duffin's Creek, says:—"There is one topic I should like to see taken up in THE CANADA FARMER—it is on rearing long-woolled sheep. How very nice it is to go into the pens of sheep owned by a Miller, Stone, Snell, and others, to see sheep weighing from three to four hundred pounds, and not know how they came to weigh so much, any more than we know how Tom Thumb came to be so small! I say, Mr. Editor, we want communications from such men; they owe them to us as brothers, and we must have them. Others who have been equally successful in carrying off prizes in other departments, should write on these subjects. We want their way of conducting these matters; it is a duty they owe us poor farmers, who do not understand how to carry farming and the raising of stock to such perfection as they seem to have reached."

TICKS ON SHEEP.—"J. B." asks:—"What is the best mode of destroying ticks on sheep?" ANS.—There are various methods in use by flock-masters; it is hard to say which is best. Whatever will rid the sheep of the ticks without injury to the animal, will answer the purpose. Various mixtures of oil, turpentine, lard, mercury, &c., are employed. Tobacco, in weak solution—as snuff—and in the smoke form is used with success. Blowing the smoke of burning tobacco among the wool is said to be efficacious. Powdered sulphur is recommended by a sheep-farmer in a recent agricultural paper. He gives the sheep sulphur in their salt, stopping it when the loosening effect is apparent, and renewing the dose if necessary. In a short time the ticks disappear. Randall, in his "Practical Shepherd," speaks highly of the common mercurial ointment of the shops, mixed with seven parts of lard. He says it is an effectual remedy. It is rubbed on the skin in furrows made by opening the wool, and should be most frequently applied to the parts which are especially frequented by the insects, viz: the neck and brisket. Half an ounce of it may thus be used with entire safety on a common sized lamb, and an ounce on a full-sized sheep. In England, where mercurial ointment is much used, it is believed to have a good effect on the skin and on the growth of the wool. A writer in the *Maine Farmer* gives a very simple recipe. He says:—"Take good fine glazed gunpowder, open the wool along the back, and sprinkle about a thimblefull to each sheep; the oil in the wool will dissolve the gunpowder, and the ticks will be eradicated."

SAVING FOREST TREES.—"Uncle Toby" in a letter on cleaning land says, "the success of the first crop depends much on the time selected for burning the brush. If we get a clean burn, I guess with even the protection of a newspaper wrapped around your pet trees, you would hardly save them. No Sir, clean the land, level it by cropping, and get it well drained, then plant with our native trees, and my word for it, we will have an improvement on natural beauty."

ANS.—We don't see Uncle Toby's difficulty. Brush can be piled with very little extra trouble so as to save a few "pet trees," and though number one of THE CANADA FARMER was not printed on combustible paper, we hope it will be the means of protecting a great many. Our remarks on this subject were of necessity general, but that the slaughter of forest trees is too wholesale, there can be no doubt. In clearing an ordinary piece of wood-land, maple,

It can be left in suitable places, headed down, and protected from the brush fires. They will make a fine growth long before the stumps are rotted, the land drained, and young trees set out by hand. In such localities as the stretch of country from Paris southward, and Branford westward, the eastern environs of London, &c. the "oak openings" formed splendid natural parks, and trees in groups or singly could have been selected, (some have been,) such as no artificial planting could surpass. In other places, evergreens in a state of nature well deserved preservation. However thickly timbered land may be, what is to hinder clumps and belts of a few acres being left not far from the house and barn? Why is the reserve of wood-land to be kept in the most remote part of the farm? If left near the buildings, it would be at once a protection and an ornament, and as thinned out for purposes of fuel, might grow increasingly beautiful from year to year. We have a shrewd suspicion that "Uncle Toby" has a nephew or friend in the nursery business.

CANADA THISTLES AND PIGON-WEED OR RED-ROOT.—R. B. of South Dumfries, makes sundry enquiries about these pests of the farm, which we will do our best to answer. He is alarmed, and not without reason, at the prevalence of Canada Thistles. Every farmer should enlist in a war of extermination against them. We know of no better mode of procedure than that recommended in our last. *Thoroughly kill the roots and the roots must die.* We doubt if cutting them at any particular time will "give them a dead blow," though cutting them shortly before they come into flower, inflicts a severe check upon them. But they are so tenacious of life that the process must be repeated. To mow them close to the ground just as the flower buds begin to show themselves, and follow it up with repeated ploughings, is a good plan.

Pigeon-weed or Red-root is even more difficult to get rid of when once established in the soil. "R. B." is in no small tribulation about it. He says:—"I am afraid the red-root will outflank me!" Without good generalship there is much danger that it will do so. Its seeds are remarkable for retaining their vitality for years when deeply buried, or kept from warmth, air and moisture. This renders the pest very hard to eradicate. When the farmer flatters himself that it is utterly destroyed, a little deeper ploughing than usual brings up seeds that had long been dormant, and to a new crop shows itself. Some think careful and repeated hand-pulling the only remedy. Where, however, it has taken extensive hold, this is out of the question. The following plan has been tried with good results:—Plough the land very deep, at least eight inches, and sow wheat. The deep ploughing buries the red-root seed beyond the reach of vegetating influences, and secures almost entire deliverance for one season. Any plants that appear among the wheat should be pulled out by the hand. In the fall, plough to the depth of eight inches again. This will throw the buried seed to the surface. Harrow well and let the seed sprout and grow. Next spring, plough the weeds under, or cut them to pieces with a large steel cultivator, and sow oats, barley, or peas—the latter is the best rotation. Plough and harrow again in the fall to start another crop of weeds. The following spring, plant some hoed crop and keep it cleanly cultivated. The land may then be seeded down, and when wheat is again introduced, but few weeds will be found, which may be pulled out by hand. Red-root can undoubtedly be exterminated, but it is a work of time and patience.

WOOD ASHES INJURIOUS.—"A Farmer" writes from Woodhouse, County of Norfolk, as follows:—"I have a large heap of leached ashes which I fully intended to have applied to my land before this, but having occasion to visit a neighbour, I was taken by surprise when he told me that having fallen short of plaster of Paris, he sowed the last two lands of his meadow one with leached ashes and the other with unleached ashes, putting on about two bushels to the acre:—that where the ashes were sown the hay crop was very poor, looking yellow and weakly,—in fact not half a crop, while where the plaster was sown an excellent crop was produced. So great was the difference, that it could be easily seen at some distance. The next season he summer-fallowed the same field, and a like difference was plainly discernible in the succeeding wheat crop. Where the ashes had been sown, the wheat was almost worthless, and of a pale, sickly yellow colour, while on the other portions of the field he had a good crop. These facts were attested to me by his next neighbour as

well, both of them being men of unimpeachable veracity. Now what was the cause of the ashes having this bad effect? The party thought where the unleached ashes were sown was the most injured by the application."

ASHES.—It is certainly a novel idea that wood ashes, whether leached or unleached, are injurious. We have known instances in which their application has produced little or no immediate result; but a case like the above never came under our notice before. The small quantity mentioned, "two bushels to the acre," makes the matter still more strange. It was certainly a Homeopathic dose—one so small that if it did no good, it should at least have done no harm. Is there not a mistake about the quantity applied? Our correspondent also enquires for what soils and crops leached ashes are best suited, when and how they should be applied, what quantity per acre should be used, and whether they are most useful by themselves, or mixed with stable manure. They are best adapted to soils deficient in carbonates and phosphates, and to such crops as Indian corn, turnips, beets, and potatoes. From two to three hundred bushels per acre may be put on, scattered evenly with a shovel,—they may be used alone or mixed with other manure. They produce important effects in the compost heap.

The Canada Farmer.

TORONTO, UPPER CANADA, FEBRUARY 15, 1864

The American Reciprocity Treaty.

PREVIOUS to the year 1854, nearly all articles of Farm Produce sent into the United States from Canada were chargeable with 20 per cent. of duty at the American Custom House; and in like manner such articles entering Canada from the United States paid 20 per cent. duty at the Canadian Custom House. And very much the same state of things existed in the other British American Provinces.

In 1854, however, all this was changed. A treaty was concluded between Great Britain and the United States, by which it was agreed that all natural products of the soil, the forest, the mines, or the waters of the United States or of any British North American Province should enter the other country *free of duty*. It was also agreed that for this consideration, the people of the United States should enjoy the use of the river St. Lawrence and the Canadian canals for their vessels, and also the right to fish on the shores of the St. Lawrence river. This treaty was made binding on the two nations for ten years from 1854; but at any time after September, 1864, either party was to have the power to terminate it on giving the other formal notice of one year.

Under this treaty, the commerce between the United States and the British American Provinces has been conducted for the last ten years, and a large and mutually profitable trade has grown up under it. But in September next the time arrives when either party may give notice of a desire to terminate the treaty; and from present appearances that notice will probably be given by the American Government. Should this prove to be the case, in September of next year (1865) the treaty will terminate, and high duties will once more be imposed on all farm produce sent from Canada into the United States. We need not say that this will have a very serious effect on farming operations in Canada—and that it will require all the wit and energy of our public men to meet the emergency, and devise new outlets for the surplus products of our country. We yet entertain some hope that the necessity may not arise, but if it does come—however much our commerce may be temporarily inconvenienced by it—there are assuredly ways in which the change may be met that will ultimately more than compensate to Canada all she can lose by the loss of American Reciprocity.

It is difficult to understand on what commercial principle any intelligent American can desire the abrogation of the Treaty. It has fulfilled, more than fulfilled, all the anticipations in regard to it enter-

tained by either party at the time of its negotiation. Previous to its passage, the whole traffic between Canada and the United States was as follows:—

Imported	From Canada into the U.S.	From the U.S. into Canada.
1850	\$ 4,225,470	\$ 5,930,821
1851	4,071,541	8,365,764
1852	6,284,520	8,274,693
1853	8,936,380	11,782,144

But the very moment the Treaty became law the traffic between the countries sprang up into immense proportions, as will be seen by the following official returns:

Imported.	From Canada into the U.S.	From the U.S. into Canada.
1854	\$ 8,649,000	\$15,533,096
1855	16,737,276	20,828,676
1856	17,079,752	22,704,698
1857	13,206,436	20,224,618
1858	11,930,094	15,635,565
1859	13,922,314	17,592,916
1860	18,427,968	17,273,029
1861	14,386,427	21,069,308
1862	16,980,810	25,173,157

Here we see an annual traffic of ten millions extended in ten years to the enormous amount of forty millions *per annum*. And this is only one portion of the traffic. The trade with the other B. N. A. Provinces has also largely increased—as the following returns shows—

Imported	From B. N. A. Prov. into U.S.	From U.S. into B. N. A. Prov.
1850	\$ 1,358,992	\$ 3,618,214
1851	1,736,651	4,085,783
1852	1,520,330	3,791,956
1853	2,272,602	5,311,515
1854	2,206,021	7,256,154
1855	2,954,420	9,085,676
1856	3,822,224	8,146,108
1857	3,832,162	7,637,587
1858	4,224,948	6,622,173
1859	5,518,834	9,213,382

It thus appears that in the year 1862—the latest of which we have official returns—the British American Provinces purchased from the United States, to the value of \$34,386,539, and that all the Americans took from us in return was but \$22,499,611. We actually paid them a cash balance by Bills on London, of twelve millions of dollars,—and yet they are not satisfied! The trade is not sufficiently favourable to them! They are willing to throw it all up—give up the carrying trade of thirty millions of merchandize annually—give up the free use of the St. Lawrence—give up the Fisheries of the St. Lawrence—and go back to high duties and petty traffic! Well, there is no accounting for taste—but assuredly! they can stand it, we can.

