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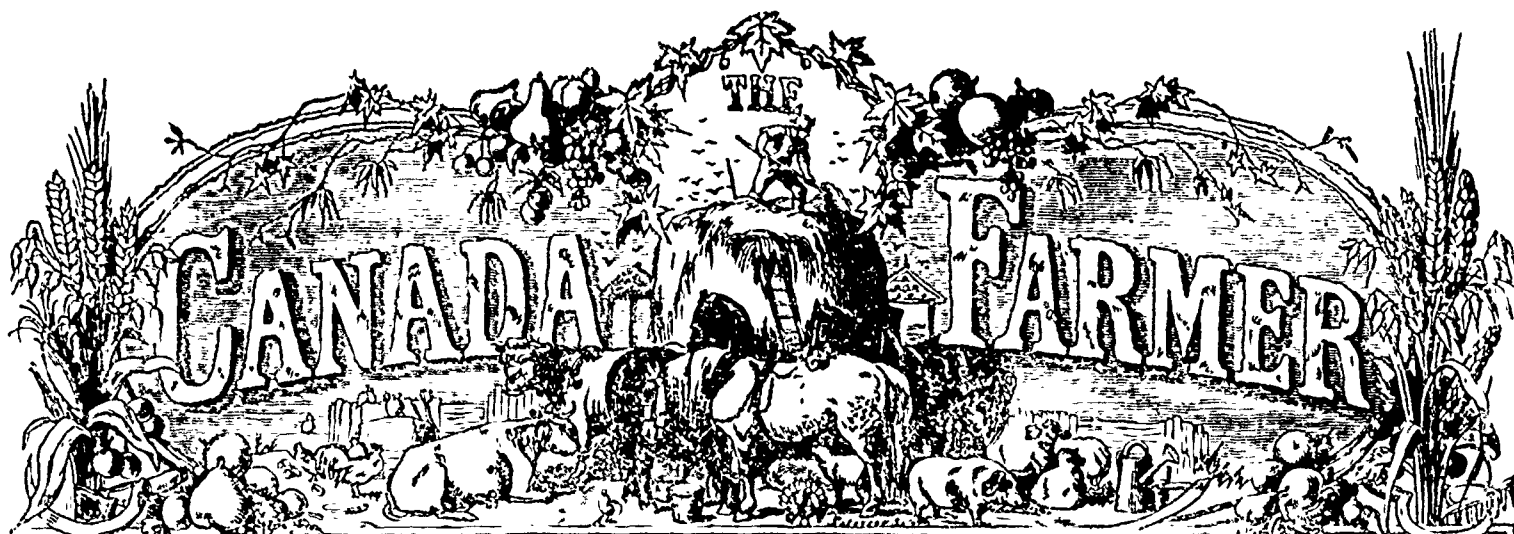
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Vol. II. No. 5.

TORONTO, UPPER CANADA, MARCH 1, 1865.

POSTAGE FREE.

The Field.

The Art of Chopping.

Chopping is an art, and one that is not to be acquired in a day. Those who have handled the axe from earliest childhood, and become familiar with its management, have little idea of the awkwardness felt by those who make their first attempt at chopping, after having arrived at mature years. However, with a little perseverance, the art may soon be acquired by parties who have been accustomed to handle tools of a very different description. There is, however, a great difference in the facility and effectiveness with which people handle the axe. One man will chop much faster and more neatly than another. Nor is it merely a question of muscular strength. Skill has far more to do with it. A small man, possessing apparently but little strength, will often chop twice as much as a burly, powerful fellow who "hasn't got the hang of it," as backwood-men would say. It is difficult to prescribe rules for handling the axe properly. An easy swing obtained by straightening the back at every stroke, and throwing the axe well up into the air; a straight aim, firm grasp of the handle hilt in one hand, and quick, free motion with the other, perfect elasticity in the arms, and the avoidance of all stiff, rigid movements,—these are the chief requirements. But, after all, there is a certain knack which only intuitive perception, and intelligent practice, can give. We are not sure but the true chopper, like the true poet, is "born, not made."



Our engraving exhibits two men in the act of felling a tree. The scene finely illustrates the first steps in the process of clearing land. We are to suppose that the heroes of our picture have taken up a lot of land in the unbroken forest, and are in the act of beginning to rid it of its timber, as a preparation for tilling the soil. Generally speaking, chopping is a winter job. Other work is scarce at that season in the newer parts of the country; and by proper manage-

ment, what is chopped in winter can be got ready for a crop during the following summer or fall, if not indeed in the spring. As there is usually more or less snow on the ground during the winter months, it is very important to have the land intended to be cleared, nicely underbrushed the previous fall. Twigs, saplings, and the smaller trees,—those not more than about six inches through, should be cut close to the ground, in order to facilitate dragging in the first

sometimes be indicated by a slight lean on the part of the trees, and more distinctly perhaps, by the inclination of the tops. The importance of this examination will appear in connexion with the process of burning off. In commencing a piece of chopping, the largest and most unmanageable tree, say a great Water Elm or Oak, should be felled first, and if the prevailing wind be from the North-West, the tree should, if possible, be made to fall toward the South-

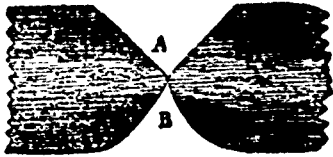
East. Then by carefully cutting the rest of the trees within reach of the elm or oak, they will all fall with their tops on the first tree felled—the trunks forming various angles with that of the first tree chopped down. As each tree is felled, the branches should be all cut off so as to form a compact mass. Where the timber is thick, these heaps will be nearly, if not quite, close enough to walk over through the entire extent of the fallow. When the time for burning arrives, the fire will run with the wind lengthwise of the heaps, consuming all before it, and often leaving a clear lane;—brush, tops, and even the smaller logs being burnt out of the way. When a tree is bent so as to fall the wrong way, it will often reach another row, or if the inclination be not too decisive its course may be directed by the use of a "spring pole," as it is called. This is a light, tough pole, about 25 feet long, with a strong, sharp spike in the small end, protected from splitting by a ferule. When used, it is placed on the side of the tree opposite to that toward which the tree should fall, the spike thrust into the tree about 20 feet from the ground, and the bottom end jerked toward the stump of the tree. A small rope may be attached about half way up the pole, and fast-

ened round the stump below the place where it is being cut off. By doing this tightly, the pole will bend, and all its elasticity made to contribute toward forcing the tree to fall in the desired direction. The use of the "spring-pole," requires much judgment and caution. A tree will usually fall on that side of the stump which is cut the lowest. If it be desired