Guelph Cattle Fair.

THE plan of holding a monthly fair for the sale of farm stock and fat cattle, has been for some time past in operation in some localities of Canada, and we believe with the most satisfactory results. Such fairs have many advantages, and we would like to see them established all over the country. They bring buyers and sellers together, and give each the opportunity of doing business under the fairest possible circumstances. Buyers are saved the time and trouble connected with picking up cattle here and there, and getting them to a place of rendezvous for shipment, and sellers are subject to no uncertainties as to the ruling market price. Facilities for weighing fat cattle are at hand, and both the local butcher and distant dealer, can at once take care of his purchases. Besides the especial business of the fair, a great many other matters can be attended to, nor is it the least advantage of such occasions that farmers, who as a class are greatly isolated, can compare notes, and talk over matters of common interest. Guelph being the centre of a fine stock-raising district, may be cited as an example of the successful working of these fairs. The one held on the 3rd inst. was well attended, and business was very brisk. Over 230 cattle were entered at the gate, and were bought up nearly as fast as they came on the ground. We note a few sales, for the account of which we are indebted to the *Guelph Mercury*:—

Mr. James Cowan, Paisley Block, sold to George Hood two oxen for \$110; Mr. Wilson, of Erma-

sold one yoke of oxen for \$120; Mr. J. Doyle bought 2 from Mr. McQuillan, 2 from Mr. R. McWilliams, and 4 from Mr. Kinsley at an average of \$30 a head; Mr. Arthur H. Zge sold a fine cow for \$5 per cwt. live weight. Mr. Wm. Hood sold seven cattle for \$52 each—\$34 in all; Mr. George Harvey sold 2 steers for \$85, Mr. William Tolton sold a cow for \$35; Mr. H. H. Swinford sold 1 ox and 2 cows for \$118; Mr. James Wilson sold one ox for \$57; Mr. John Moore sold 4 cattle for \$172 50; Mr. William Armstrong, Eramosa, sold one cow for \$28, Mr. James Gowdy sold a cow and steer for \$75, Mr. John Gordon, Pusslinch, one yoke oxen \$90; Mr. Duncan Robertson, a cow and steer for \$65; Mr. M. Sweetman, a bull and three steers for \$200; Mr. Thomas Card, 2 steers for \$93; Mr. Alex. White, 2 steers for \$100; Mr. Ty-on bought 2 from Mr. Goggle, Woolwich, for \$15, 2 from Mr. Brydson, Nichol, for \$52, 4 from Mr. James Dewar, Woolwich, for \$180, and 2 from Mr. Fry, Pilkington, for \$90; Mr. Pressants bought 2 from Mr. J. Sunley for \$62; Mr. George Hood bought 2 from Mr. John Thompson, Brook Road, for \$90, 2 from Mr. D. Dudgeon, \$95, 2 from Mr. John Kennedy Eramosa, for \$72 50, 2 from Mr. L. Macdonald for \$80, 2 from Mr. Wm. Martin, Pilkington, for \$75, 1 cow from Mr. Fulton, Paisley Block, for \$40; Mr. J. Millar bought 4 from Charles Fennell for \$173, 2 from Mr. Evan Macdonald for \$80, 2 from Mr. Thomas Laidlaw for \$70, and 1 for \$30.

Officers of Agricultural Societies for 1864.

We are unable to afford room for an account, however brief, of the proceedings at the numerous Annual Meetings of County Agricultural Societies, held according to statute last month. Full reports have, in most instances, been given by the local papers, and to them we must refer our readers for details. We are glad to notice that the meetings appear to have been generally well attended, and to have gone off with much spirit and good feeling. In many cases resolutions of welcome and encouragement were carried in reference to THE CANADA FARMER, for which we beg to express our acknowledgments. We publish below lists of the officers elected for the current year, so far as we have received them, and shall be glad to insert additional lists as they may come to hand hereafter:—

NORTH WESTWORTH AGRICULTURAL SOCIETY.—President, John Weir, sen.; 1st Vice-President, Thomas York; 2nd Vice-President, John Smith; Secretary and Treasurer, John Weir, jr.

SOUTH WESTWORTH AGRICULTURAL SOCIETY.—President, Jonathan Davis; 1st Vice-President, Alexander Young; 2nd Vice-President, John Renton; Secretary and Treasurer, W. A. Cooley.

BROCKVILLE AND ELIZABETHTOWN ELECTORAL DIVISION AGRICULTURAL SOCIETY.—President, J. W. Hough; 1st Vice-President, Wm. Rhodes; 2nd Vice-President, H. C. Jones; Treasurer, C. Fletcher; Secretary, C. Sibbald.

SOUTH LANARK AGRICULTURAL SOCIETY.—President, W. O. Buell, Esq.; 1st Vice-President, C. H. Bell; 2nd Vice-President, Duncan McDonald; Secretary and Treasurer, John Hart.

PEEL AGRICULTURAL SOCIETY.—President, R. A. Hartley; 1st Vice-President, John Bell; 2nd Vice-President, J. P. Hutton; Secretary and Treasurer, John Lynch.

SOUTH RIDING OF OXFORD AGRICULTURAL SOCIETY.—President, Thomas Hislop; 1st Vice-President, Adam Oliver; 2nd Vice-President, William Crawford; Secretary, J. Scuff.

SOUTH WELLINGTON AND GUELPH TOWNSHIP AGRICULTURAL SOCIETY.—President, Andrew Quarry; 1st Vice-President, William Whitclaw; 2nd Vice-President, William Phin; Secretary and Treasurer, Geo. Marton.

ERAMOSA TOWNSHIP AGRICULTURAL SOCIETY.—President, James Wilson; Vice-President, John W. Armstrong; Secretary and Treasurer, H. H. Swinford.

LAMBTON AGRICULTURAL SOCIETY.—President, Wm. Cole, Sarnia; 1st Vice-President, G. S. McPherson, Enniskillen; 2nd Vice-President, Robert Jardine, Plympton; Treasurer, Archibald Young; Secretary, James Dunlop.

WARWICK AGRICULTURAL SOCIETY.—President, John D. Eccles; Vice-President, Peter Graham; Secretary and Treasurer, Alex. Fraser.

MARA AND RAMA BRANCH AGRICULTURAL SOCIETY.—President, James McPherson; Vice-President, George Thompson; Treasurer, Andrew Daderhope; Secretary, Doctor Law.

HAMILTON TOWNSHIP AGRICULTURAL SOCIETY.—President, John Pratt; Vice-President, John Baptist; Secretary, W. Alcorn; Treasurer, A. J. Burnham.

COUNTY OF LINCOLN AGRICULTURAL SOCIETY.—President, J. S. Walker; 1st Vice-President, Eli Gregory; 2nd Vice-President, D. Nixon; Secretary, James H. Bess.

COUNTY OF RUSSELL AGRICULTURAL SOCIETY.—President, John Kennedy; 1st Vice-President, Archibald McKellar; 2nd Vice-President, Wm. Eadie; Secretary and Treasurer, Ira Morgan.

DEREHAM BRANCH AGRICULTURAL SOCIETY.—President, Robert Adamson; Vice-President, Wm. Agur; Secretary and Treasurer, R. T. Williams.

MOORE AGRICULTURAL SOCIETY.—President, John Reynolds; Vice-President, Michael Murphy; Secretary and Treasurer, Wm. McPherson.

NORTH YORK FARMERS' CLUB.—On the 16th ult., after the Annual Meeting of the Agricultural Society, a Farmers' Club was organized, and the following gentlemen elected office bearers for the ensuing year: President, T. L. Heacock; Vice-President, G. P. Irwin; Secretary and Treasurer, E. Jackson.

WEST NORTH MIDDLELAND AGRICULTURAL SOCIETY.—President, Benjamin Jackson; Vice-President, C. R. Mallory; 2nd Vice-President, Truman McEvers; Secretary, Charles Bourn; Treasurer, Walter Riddell.

CAMDEN BRANCH AGRICULTURAL SOCIETY.—President, Thomas Scott; Vice-President, J. F. Hawley; Secretary, J. Baylesworth.

COUNTY OF ADDINGTON AGRICULTURAL SOCIETY.—President, M. Neville; 1st Vice-President, S. Lake; 2nd Vice-President, John Percy; Secretary and Treasurer, J. B. Aylsworth.

NORTH OXFORD AGRICULTURAL SOCIETY.—President, R. Sawtell; 1st Vice-President, John Dunlop; 2nd Vice-President, George Greig; Secretary and Treasurer, Wm. Grey.

PETERBOROUGH COUNTY AGRICULTURAL SOCIETY.—President, W. H. Moore; 1st Vice-President, I. Garbutt; 2nd Vice-President, Joseph Walton; Treasurer and Secretary, J. W. Gilmour.

SOUTH WATERLOO COUNTY AGRICULTURAL SOCIETY.—President, Thomas Marshall; 1st Vice-President, T. Sheard; 2nd Vice-President, J. W. Martin; Secretary, W. A. Shearson.

NORTH WELLINGTON AGRICULTURAL SOCIETY.—President, Edward Passmore; 1st Vice-President, Robison; 2nd Vice-President, J. M. Fraser; Secretary and Treasurer, John Beattie.

EAST BRANT COUNTY AGRICULTURAL SOCIETY.—President, James A. Baker; 1st Vice-President, James Reith; 2nd Vice-President, Jacob Steel; Secretary and Treasurer, D. R. Dickson.

WEST BRANT AGRICULTURAL SOCIETY.—President, C. Chapin; 1st Vice-President, C. Edie; 2nd Vice-President, J. D. Clement; Secretary and Treasurer, Duncan McKay.

State of Agriculture in Great Britain.

At a recent Agricultural Meeting, Mr. Caird, M.P., made the following observations on the above subject:

"He knew of no other country where agriculture had improved more than in this country. Our agricultural shows, our stock shows, our displays of implements and machinery, proved that. He would just make a few remarks upon the late abundant harvest, that they might realize what was the meaning of those words. Taking one quarter per acre as the average excess of the crops this year, which he believed was a moderate estimate, and adding for the additional weight and better quality of the grain two bushels per acre, there would be ten bushels per acre above the average. They had certain facts, although but partial information, upon which they could calculate the breadth of land under grain cultivation. He found that something like 12 million acres of land in the United Kingdom were used for the growth of corn; 10 bushels excess per acre upon the breadth of land gave a total excess of quantity above an average crop of 15 millions of quarters. From those facts his hearers could realize the meaning of an abundant harvest, which gave them an excess, valued at present rates, at £1,000,000. He had referred to all kinds of grain; but, confining himself to wheat, how did the case stand? He had been surprised to see in a usually well-informed newspaper, the *Spectator*, so low an estimate of the annual produce of wheat as six and a half million quarters a-year. He believed it was nearly twelve million quarters. The excess of crop this year would be about 5,500,000 quarters, and as the average consumption in this country was 20 million quarters, it followed that we should have to

import not more than two and a half million quarters in the present year. Not having the figures before him, he could not speak precisely, but he believed that last year we bought abroad about 10 million quarters, at a cost of £25,000,000, while this year we should only have to buy 2,000,000 quarters, at a cost of £5,000,000, thus effecting a saving to the country in the single article of wheat of 20 millions sterling. They knew also as farmers that it was not their business to depend exclusively upon the produce of their cornfields, but rather to increase their green crops, with which the foreigner could not so well or so cheaply supply them. Referring to Arthur Young's account of prices in 1770, he found that bread was 14d. per lb., the same as it is now. Meat was then 3d., per lb., now from 7d to 8d; butter which was 6d. is now 1s. 3d.; and wool has risen in value from 9d. to 1s. 6d., per lb. Therefore the conclusion was that the land yielded the same in bread as in Arthur Young's time; but it now yielded more than twice as much in meat and three times as much in wool. It was therefore not doubtful that the farmers would devote their energies to those branches of their trade which were likely to be the most remunerative.

The Fruit Growers' Society of Western New-York.

The annual meeting of this body took place in Rochester on the 27th ult., when nearly a hundred gentlemen, many of them distinguished pomologists, came together to interchange their views and experience. Our Horticultural Editor was present, and we are indebted to him for a brief summary of such of the proceedings as are of interest to Canadian cultivators.

The inquiry was made whether the Peach Tree was any hardier if budded on the Plum Stock than it is when worked on the Peach Stock, but the experience of those present indicated very clearly that the flower buds would not endure any greater degree of cold by growing the tree on the Plum Stock. The only advantage derived from the use of the Plum Stock is this, that the tree can be then grown in heavier soils; but for extensive planting, it was thought better to select a light soil and use the Peach Stock.

An expression of opinion was sought as to which were the fourteen best varieties of Pears for family use. It was generally conceded that a well grown and perfectly ripened Belle Lucrative was not to be excelled by any pear in cultivation. Only two varieties of Winter pears seemed to be held in general estimation, and these were the Lawrence and Winter Nelis. One of the most distinguished pomologists present remarked on the subject of Winter Pears, that none of the varieties ripening after the first of February seem to be worth much. It would seem that the early Winter varieties are in good demand in New-York market, the Lawrence having been sold by one of the members this season at twenty-four dollars per barrel. A vote was finally taken, in order to obtain the sense of the meeting. Twenty-one members voted with the following result:—Bartlett received 21 votes, Duchess d'Angoulême 18; Louise Bonne de Jersey 17, Sheldon 17, Lawrence 17, Doyenne d'Été 17, Seckel 16, Belle Lucrative 16, Beurre d'Anjou 14, Beurre Giffard 14, Rostiezer 12, Flemish Beauty 12, Winter Nelis 12 and Beurre Bose 11.

It was also inquired whether the measure of success attending the culture of the Dwarf Pear trees had been such as to promise profit if planted extensively in orchards? Upon this question there seemed to be only one opinion, and that very decidedly in the affirmative. A number of gentlemen gave the debit and credit sides of their several accounts, some with one-third of an acre, some with half an acre, and some with one and two acres. Those whose orchards could only be said to have just commenced bearing, had obtained from the crops enough to pay for their trees and for planting and cultivating them; while others were now receiving this year \$400, \$450 and \$500 per acre. One had received from 400 trees (dwarfs) the 3rd year after planting \$69 50, the 4th year \$175 and the 5th year \$500. Another had received this year from one-third of an acre of the Duchess d'Angoulême, seventy barrels of fruit, which he sold at prices varying from eight to twenty dollars per barrel. From all the statements made, we think that

the average price received this year for choice Pears was not less than eleven dollars per barrel.

Upon the subject of Grapes, it seemed to be the general opinion that the varieties best suited to Western New-York were the Hartford Prolific, Concord, Delaware and Diana. There were localities where the Isabella and Catawba would ripen, but they too often failed. An interesting statement was made in this connection, by an extensive grape-grower, to the effect that the juice of the Isabella grape, when the berries are perfectly ripe, stands from 70 to 75 degrees on the Saccharometer, the instrument used for showing the quantity of saccharine or sugary matter in the juice. Tested by this standard but very few of the Isabella grapes brought to our markets would be found to be ripe; and it is very doubtful whether this variety thus ripens in any part of Canada except the most favoured localities. The profits of growing grapes for market were stated by those best acquainted with the subject to be from \$300 to \$100 per acre. That the cost of cultivating and picking an acre was from \$10 to \$50, and the yield from 8,000 to 10,000 pounds of fruit. One gentleman stated that he had a vineyard of seven acres, which since the fourth year from planting, had yielded him \$2,500 per annum, after deducting freight and commissions for selling.

The hour for adjournment arrived too soon to allow of a full discussion of the varieties of Winter Apples most profitable for market, and the meeting was obliged to content itself with taking a vote. Only twelve members voted. The Baldwin and King of Tompkins County received each twelve votes, the R. I. Greening and Roxbury Russet eleven votes, the Golden Russet six, and the Northern Spy five.

REPORT OF THE U. S. COMMISSIONER OF AGRICULTURE. This is a very readable pamphlet of 13 pp. octavo, containing a succinct account of the doings of the Agricultural Department of the U. S. Government for the year just closed. Notwithstanding the war pressure upon the finances of the country, the American Congress made two appropriations during the year for agricultural purposes, amounting in all to the handsome sum of \$115,890. The Commissioner asks for an increased appropriation for the next fiscal year, and, no doubt, will get it, as the U. S. Government, aware of the vital nature of the interests of agriculture, seems determined to foster them even in troublous times. The labours and expenditures of the department have been mainly in the following directions: The collection and publication of statistics in which there have been issued 28,000 circulars of inquiry, and 70,000 monthly reports; preparation and dissemination of meteorological reports; correspondence with agricultural societies and farmers' clubs; purchase and distribution of choice seeds, of which no fewer than 1,200,000 packages have been spread over the country; the maintenance of a propagating and experimental garden, from which there have been sent forth 25,750 articles, such as vines, bulbs, cuttings, and plants; and finally, the prosecution of minute and careful researches in entomology, chiefly with a view to ascertaining the best modes of extirpating insects injurious to vegetation.

Congress made a special appropriation of \$20,000 for investigations to test the practicability of cultivating and preparing flax and hemp as substitutes for cotton. Beyond the appointment of a competent commission of inquiry, nothing has been done by the department in this matter. The commission has, however, issued circulars of inquiry very extensively, and a report is in course of preparation, based on the replies received. We shall watch with much interest for the appearance of this report, and give our readers the substance of it, as no doubt much of it will be equally appropriate to Canada as to the United States.

A ONE-HORSE SNOW PLOW.—Much inconvenience is felt in winter for want of paths through the deep snow. Access of strangers to the front door, excursions of the family to the well, wood-pile, barn, cattle, pig and poultry-yards, are alike impeded whenever a heavy snow-fall occurs. To dig the needed paths by hand is a tedious and fatiguing process. A correspondent of the *Agriculturist* suggests the following expedient, which seems simple and practicable enough, so much so, as to excite surprise that it should be a novel device:—

"I took two pieces of inch-and-a-half plank, about two-and-a-half feet long, and ten inches wide. I bevelled one end of each so that when stood on edge

and nailed together they presented the appearance of the letter V, flaring from a point at the junction towards the other extremity of the shaft, so as to give an opening of about two feet. I then nailed a covering, making a platform. I had the under edges shod with old wagon tire, welded at the point, and turned up about the thickness of the iron. One-third of the way backward from the point I fastened the extremities of an iron rod bent into pretty much the shape of a bucket handle, in the centre of which rod is a stationary ring for securing a whiffletree.

"Such is the machine. If the ground is all covered with snow to-morrow, I need only hook a horse to it, mount the platform, and go ahead, opening a clean path to the ground. The permanent investment amounts to a mere trifle. The advantages are great. Fifteen minutes are enough to make all the paths required on any ordinary premises, and the labor is not worth naming. If one such implement were kept in a village, everybody's paths could be made clear to the store, post-office, school-house, and church, through all ordinary snows, without back-aches or pocket-aches; and depend upon it, if the thing once becomes an experiment, it will soon pass into an institution, both of the farm and of the neighborhood."

Veterinary Department.

THERE is an old saying and a true one—that "like begets like." This is exemplified in the human being. The child frequently inherits the distinguishing characteristics of the parent, whether it be in the expression of the countenance, in the outline of form, or in the peculiarity of manner and temperament. We find that the same natural law operates also among the lower animals. Thus diseases of a certain type prevail in one country, or in one district—and why? Simply because the young stock inherits the natural predisposition to that class of diseases, and circumstances present a ready application of the exciting causes. By way of illustration, we may refer to those diseases of the osseous system of the horse prevalent in this country, and which are decidedly hereditary. There is ringbone, for example—a bony enlargement situated upon the lower part of the large pastern bone, and upper extremity of the small pastern bone. It consists of inflammation being set up in the fibrous membrane covering the bone, exudation takes place, deposition of ossific matter is formed around the joint, this becomes ossified and receives the name of ringbone. Ringbone occurs on either a fore or hind leg, but is most commonly seen on the latter, and generally causes lameness when the process of ossification is going on. The treatment of ringbone in general is very unsatisfactory. In many cases it is incurable. Without now entering into the treatment of this disease, we may take the opportunity of stating that the measures often resorted to in this country for the cure of ringbone, in many cases, are far too severe, and instead of being beneficial, only tend to aggravate the disease. In many parts of the country a notion prevails that ringbone grows from what is called a bladder, which is supposed to be situated under the pastern joint, and a needless operation is performed for the purpose of removing this feeder. The skin is cut through and some of the cellular tissue removed, and this is regarded as the bag from which the ringbone springs. In some cases this useless and uncalculated for operation may not do much harm; in other, however, it leads to serious results. That ringbone is hereditary may be proved by the experience many farmers have had amongst their own stock. During the past two years, we have been particular in making enquiries on this subject about the cases coming under our notice, and we find it is notoriously hereditary. It may not always be found that the sire or dam were ringboned, if not, probably the grand-sire or grand-dam were so affected. The exciting cause of ringbone is usually hard work; but by far the greater number of cases are but the fruits of the seed sown, and prove that "like begets like." Mr. Percival, one of the ablest writers on veterinary medicine, says:—"Bone disease is often hereditary. I have known the progeny of lame horses very much disposed to spavin, and others inherit a tendency to ringbones, splints, &c." At one time ringbone was not uncommon in Britain, but few cases of it are now met with, compared with the number that attracted attention in times past, simply because few breeders of horses now-a-days will breed either from a horse or mare affected with ringbone. It is more important for stock-raisers to consider what will tend to the prevention of a disease than to its cure.

and therefore we would impress upon our readers the necessity and advantages of breeding from healthy parents, free from all defects having a hereditary tendency. The utmost judgment and care should be exercised in the selection of animals for breeding purposes, for it is only by attention to this matter that we can expect to produce desirable animals. If we look to such men in Canada as have earned a wide reputation for breeding good horses, we shall find they have been exceedingly careful in breeding only from sound and healthy parents. In many cases the breeding of horses is imperfectly carried on, without any pains being taken to improve the breed, or even to raise a healthy stock. It is by no means a rare thing to find parties purchasing a mare affected with ringbone, spavins, &c., &c., and quite unfit for ordinary work, with a view to using her for breeding purposes. It is a common remark, "She only cost a few dollars, and perhaps I may be able to breed a good foal from her." Should a foal be obtained from a mare of the above description, is it a profitable speculation? We have no hesitation in asserting that the raising of such an animal is a dead loss. Should it come to the age of three or four years and be brought to market, it will perhaps realize the sum of twenty or thirty dollars, and be dear enough at that. We have seen many young horses affected with ringbone, spavins &c., disposed of in this city for less than the sums just mentioned. The only sure way to prevent this disease is scrupulously to guard against breeding from animals affected with ringbone, or having the least predisposition to it.

LONGEVITY OF THE HORSE.—The *Courier de Vendur* mentions a rare instance of longevity in the equine race, M. Collas-Gallelet, member of the Council-General of the Meuse, having lost a horse at the advanced age of forty-five years.—*Veterinarian*.

FOLL IN THE FOOT IN CATTLE.—Caused by standing long in filth, may be cured by removing to a dry, clean place, washing with soap, then with chloride of lime, and applying carriers' oil. Washing with salt and water is useful.

SORE TEATS.—Always wash with water before milking, or after calf-sucking—this is often sufficient. If much sore, apply equal parts of lime water and linseed oil.

Rural Architecture.

Hints to Farmers about to Build.

UNDER the above title, a Wisconsin correspondent of the *Rural New-Yorker* gives his brother farmers good counsel which we fully endorse.

"Time is money." A farmer ought to think of this before he locates his barn a half-mile from his dwelling, or even an eighth of a mile. We know a well-to-do farmer who built his barns forty rods from his house,—at least twenty rods further off than there was any call for. Twenty rods is one-sixteenth of a mile. He and his man went to the barn at least four times daily, on an average. In going and returning they would travel one half mile each, or both, one mile daily, which might have been saved by a judicious location of his barn. One mile a day is three hundred and sixty-five miles a year. In thirty years it would amount to nearly eleven thousand miles of travel; enough to perform a journey to Europe and back, and overland to California.

"A large farmer builds a new house. He locates his pantry so that the good wife, to set the table, has to pass through a long hall, at least sixteen and one-half feet further than necessary had he used good judgment in locating his kitchen and pantry. The good woman and her girl went into that pantry at least twenty times daily,—making at least forty rods of extra steps daily, or over forty-five miles yearly. This tax was upon one already overburdened with labour and cares.

"Farmers, think twice before you build; yes, think a good many times. Do not build in a hurry, to repent at your leisure. Take plenty of time to thoroughly digest all your plans. Study to make everything convenient, both for yourself and household. A little difference in locating your buildings or rooms may make a large saving in doing the work of the farm, or the household. A difference of a few steps is a small matter if it only occurred once; but when they have to be taken several times daily for years, it becomes an important matter."

Poultry Yard

We propose to give in the present and succeeding numbers of the CANADA FARMER, brief descriptions, with accompanying cuts, of the most approved kinds of Domestic Poultry. In drawing the attention of our readers to this subject, it is no part of our design to promote anything like a "hen fever," or to induce absurd and extravagant outlays on fancy poultry; but it is in the power of most persons who keep fowls, to improve their stock by the introduction into their yards, of some choice birds of an approved breed, without great expense. Domestic poultry are as capable of improvement as any other description of farm stock and we hope to be able to throw out some useful hints in this direction. The question is often asked, which breed of fowls is the best, and the reply must be *none absolutely*. As in other stock, a choice must be made in view of what you wish to secure. Do you want a breed of fowls merely as good layers, or do you desire a kind of first-rate quality for the table: can you give your birds unrestricted range: or have you but limited quarters for them? These and like inquiries must guide to a selection. Some fowls are fine layers but are partially or wholly non-incubators: as the Spanish, Polands, &c. Others are only medium layers, but excellent for the table, as the Dorkings. Some are impatient of restraint, and do not bear confinement well as the Spanish, Game, &c., while others are quiet in their habits, and can content themselves with but little space, as the Brahmans, Cochins, &c.



SPANISH FOWL.

The Spanish most unquestionably have the palm if laying be the only thing sought. They lay very large eggs, and are constant and regular in their visits to the nest. But they cannot be relied on as mothers. They very rarely incline to sit, and when they do, seldom persevere long enough to hatch out a brood of chickens. There is one objection to them in this climate, and that is their long, heavy combs. Ornamental as these are, they are liable to be frozen in the hardest winter weather, and then the stumps are a sad disfigurement. Of course this may be obviated by making their house frost-proof. The Spanish when well-bred are very beautiful birds, and stand at the head of the poultry list in the estimation alike of practical "henwives" and fowl-fanciers. They do not feather until nearly three-parts grown, and therefore require a steady, careful mother, that will not be in haste to leave them to themselves. The following are considered the leading requisites in this popular variety:—

1. In the first place, a pure white face, deep in the lobes, and of good space above the eye, and neither too fat above nor below it, yet not so skinny-faced as to lose that angular oblong shape which imparts such reverence to the fowl in question; 2nd, erectness, or all but erectness, in comb; 3rd, length in body, and of leg; 4th, long clean neck; 5th, upright carriage; 6th, a metallic green; and, 7th, good size."

Amateurs value specimens of the breed in proportion as they have these marks. Unless birds answer pretty nearly to the above description, they have little chance of gaining honours in a good show.



DORKING FOWL.

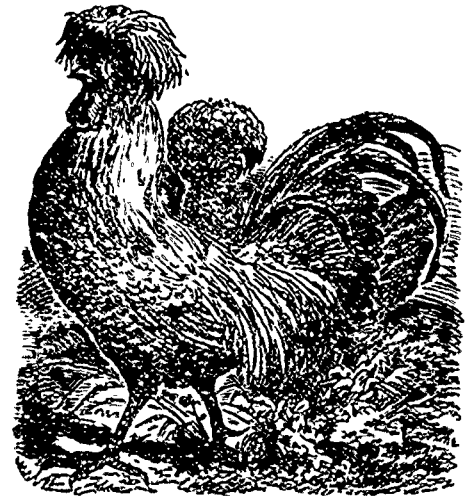
The Dorkings are pretty fair layers, good mothers, and their flesh is of the first quality. Probably no one breed combines so many excellencies as this. They are of good size and hardy constitution, and are much prized by all who have had experience of their many good qualities. They are bred of various colours, Dark Grey, Light Grey, Spangled, and Pure White. The White Dorkings are very handsome birds, but are thought by some to be more delicate than those of darker colour. It is a peculiarity of the Dorking tribe, that it usually has, more or less developed, a fifth toe. Some think this is a defect, and that it ought to be bred out. To any who can only keep one breed of fowls, we would say, by all means keep the Grey Dorkings. This breed has acquired a great reputation in England, chiefly from the superiority of its flesh over that of any other known kind. It is very white, delicate and well flavoured. The Dorkings have but one drawback, viz. the tenderness of the chickens which renders them somewhat difficult to rear.



BUFF COCHINS.

This cut may be regarded as giving the general characteristics of the large Chinese or Asiatic breeds of fowl. There are several varieties of them distinguished by the names Shanghae, or Cochin Chinas, (of which there are various colours,) Brahma Pootras, Chittagongs, &c. We regard the Buff Cochins, and the Brahmans (white with black hackles, wings and tails also edged with black,) as the most

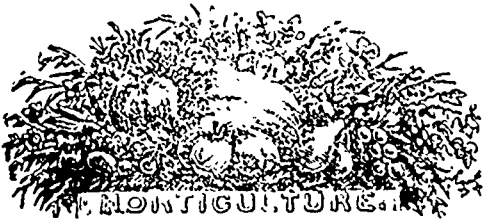
desirable among these giants of the poultry-yard. They have often been so badly bred as to look like fowls on stilts, and cuts which may well be regarded as caricatures of the breed, have not unfrequently been published. Bred with short legs, and well-built bodies as represented in our cut, they are a fine looking bird. The Brahmans and Cochins are excellent layers, a little too much inclined to sit, faithful mothers, and if killed when very young, are good table-birds. Their chief recommendations are their tendency to lay in winter, and the ease with which they are kept out of mischief. An ordinary fence is high enough to confine them. They do not, like some other breeds, set every obstacle at defiance, and overleaping all boundary lines, invade your own, or what is worse if possible, your neighbour's garden. For towns and cities where confinement is unavoidable, these are doubtless preferable to all others. The Brahmans are especially recommended on this latter account, as they maintain themselves in good condition, and under the unfavourable circumstances of dirty weather, or living among houses, they keep up a clean, tidy appearance better than any other kind. There is difference of opinion among fowl-fanciers whether the Brahmans are a distinct breed from the Cochins. Those best qualified to judge maintain that they are. Although they bear a close resemblance in form to the Cochins, their habits are dissimilar. Their eggs larger, they are more disposed to roam about, are less inclined to sit, and have more spirit.



POLISH FOWL.

The Polands were somewhat fully described in our last, and we need not repeat what was then said. They are bred of various colors,—not only with black plumage and a royal head-gear of white, but Golden-spangled and Silver-spangled. They are all much sought by poultry fanciers, and many persons admire them more than any other description of fowls.

Breeds of poultry have become multiplied to such an extent, and so much attention has been given to their improvement, that the most fastidious fanciers can be gratified in some one or more of them. For ordinary practical uses, it is perhaps well to keep more than one sort, so as to secure various points of excellence. Mrs. Fergusson Blair, in the *Henwife*, perhaps the best manual of poultry-keeping we have, advises amateurs who have but limited accommodation to "keep only a few first rate fowls, say a Dorking cock and two hens, two Cochin and two Brahma Pootra hens." "These latter," she adds, "lay all winter, sit soon, and bring out Dorking chickens much earlier than the Dorking hens themselves, which are tardy sitters." A cross between the Dorking and Cochin or Brahma makes a good table-bird; the former improving the quality, and the latter adding to the size. But even more important than the choice of breeds, is proper care and attention. With these, very ordinary birds will produce well, and without them the best birds will accomplish little or nothing.



Limits of the Apple Crop.

We have been carefully studying the report of the Fruit Growers' Association to see if we could ascertain in what sections Apples can be grown in the greatest variety, and what are the geographical limits of the several sorts. We find it impossible to frame a complete answer to these inquiries on account of the necessarily imperfect character of the returns sent in to the questions issued by the Association, but we are able to draw some sound general conclusions, and make such an approximation as will be a very valuable guide to the planter, and more particularly to any one intending to plant for market.

Taking the tabular statement in connection with the remarks given under the head of each County, we are unhesitatingly led to the conclusion that within the Counties of Lincoln and Welland, more than in any other part of the Province, is to be found that combination of soil and climate which will enable the cultivator to raise the greatest number of varieties in the highest perfection, both of tree and fruit. Next to these are the Counties of Haldimand, Norfolk, Elgin, and Kent, lying upon the North shore of Lake Erie, where nearly every variety flourishes, only two, the Holland Pippin and Twenty Ounce Apple, being spoken of as too tender for the climate. Then follow the Counties of Wentworth, Peel, York, Ontario, and Simcoe. In these the greater proportion of our desirable varieties are grown with good success, but we find quite a number of kinds reported as too tender. In Wentworth the American Summer Pearmain, Early Strawberry, Early Joe, Pryor's Red, Sweet Bough, and Summer Sweet Paradise are found to be too tender; in York, it is the Pearmain, Newton Pippin and Spice; in Ontario, the Sweet Bough; and in Simcoe the Early Strawberry, Sweet Bough and Golden Sweet. The next in order will be those parts of the Counties of Lambton, Huron and Bruce which border upon Lake Huron, and though no particular varieties are reported as being too tender, yet it is very manifest that, with the exception of a narrow belt of land upon the lake shore, the apple is a very uncertain crop. It will require more time and more extended experiment with different varieties, before we shall be able to give a very accurate account of the sorts that will flourish here. Brant, Oxford, Middlesex, Perth, Waterloo and Wellington, form a group of inland counties, which, together with such parts of Lambton, Huron and Bruce, as are removed from the ameliorating influence of the water, are not as favorably situated for growing apples as those sections previously mentioned. In the report from Brant, the Swaar and Early Harvest are spoken of as "rather too tender," from Oxford we learn that out of a large orchard "but very few trees are perfectly healthy;" in Middlesex the Baldwin, R. I. Greening and Swaar "suffer in severe winters," in a part of Waterloo the Spitzenberg and Baldwin are tender; in Wellington it is said "only the hardy kinds will do well;" and in Lambton, an orchard twenty years planted, but removed from the influence of the lake, had borne "only two good crops of apples." Durham, Northumberland and Peterboro' will probably be found about as well adapted to the apple as the inland Counties, and particularly those parts near the water. It is owing, no doubt, to the influence of the water that we find such discrepancies between the reports from Durham and Northumberland, those from the latter being all from Cobourg and vicinity on the lake shore, and those from the former from a point farther inland. In favored localities the Baldwin, Spitzenberg, and R. I. Greening may probably be grown but in the interior generally they will be found too tender for the climate. In the remaining counties to the eastward, the Baldwin, Spitzenberg, Hawley, Holland Pippin, Newton Pippin, R. I. Greening, and Sweet Bough are generally marked too tender, and the hope of the cultivator centres in the Duchess of Oldenberg, Golden Russet, Northern Spy, Ribston Pippin, Red Astracan, St. Lawrence, Snow-Apple, and Siberian Crab, which are the sorts found to be the most hardy, and adapted to every part of Canada.

Such seems to be the present state of our knowledge in relation to this subject, and such in its general outlines we believe it will ever remain, while at the same time we are as firmly persuaded that in time we shall be able to add to the number of varieties that will be found hardy enough to endure our severe cold, and by improved culture and better attention preserve some that we now find too tender. In this report are even now some valuable hints pointing to such a result, and particularly one suggested by Mr. John Fisher, of Errol, County of Lambton. He says: "trees that are allowed to branch out low, say about three or four feet from the ground, are generally healthy." Can any one else furnish any information upon this point? Has any one tried this method of pruning an orchard and with what results? We shall be happy to receive communications from any one upon any branch of this subject. It is a matter of much interest to know what kinds of apples, pears, grapes, &c. &c., we can plant in our several localities, and what method of pruning and training will best enable them to bear our climate. We owe much to the Association which has collected so much information and embodied it in this Report, and we shall take a pleasure in placing before the public anything that may be sent to us that shall add to its completeness.

Bulbs in Pots.

HYACINTHS, Crocuses, Tulips and other bulbs may be most easily grown in pots. The soil should be light and rich; a sandy loam enriched with well decomposed cow manure; if the loam be not light, a portion of clean sand should be added. Hyacinths are general favorites for their beauty of color and delightful fragrance. If planted singly, a 5-inch pot will answer, but a much better effect is produced where three bulbs of different colors are planted together in a 7-inch pot. In potting, care should be taken to secure good drainage; place a piece of broken crock over the hole, and on this some coarse fragments of charcoal before putting in the soil. The bulbs should then be planted so as to leave just the crown uncovered. Give the pots a moderate watering, and then set them away in a warm, dark place, watering occasionally, until the earth becomes well filled with roots. The condition of the roots can be examined at any time by inverting the pot in the right hand, which is spread out over the earth; then give the rim of the pot, held in the left hand, a slight tap against the edge of a table or other hard substance. The ball of earth will be loosened and the pot may be carefully lifted off. When plenty of roots are found, the pots may be brought to a light, warm room, and with liberal watering they will soon give spikes of bloom.

The little tulip, called Duc Van Thol, which is a dwarf kind of various colors, is best adapted to pot culture. These may be planted from 3 to 12 in a pot, and treated like Hyacinths. Crocuses are much grown in pots, though the short duration of their flowers renders them less desirable than either Hyacinths or Tulips. A number of them may be planted in a pot and treated as directed above. They may also be grown in pure sand or in wet moss, taking care in all cases to keep the bulbs in the dark until they have formed strong roots. Narcissus, Jonquil, Iris, Snowdrop, and Scilla are readily grown in pots and are pleasing home decorations.—*American Agriculturist*.

Asparagus.

It seems strange that any family should be willing to be without this most delicious vegetable, coming, too, at a season when nothing else can be found in the garden. It can be grown in any well drained soil, though it prefers a light, deep, sandy loam. A bed fifteen feet by twenty will produce enough for an ordinary family. This should be dug two feet deep, and manure liberally worked into the soil, and after it is dug over and raked smooth, may be covered with half an inch of salt which should be raked in. The plants may be set in rows a foot apart, and nine inches apart in the row. The weeds may be kept down by occasional sprinklings of salt, as enough salt to kill every weed will only make the asparagus grow the faster. In the fall cover the beds three inches with rotted manure, and in the spring rake off the coarse manure, and sprinkle with salt. This should be repeated every fall and spring. The third spring after planting the asparagus buds will be fit for use.

Purchase of Seeds.

It costs as much trouble to grow flowers from bad seed as from good, and whoever takes the trouble should make sure of seed that will be worth it. The stuff sold at little seed-shops and corn-chandlers is generally only good enough for the birds, and all the skill in the world would be exercised in vain upon it with a view to getting good flowers. Some of the common kinds are pretty sure to be good, no matter where you get them; but asters, stocks, balsams, zinnias, and others prized for their high coloring and distinctness of habit, should be purchased at none but first-class houses. The seed of choice flowers is saved with as much care as gold dust—for it is gold dust in another form—by all the leading growers. The plants for seed are picked with the greatest care; and as the best flowers produce the least seed, and single colourless and ragged ones plenty, that which is skilfully saved is valuable to a grain, and the rubbish is valuable only in pounds and bushels. All sorts of tricks are practiced upon seeds. Good seed is purchased at a fair price, and mixed with the worst to increase its quantity, so that in a packet of some hundreds there will perhaps be only half a dozen worth the trouble of culture, and you cannot know it till your trouble is nearly over and the plants are in bloom; then you are dismayed to find only one in fifty worth looking at. Asters, stocks, and balsams have been brought to such high excellence by careful culture and skilful saving of the seed of the best flowers, that those who grow from penny or twopenny packets have no idea of the beauty of the flowers which may be secured from a pinch of first-rate seed. Asters are now to be had of the size and fullness of dahlias, and of all shades of colour. Balsams the same. Stocks of the best kind produce grand pyramids, equal to the best hyacinths and all the leading annuals are saved in distinct colours, so that the grower is in no quandary as to what the tints will be, if the seeds come from a first-rate house, and are sown separate as received, and with tallies to distinguish them. As a rule, never save seed of your own growing; you can buy for sixpence what it will cost you five shillings in trouble to obtain; and there are a hundred chances against your saving a single pinch that shall be worth the paper you wrap it in.—*The Town Gardener*.

BLACKBERRIES IN JANUARY.—It is a remarkable fact that before the frost of Saturday last ripe blackberries were frequently to be found in the hedge rows in this part of Devonshire and the borders of Somerset. On the last day of the old year, a youth called Nelder of this town, picked a very fine bunch of ripe blackberries on Exeter Hill; and on New-Year's day several blackberries and a fine bunch of ripe ones were also found in the hedge-rows near the Ottery Road station of the South-Western Railway Company.—*Tiverton Gazette, 13th Jan., 1864.*

THE USE OF FRUIT.—Because bowel complaints usually prevail most during the hot season of the year—the latter end of summer and autumn, when fruit is most abundant, it is inferred, that the one is the consequence of the other. It were about as reasonable to attribute the occasional occurrence of scurvy in the navy to the use of lemon juice, or potatoes. Those articles of diet are powerfully antiscorbutic, and so are ripe fruits anti-bilious; and diarrhoea, dysentery, and cholera are complaints in which acrid and alkaline biliary secretions are prominent conditions. I have seen many cases of dysentery, obstinate diarrhoea, and liver disease in people who have been long resident in tropical climates, and from the history which I have been able to obtain respecting their habits of diet, I have come to the conclusion that these diseases were induced and aggravated, not by the light vegetable and fruit diet most in use among the natives, but because Englishmen usually carry out with them their European modes of living. It is well known that though large quantities of animal oils and fats, wines, spirits, and malt liquors, which contain a large amount of carbon, may be consumed with comparative impunity in cold climates and in winter, when the carbonaceous matter gets burnt off by the more active exercise and respiration; in hot climates and in summer this element gets retained in the liver, and ultimately gives rise to congestion of that organ and its consequences—diarrhoea, dysentery, and bilious disorders. Though in extensive practice for fifteen years, in a district abounding with orchards and gardens, I cannot remember an instance in which I could distinctly trace any very serious disorder to fruit as a cause; though one might reasonably expect some mischief from the amount of unripe and acrid trash often consumed by the children of the poor.—*M.D., in London Times*.



The Household.

Treatment of Frozen Limbs.

We notice in the *N. Y. Evening Post*, an article on this subject, which says that frozen limbs should never be rubbed. The juices of the fleshy tissues, when frozen in the minute sacs or cells, at once become in each of these enclosures crystals, having a large number of angles and sharp points, and hence rubbing the flesh causes them to cut or tear their way through the tissues, so that when it is thawed the structure of the muscle is more or less destroyed. When any part of the body is frozen it should be kept quiet till it is thawed as promptly as possible. As freezing takes place from the surface, so thawing should be in the reverse order. The thawing of a portion of flesh, without at the same time putting the blood from the heart into circulation through it, produces mortification; but by keeping the external parts still congealed till the internal heat and the external blood gradually soften the interior parts, and produce circulation of the blood as fast as the thawing takes place, most of these dangers are obviated. Speaking of the application of snow, the writer says.—If the snow which is applied be colder than the frozen flesh, it will still further abstract the heat and freeze it worse than before. But if the snow is of the same temperature it will keep the flesh from thawing till the heat from the rest of the body shall have effected it, thus preventing gangrene. Water, in which snow or ice has been placed, so as to keep its temperature at 32 degrees Fahrenheit, is better than snow.

Winter Shoes.

Hall's *Journal of Health*, an excellent paper, gives the following seasonable advice.—Like the gnarled oak that has withstood the storms and thunderbolts of centuries, man himself begins to die at the extremities. Keep the feet dry and warm, and we may snap our fingers in joyous triumph at disease and doctors. Put on two pair of thick woollen stockings, but keep this to yourself, go to some honest son of St. Crispin, and have your measure taken for a good pair of winter boots or shoes; shoes are better for ordinary every-day use, as they allow the ready escape of the odors, while they strengthen the ankles, accustoming them to depend on themselves. A very slight accident is sufficient to cause a sprained ankle to an habitual boot-wearer. Besides, a shoe compresses less, and hence admits of a more vigorous circulation of the blood. But wear boots when you ride or travel. Give directions also to have no cork or India-rubber about the shoes, but place between the layers of the soles, from out to out, a piece of stout hemp or tow-linen, which has been dipped in melted pitch. This is absolutely impervious to water,—does not absorb a particle, while we know that cork does, and after a while becomes 'soggy' and damp for a week. When you put them on the first time, they will feel as 'easy as an old shoe,' and you may stand on damp places for hours with impunity.

IMITATE yeast, for it rises the moment it is stirred.

OPPORTUNITIES, like eggs, can only be hatched when fresh.

NAPLES BISCUIT.—One-half pound of sugar, one-half pound of flour, four eggs. Drop on buttered paper; sift sugar over them; flavour with lemon, bake quick.

RICE BALLS.—Take the waste pieces of steak, or baked meat, chop fine and season with salt, pepper, cloves, or cinnamon. Wash rice and mix with it, then tie up in cloths to shape balls, and boil half an hour, and serve with drawn butter.

SOLVENT FOR OLD PUTTY AND PAINT.—Soft soap mixed with solution of potash or caustic soda, or pearl-ash and slaked lime, mixed with sufficient water to form a paste. Either of these laid on with an old brush or rag, and left for some hours, will render it easily removable.

PICALILLY.—Take green tomatoes, cabbages, green peppers and onions, chop them, and press them for twenty-four hours; add salt and spices, and put into a jar; pour on vinegar enough to moisten.

BAKED FLOUR PUDDING.—Six table-spoonfuls of flour wet as for starch and mixed with a quart of boiling milk, five eggs and a piece of butter the size of an egg. Bake half an hour.

MOCK DUCK.—Take a steak about as large as a breakfast plate, beat it out, and fill it with a bread-stuffing prepared as for a turkey, and sew it up. Fry one hour in the dripping from roast beef or butter. Turn it and keep it covered until near done. When you take it up, turn in half a cup of hot water in the gravy that has been previously seasoned, and pour over it. It will be thickened with the stuffing that falls from it.

TO CLEAN CANARY BIRDS.—The *Scientific American* gives the following:—"These pretty things are, like meaner objects, often covered with lice, and may be effectually relieved of them by placing a clean white cloth over their cage at night. In the morning it will be covered with small red spots, so small as hardly to be seen, except by the aid of a glass; these are the lice, a source of great annoyance to birds."

BOILING POTATOES.—This is a formula let each mess be of equal size. Let the water boil before putting the potatoes in. When done, pour off the water and scatter three or four table-spoonfuls of salt, cover the pot with a coarse cloth, and return it to the fire for a short time. Watery potatoes are made mealy by this process. How simple is the process, yet how few understand it.

A PLAIN PUDDING.—Two ounces of whole rice not ground, first boiled in water and then in milk till tender. Well grease a pie-dish, and have ready beat six eggs, some sugar and milk (the milk should be boiled and allowed to get cold.) When the rice is done, pour into the dish, stir the eggs, etc., into it, beat it all up. A small piece of butter to keep it moist. Add milk to fill the dish, sweeten to taste, and grate nutmeg over it; bake three-quarters of an hour.

CHEAP CIDER VINEGAR.—Take the water in which dried apples are washed and soaked, and after carefully straining, put in a vessel; add a pound of sugar, or its equivalent in molasses. Put in a piece of brown paper and set where warm. In a few weeks you will have good cider vinegar. More sugar added will improve it. The vinegar will also be better the more concentrated the cider is. The strongest vinegar is made from boiled cider.

STEWED CHICKEN.—Prepare and cook the chicken in the same manner as for chicken pie; but just before the chicken is quite done, pare a quantity of potatoes, cut them in two, lay them on the top of the chicken, and let them boil until done; then take the potatoes up on a plate by themselves, turn a pint of sweet cream in with the chicken, thicken with flour, wet with sweet milk, and season with pepper, salt, and plenty of butter. Sweet milk will answer in the room of cream, but it will require more butter. This dish is considered very delicious.

TO FRICASSEE A CHICKEN.—Cut it in pieces, jointing it well, and boil it tender with slice or two of pork cut fine. When nearly done, add half a teaspoonful of pepper and salt to just season it. When tender, turn off the water and add half a pound of butter, or nearly that, and let it fry a while. Then take out the chicken, and stir in two or three spoonfuls of flour previously dissolved in cold water, and add the water from the chicken. Let it boil, and pour it upon the chicken on the platter. This makes a superior dish, and needs no vegetables but mashed potatoes.

CHOP.—Dissolve half a teaspoonful of pecan, in half a tea cup of warm water. Sweeten it, and give a half or a whole teaspoonful, according to the age, until vomiting is produced; then give it in smaller quantities, and less frequently. Wrap up the child to promote perspiration, bathe the throat with volatile liniment, or tobacco ointment. The above will give relief in a short time, if taken in season. Onion juice and molasses may be given to vomit, but there should be no delay. It is known by a peculiar whistling sound in the breathing, and if neglected at all, proves fatal.

HOW TO MAKE WHITE BEES-WAX.—Have a hardwood board made in the shape of a shingle, then put the wax in a pot of hot water over the stove. While the wax is melting, soak the board in warm water to prevent the wax sticking to it; then dip the board into the pot of water and wax, as you would to dip candles, and you will have a thin sheet of wax on the board. This you can loosen with a knife so it will slide off. Then dip as before, and so on until you have dipped all the wax off. Take these thin sheets of wax and spread them on a white cloth in the hot sun until they are white, afterwards melt and cake.

APPLE PUFFS.—Make a crust the same as for cream pie crust, using rather thicker cream however; roll as thin as possible; cut out in small round cakes with a common biscuit cutter; take one of these, wet it round the edge, and place in the centre a teaspoonful of apple sauce. Take another and cut with a small cracker cutter a hole in the centre about one inch in diameter; place the ring which is left upon the first one, and pinch the edges tightly together. Bake in a quick oven.

TO ROAST A TURKEY.—Prepare the stuffing with bread, salt, pepper, butter, cinnamon, or nutmeg, or a little lemon peel, or parsley and thyme, chop and mix all well together with one or two eggs beat well. With this dressing stuff the body and breast, and sew them with a strong thread. Roast the turkey of a fine brown, not burning it. It will be well done in an hour and a half, or if old and very large, two hours or more. Make a gravy of drawn butter and the drippings. Another sauce is made of half a pint of oysters boiled in a pan, thickened with a lump of butter rolled in flour. Only let it boil once. Serve this by itself, in connection with other gravy, for every person does not like oyster sauce.

POTATO PIE CRUST.—Boil one quart of dry mealy potatoes. The moment they are done, mash them and sift through a colander. Stir thoroughly together one cup of Graham flour and one cup of white flour, then add the potatoes, rubbing them evenly through the flour in the same manner as the shortening in common pie crust. Have ready one cup corn meal; pour over it one and one-third cups boiling water, stirring it till all the meal is wet, then add it to the potatoes and flour, mixing till thoroughly incorporated together. No more flour should be added. The moulding board should be well covered with dry flour, however, as it is slightly difficult to roll out. It should be rolled very thin, and baked in a moderate oven, care being taken that it is not overdone, as a little too much baking is apt to render it tough.

THE VIRTUES OF BORAX.—The washerwomen of Holland and Belgium, so proverbially clean, and who get up their linen so beautifully white, use refined borax as a washing powder instead of soda, in the proportion of a large handful of borax powder to about ten gallons of boiling water; they save in soap nearly half. All the large washing establishments adopt the same mode. For laces, cambrics, &c. an extra quantity of the powder is used, and for crino lines (required to be made stiff) a strong solution is necessary. Borax, being a neutral salt, does not injure the texture of the linen; its effect is to soften the hardest water, and therefore it should be kept on every toilet table. To the taste it is rather sweet; it is used for cleaning the hair, and is an excellent dentifrice.

SOUPS.—The season for soups has come round again. It is surprising how few families make use of this most palatable and economical article of diet. A bone of beef or mutton, a part of a fowl, or a pound of any fresh meat, properly prepared with vegetables and seasoned, will, if nicely gotten up, serve more satisfactorily for a dinner than many a one that is served at a greater cost. Of whatever meat soup is to be prepared, it should be carefully washed, not soaked, and then placed in water quite cold, bringing this, very slowly, to a scald. If boiled at all it should only be after a long simmering. This will bring out all the natural juice of the meat so that when ready for the seasoning, and such vegetables as you choose to add, the scraps of meat may all be skimmed out without loss.

COOKING CABBAGE.—I have sometimes eaten ill cooked cabbage at tables where everything else tasted well; sometimes it was hard, sometimes ill-seasoned, but all will agree with me that tasteless cabbage is the most tasteless of all dishes, and, the doctors say, the most unhealthy. The following is my method of cooking cabbage in the fall, and the same rule will answer now, save that the cabbage being more tender, less time is needed: Have plenty of water—soft is best—and if the outside leaves are green they will need fifteen minutes' boiling before the white part is added; half a teaspoonful of saleratus to a potful of water will be found an improvement; the water must be boiled over a hot fire and kept boiling all the time; in this water we boil one hour; in another pot a piece of salt beef or pork is cooking at the same time, and at the expiration of the hour the cabbage is dipped out into the pot with the meat, both of which are allowed to simmer or boil slowly together for the hour preceding dinner, and if the meat is not salt enough, add a little salt with some pepper. In this way we get all the good of the meat, as the cabbage is stewed down so as to absorb all the liquid, and at the same time it does not taste strong, having been boiled in a previous water.

Miscellaneous.

Farmers Who Don't Read.

To the Editor of THE CANADA FARMER.

SIR,—There is no class of people in our thriving country who hold such a vast amount of wealth in their hands as the farmers. Yet in my opinion no class make such poor use of it. You may go to many a farmer and ask him to subscribe to a first-class agricultural paper, and he will tell you he "does not believe in book-farming; it may do for rich men, but it will not do for me; your costly manures and tools don't pay; your Durhams and other highly-bred animals are a poor speculation—the best stock we can get are the natives, they can fodder on straw, do not need housing in the winter, and can live anywhere." Is it any wonder that such farmers should fail in raising fine stock and good crops, that they find farming a poor business, and combine to run it down? Their fields are like that of the sluggard, their barn-yards are scenes of misery and poverty, their houses cannot be called homes, and things are at loose ends generally. Such a farmer gets into debt, is obliged to mortgage his farm, and in the end perhaps loses it altogether. His children grow up without education, resort to other pursuits for a livelihood, and many of them grow up idle and dissipated. I know farmers who neglect their business at the season when diligence is required, and who, when winter comes, are obliged to go into the bush and get out a few cords of wood or a few sticks of timber to sell, to enable them to exist until the spring. When spring comes, their team is worn out, their seed grain all fed up, the colts are miserably poor, the cows are on the list, there is some distemper among the sheep, and one-half the pigs are dead. Now, how is all this to be remedied? Farmers must read and think, and apply the knowledge they get to practice. "But," says one, "we have no time to read." Now this is not the case. No class of working people have so much time to read and think as farmers have. Three hours of each night, through the long winter evenings, may be thus employed. It is astonishing how little many farmers read. I had occasion lately to travel through a township, and my business required me to call at every house. I took pains to examine whether there was a library where I called, and was surprised to find so few books of any description, and in many cases no books at all, except perhaps an almanac. Now how can such farmers get on? It is as essential for the farmer to be well informed as any one else, if he would be successful. Let me say, in conclusion, that many farmers are too miserably to take a good agricultural paper. They think it doesn't pay. I know two farmers worth \$15,000 each, mostly in real estate, who thought they could not afford to take a weekly newspaper alone, so they joined together and took it between them. This was their whole store of knowledge about the world around them!

A FARMER.

County of Lincoln, Jan. 30, 1864.

Westward Bound!

To the Editor of THE CANADA FARMER.

SIR,—Doubtless there are many attractions in farming life at the "Far West." The fertility of the virgin soil, the abundance and cheapness of land, and the comparative ease of cultivating it (especially prairie land), the satisfaction of gathering large crops, and the prospects of rapidly acquiring wealth,—these and the like things make many young farmers in Canada discontented with their lot, and lead some annually to sell their homes and push towards the setting sun. A few succeed according to their expectations, but very many do not. Land purchased proves inferior to what it was represented, the improvements needed upon it absorb all the profits for many years, contemplated railroad or other facilities for getting crops to market are not constructed, sickness in new form invades the household, long separation from old friends and kindred begets sadness and discontent, and finally nearly all the members of the family mourn the day when first they set out to seek their fortunes at the West. We would by no means advise all young farmers to remain as they are. Change is sometimes desirable. But let every man think well before he makes the final resolve. It is no light thing for one already comfortably situated to sell out house and home, and start life again amid new scenes and among strangers. Even if ordinarily successful in acquiring wealth, he is compelled to sacrifice many things of great value. This is espe-

cially the case if the homestead he sells is one which has descended to him from his parents, and he is surrounded by kindred and friends whom he has known and loved from childhood. He who sells such a home parts with something which money cannot buy, but whose value he does not fully appreciate until he has lost it. As a general rule, the same industry and energy which would secure competency and wealth at the West would, if judiciously applied at home, be productive of a like result.

Orinstown, Chateauguay Co.

[NOTE BY ED CANADA FARMER.—We commend the above letter to all who are dissatisfied with their present lot, and tempted to try change. In reference to the "Far West," though there are great advantages, yet, as our correspondent very justly urges, there are corresponding disadvantages. Beside those named, scarcity of wood and water, distance from market and the consequent low price of grain, higher cost of articles of merchandize, and other drawbacks, go far to equalize East and West. The *Genesee Farmer* for the present month, advertizing to this subject, says: "Those who have sold their farms find, when they come to buy another, that it is not so easy to suit themselves. Land at the West is rapidly advancing, and one or two farmers from this section, who have sold their farms and gone West, would be glad if they were back in their old homes." There are restless, uneasy spirits everywhere who are always dreaming of some fairy land where people can get rich without much effort. It is often the case that such learn wisdom only in the school of experience, and at the cost of bitter disappointment. We believe the majority of Canadians rejoice, as they well may, in the good land God has given them, and most assuredly discontented ones will travel many a weary league before they find a better.]

Knowing too Much.

I FIND no man so disagreeable to meet with, as one who knows everything. Of course we expect it in newspaper editors, and allow for it. But, to meet a man engaged in innocent occupations,—over your fence, who is armed cap-a-pie against all new ideas,—who "knew it afore," or "has heard so," or doubts it, or replies to your most truthful sally "'tain't so, nuther," is aggravating in the extreme.

There is many a small farmer, scattered up and down in New England, whose chief difficulty is—that he knows too much. I do not think a single charge against him could cover more ground, or cover it better. It is hard to make intelligible to a third party, his apparent inaccessibility to new ideas, his satisfied quietude, his invincible *inertium*, his stolid and yet shrewd capacity to resist novelties, his self-assurance, his scrutinizing contempt for outsiders of whatever sort,—his supreme and ineradicable faith in his own peculiar doctrine, whether politics, religion, ethnology, ham-curing, manuring, or farming generally.

It is not alone that men of this class cling by a particular method of culture, because their neighbourhood has followed the same for years, and the results are fair; but it is their pure contempt for being taught; their undervaluation of what they do not know as not worth knowing; their conviction that their schooling, their faith, their principles and their understanding are among God's best works; and that other people's schooling, faith, principles and views of truth—whether human or Divine—are inferior and unimportant.

Yet withal, there is a shrewdness about them which forces upon you the conviction that they do not so much dislike to be taught, as dislike to seem to be taught. They like to impress you with the notion that what you may tell them is only a new statement of what they know already. It is inconceivable that anything really worth knowing has not come within the range of their opportunities; or if not theirs, then of their accredited teachers, the town school-master, the parson, the doctor, or the newspaper. In short, all that they do not know which is worth knowing, is known in their town, and they are in some sort partners to it.

Talk to a small farmer of this class about Mechi, or Lawes, or the new theory of Liebig, and he gives a complacent, inexorable grin,—as much as to say,— "Can't come that stuff over me; I'm too old a bird."

So indeed he is; and a tough bird at that. His mind is a rare psychological study; so balanced on so fine a point, so immovable,—with such guys of prejudice staying him on every side,—so subtle and yet so narrow,—so shrewd and yet so small,—so intelligent and yet so short-sighted. If such men could bring themselves to think they knew less, I think they would farm far better.—*My Farm of Edgetwood.*

VALUE OF PLOUGHS.—Among the Kaffirs agriculture is considered to be a kind of labour unworthy of a warrior, and it is therefore entirely left to the women. When they first saw a plough at work they gazed at it in astonished and delighted silence. At last one of them gave utterance to his feelings: "See how the thing tears up the ground with its mouth! It is of more value than five wives!"

COLD IN THE WEST.—A correspondent of *The Journal* in Bloomington, McLean Co., Ill., writes as follows on the 12th inst.—"I am able to give a connected account of the late cold weather and its effects. On the last day of the old year a terrible snow storm set in, which lasted for 48 hours. The snow was fine and dry, the thermometer standing during the day at 15 degrees below zero, and the wind blew with such violence that the snow was driven into dwellings and buildings considered perfectly tight. Cattle and sheep are kept in this county in the open air, at least great numbers of them, and the snow was driven into their hair and wool, chilling them so that they died by hundreds. In this county alone I have heard of hundreds of cattle and sheep, enough to amount to nearly 2,000, that froze to death. Friday, Jan. 1, was the last day of the storm. The snow had fallen about eight inches and was drifting. In the northern part of the State the thermometer ranged from 30 to 40 degrees below zero; in this latitude 20 to 30, and at Cairo 16 below. In this place the lowest point reached was 29 below. For the first nine days of the new year the thermometer in this city averaged 15 degrees below zero at sunrise of each day. During the most of the time the railroads were blocked. The weather was so cold that it was almost impossible for men to work on the tracks; the cuts were filled in many places to the depth of 12 feet, while the engines were constantly freezing and bursting; so that on the whole, one can readily conceive the difficulty of opening the roads. Our local papers are filled with details of suffering caused by the cold. In this county one whole family froze to death. Their house caught fire, and while they were on their way to a neighbour's they all died. A little girl in one town froze to death on her way to school. A man went into the woods with his team for a load of wood and was found frozen to death three days after. This is the record of deaths of one county, and allowing the same ratio for the entire West, you can form some idea of the terrible weather we have passed through. Hundreds of people have been partially frozen in this town and county. The suffering in this town was such that our citizens turned out *en masse* on the 8th with a large donation of wood, flour, &c., for the poor. The weather is warm and pleasant to-day, and the snow is melting slowly.

Markets.

Toronto Markets.

"CANADA FARMER" Office, Feb. 15, 1864.

For the last week the amount of grain and produce brought into market has been larger than at our last report, and the prices have become much firmer, although there is little advance, except in pork, which is going up rapidly. Fall wheat is active and in good request. Spring wheat much asked for and firm. Barley in small demand. Flour is firmer, with a slight advance.

Flour—Superfine at \$3 75 for shipment per bbl; \$4 to \$4 30 for home consumption; Extra, \$4 25 to \$4 65; Fancy, \$4 10 to \$4 20; Superior, \$4 75 to \$5 10; Bag Flour, \$4 per 200 lbs.

Fall Wheat, 85c to 98c for common to choice per bushel; \$1 00 to \$1 03 for good to choice; \$1 05 to \$1 08 for Extra. The latter price, however, is seldom given; \$1 05 is generally the highest price given.

Spring Wheat in good demand at 75c to 83c per bushel for good; 85c to 86c for extra; occasionally a load brings 87c.

Barley at 70c to 73c per bushel.

Oats at 38c to 43c per bushel.

Peas 45c to 60c per bushel.

Hay \$9 50 to \$10 per ton.

Straw \$5 to \$6 per ton.

Bran \$10 a ton at the mill.

Shorts \$13 to \$15 per ton.

Hides (green) at 4½c to 5c per lb., the latter price for extra.

Calfskins at 7c to 9c per lb.

Sheepskins at \$1 25 to \$1 75.

Lambskins at \$1 25 to \$1 70.

Coal \$7 25 to \$9 per ton.

Wood \$4 25 to \$5 50 per cord.

Provisions—Hams \$9 50 to \$10 per 100 lbs. Bacon \$6 50 to \$7 per 100 lbs. Cheese \$9 50 to \$10 per 100 lbs. wholesale; 12½c to 15c per lb. retail.

Advertisements

THOROUGH BREED STOCK FOR SALE. I have for sale Six Durham and Four Galloway Bulls, from 9 to 23 months old, and a few Females of the above Breeds. Cotswold and Leicester Sheep, male and female.

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TWO DAIRYMEN. - A Dairy of One Hundred Good Cows, with the right of increase to two hundred, is offered to rent for one or more years. The proprietor will furnish the necessary Buildings, Feed, Pasture, and attendance, and be entitled to the manure and the calves. The tenant to milk the cows, and pay for the milk he gets at a price per gallon to be agreed on, or the proprietor will provide the Cows and Buildings for a yearly price per cow, to be agreed on, and contract to deliver straw, hay and roots, and provide pasture, at fair rates.

No one but a thoroughly experienced and successful Butter or Cheese maker need apply; but with a really competent man, having sufficient means to carry on the business, a favourable arrangement will be made. Apply, by letter post-paid, to Mr. GEORGE BROWN, M. P. P., Toronto. Toronto, January 8, 1864. 1-1f

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Toronto, January 8, 1864.

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IMPORTANT TO AGRICULTURAL SOCIETIES AND FARMERS.

"THE COMET," a three year old Clydesdale Stallion, imported last October, is open to travel during the coming season in any County in Canada West where he is likely to meet with liberal encouragement. He has, besides local prizes, taken two first at the Royal Northern Agricultural Society's Exhibition at Aberdeen in 1862 and '63, and was generally admitted to be as fine a colt as Scotland could produce. He may be seen at the residence of Patrick R. Wright, Esq., near Cobourg, and any communications addressed to his owner Robert Copland, care P. R. Wright, Cobourg, C. W. Cobourg, Feb. 1, 1864. 2-4

ST. CATHARINES NURSERIES.

MY CATALOGUE OF SEEDS will be sent to all applicants. It contains a select assortment of the choicest FLOWER and VEGETABLE SEEDS, with full directions for sowing the seed and cultivating the plants. Flower Seeds and the smaller Garden Seeds sent, post paid to any part of Canada, on receipt of the catalogue prices.

D. W. BEADLE,

St. Catharines, C. W.

Feb. 15, 1864.

3-2t

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- Mayhew's Illustrated Horse Doctor, - - \$2 50
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Youatt and Martin on the Hog, - - - - 0 75
The Horse and his Diseases, - - - - 1 00
Clator's Horse and Cattle Doctor, - - - 0 80
Young Farmers' Manual, - - - - - 1 25
Downing's Fruit & Fruit Trees of America, 1 50
Barry's Fruit Garden, - - - - - 1 25
Dodd's Modern Horse Doctor, - - - - 1 00
Hand-Book of Household Science, - - - 1 25
Ure's Dictionary of Arts, Manufactures, and Mines, (2 vols.) - - - - - 6 00
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ON Improved Farm Property, in sums from \$200 and upwards. MORTGAGES BOUGHT.

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February 15, 1864.

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Beef, by the quarter, from farmers, 3 1/2 to 3 3/4 for fore quarters; 3 1/2 to 5c for hind quarters in the market, inferior 3 1/4 per lb.; second quality, 4c to 1 1/2c per lb.; extra 5c per lb. wholesale; 3 1/4 to 6 1/2c per lb for ordinary; 6 1/2 to 7c for superior. retail

Cheese scarce at \$1 and upwards. Sheep at \$1 50 to \$5 50 each, according to size and quality.

Pork—Dressed \$5 00 to \$5 50 for common to good; \$5 00 to \$5 80 for good to choice; occasionally some extra choice heavy hogs bring \$5 90 and upwards.

Butter—Fresh, wholesale, at 11c to 15c per lb; retail, 15c to 20c per lb. Tub butter, dairy packed, 16c to 18c, according to quality. Tub butter, common, 11c to 15c per lb.

Eggs 16c to 25c per dozen, wholesale. Chickens plentiful at 25c to 40c per pair

Ducks 30c to 45c each. Geese 30c to 55c each.

Turkeys 55c to \$1 50 each. Salt \$1 75 to \$2 per brl.

Water Lime \$1 50 to \$1 60 per brl. Potatoes 25c to 40c per bushel, wholesale; 50c to 62c per bushel, retail.

Fresh Fish 17c and upwards each. Apples—Common to good, \$2 to \$2 75 per barrel; extra, \$3 per barrel.

Coal Oil 29c to 35c for Canada, 15c to 55c for Pennsylvania.

Wool scarce at 35c to 37 1/2c per lb.

Windsor Markets—Feb. 13.—Wheat, white per bushel, 90c; Red, 80c. Barley, per cwt. \$1 75. Corn, per bushel, 65c to 70c. Oats, per bushel 41c. Hops, per bushel 75c. Dressed Hogs, per 100 lbs. \$5.

London Markets.—Feb. 12.—We have no change to note in prices to-day. Wheat is steady, at yesterday's rates. Pork in small supply; highest figure to-day was \$5 50 for a prime sample, weighing over 550 lbs. Quotations as under:—Fall Wheat, per bushel, \$1 to \$1 02; Spring Wheat, 75c to 80c. Barley, per bushel, 6c to 8c. Oats, per bushel, 3 1/2 to 5c. Peas, per bushel, 4c to 5c. Hay, per ton, \$8 to \$9; Oat straw, per load, \$2 to \$3; Butter, fresh, per lb., 17c to 20c; Butter, keg, per lb, 12c; Apples, 7c to 7 1/2c; Potatoes, 7c to \$1. Flour, per barrel, \$2 to \$2 50; Eggs, per dozen, 20c; Wool, per lb., 4c to 4 1/2c; Hides, dry, per lb., 9c to 10c; Hides, green, per lb., 4c to 5c; Sheepskins, \$1 25 to \$2 25; Beef, \$3 to \$4 50; Pork, \$5 to \$5 32; Clover Seed, per bushel, \$5 to \$5 12; Timothy Seed, per bushel, \$2 25 to \$3.—Free Press.

Queph Markets.—Feb. 11.—Fall Wheat, 90c to \$1; Spring Wheat, 70c to 80c; Peas, 40c to 5c; Barley, 70c to 82c; Oats, 38c to 42c; Hay, \$6 to \$7; Potatoes, 25c to 37c; Butter, 12 1/2 to 15c; Eggs, 12c to 15c; Hides, \$5; Pork, \$5 50 to \$6 13.

Ottawa Markets.—Feb. 12.—Wheat—Fall per bushel \$1 00 to \$1 05; Spring, \$1 00; Flour, extra per barrel, \$5 00 to \$5 25; Superfine No 1, \$1 75 to \$5 00; No. 2, \$4 25 to \$4 50. Barley per bushel 48 lbs 65c to 70c. Corn, per bushel 56 lbs 60c to 65c. Oats, per bushel 31 lbs. 35c to 40c. Peas, per bushel 60 lbs 50c to 60c.—Citizen.

Montreal Cattle Market.—Feb. 12.—Beef.—Market very badly supplied, and prices have advanced fully 50c per 100 lbs. We quote first quality \$5 75 to \$6 25, 2nd do. \$5 25 to \$5 75; rd do. \$1 25 to \$5 00; ordinary and refusal \$20 to \$35 per head. Milk Cows scarce at \$40 to \$15. No yearlings, two years old \$18 to \$22. Sheep.—Market poorly supplied, and prices rule high, say 1st quality \$6 50 to \$8 00, 2nd do. \$5 00 to \$6 50. Sheep and lambs by the lot \$3 00 to \$4 50. Calves are coming in more plentifully, and meet with ready sale at \$6 to \$8 for 1st quality and \$4 50 to \$6 00 for 2nd do. Hogs.—Dressed Hogs have lately arrived in bad condition, and the market is depressed, we quote them at \$5 75 to \$6 25, latter price for those in good condition. Live hogs are in good demand, and dear, price ranging from \$5 to \$5 50. Hides are in good demand at last week's prices \$5 50 to \$5 75. Sheep and lamb's pelts remaining scarce and very high, say \$2 00 to \$2 50. Tallow.—Very dull. Rough 5 1/2 to 5 1/2c. Lard dull at 10c to 10 1/2c. Barrelled Beef.—Rather more enquiry, but prices rule low, say Prime Mess \$8 50 to \$8 75; Prime \$6 50 to \$6 75. Tierces \$17 50 to \$18 00.—Witness.

New York Markets.—Feb. 12.—Flour and Meal.—The market for flour is less active, but a fair inquiry is noticeable, for export. Trade and Family brands are quiet, and prices irregular. The sales are at \$6 25 to \$6 40 for Superfine Estate; \$6 75 to \$6 95 for Extra State; \$7 to \$7 20 for Fancy State; \$6 90 to \$7 05 for the low grades of Western Extra; \$7 30 to \$7 40 for Shipping Ohio; \$7 50 to \$8 25 for Trade

and Family brands, and \$7 50 to \$10 50 for St Louis Extras. Canadian Flour is inactive, and prices are easier; sales at \$6 80 to \$7 for the low grades of Extra, and \$7 05 to \$8 25 for Trade and Family Extras. Southern Flour is in better request, but the demand is by no means active, and prices are lower and irregular; sales at \$7 60 to \$8 05 for mixed to good superfine extra country and Baltimore, and \$8 10 to \$11 for Trade and Family brands. Rye Flour is steady and in fair request; sales at \$5 75 to \$6 50. Corn Meal remains quiet at \$5 30 to \$5 50 for Jersey, and \$6 25 for Brandywine. Buckwheat Flour is dull and lower; sales at \$2 50 to \$2 75 per 100 lbs.

Grain.—The Wheat market opened firmer under the advance in gold and exchange, but closes quite tame at the improvement. The demand is mainly for export, but is less active owing to the extreme prices prevalent; sales of Chicago Spring at \$1 58 to \$1 60; Milwaukee Club, at \$1 60 to \$1 61; Amber do., at \$1 61 to \$1 63; Red Western, at \$1 67 to \$1 70; Amber do., at \$1 70 to \$1 71, the inside rate for inferior in store; Red Jersey at \$1 67; 4,000 do. Smutty White Michigan, at \$1 35, and White Long Island at \$1 80. Barley is still very quiet and unsettled; sales of Eastern at \$1 35. Barley Malt is steady and in fair demand; sales of State at \$1 55 to \$1 58. Oats are less active, but a shade firmer; sales at 89c to 90c for Canadian and State, and 90c to 90 1/2c for Western. Rye is quiet but steady; sales at \$1 25 to \$1 30 for Jersey, and \$1 32 to \$1 35 for State. Corn is unsettled, and closes lower, with a moderate business doing at the abatement; sales at \$1 22 to \$1 24 for old mixed Western in store, the latter rate for part of cargo, and \$1 19 to \$1 21 for Pennsylvania and Jersey yellow.

Provisions.—There continues a good steady demand for Pork, and the market closes strong, at an improvement over our last quotations. Dressed hogs are better and in good demand, and are very scarce; we quoted Western at 9 1/2 to 10c for Western, and City 10 1/2 to 11c. Lard is in fair demand and a shade better, sales of 2,000 barrels and tes., at 15c to 13 1/2c for old, and 13 1/2 to 13 1/4c for new. Butter is in light supply and quite firm and in good demand at 35c to 35c for prime and extra do.; Western is scarce and firm, with a fair enquiry at 26c to 30c for fair to extra Reserve. Cheese continues in good request, but the light stock offering and the high prices asked restrict transactions somewhat; we quote good to choice State Dairies at 14c to 16c; Ohio at 13 1/2c and 14 1/2c, and prime and extra State factory made at 16c to 17 1/2c.

Boston Markets.—Feb. 11.—Flour—The receipts since yesterday have been 2254 bbls. The market is steady, with a moderate demand. Sales of Western superfine at \$6 75 to \$7; common extra \$7 25 to \$7 50 medium do \$7 75 to \$8 25; good choice do \$8 25 to \$11 per bbl.

Grain.—The receipts since yesterday have been 3900 bushels Oats, 350 do Rye, 400 do Shorts. Corn is firm. Sales of new Southern yellow at \$1 30; old Western mixed \$1 35 per bushel. Oats are firmer. Sales of Northern and Canada at 85c to 87c per bushel. Rye is selling at \$1 30 to \$1 33 per bushel. Shorts are in moderate demand at \$36 to \$37; Fine Feed and Middlings \$38 to \$40 per ton.

Provisions.—Pork is steady, with a moderate demand. Sales of prime at \$18 to \$18 50; mess \$22 50 to \$23; clear \$24 to \$25 per bbl. cash. Beef is in fair request. Sales of Eastern and Western mess and extra Mess at \$14 50 to \$16 50 per bbl. cash. Lard is in good demand. Sales in barrels at 13 1/2 to 14 1/2c per lb., cash. Hams are selling at 13c to 14c per lb., cash.

Milwaukee Markets.—Feb. 10th.—The wheat market was dull yesterday, and closed a shade lower than Monday. During the forenoon some 25,000 bushels No. 1 Spring changed hands at \$1 18 1/2 in store, \$1 19 buyer's option all the week, and \$1 20 1/2 all the month. On change buyers generally limited their offers to \$1 18 1/2 for No. 1, and \$1 11 1/2 for No. 2 in store. The market was dull and unchanged in the evening; \$1 18 1/2 was offered for No. 1 Spring in store without specifying place of storage, but holders were not disposed to sell at that figure. In Flour the only sale we heard of was 100 bbls. country spring extra at \$5 40—a choice brand but not quite up to the standard of double extra. Oats firmer, No. 1 selling at 61c in store, and 63c to 61c delivered in small parcels. For large amounts 60c in store was the standing offer. Corn, was irregular, new shelled selling at 83c, 83 1/2c, and 84c on track. The principal sales were made at 84c, but towards the close 83c was the best price that could be obtained. Barley and Rye nominally unchanged. There were no dressed hogs on the market. The receipts were reported at \$4 70, but these had been sold before arriving—good lots would bring \$7 to \$8 dividing on 200 lbs.—Exchange.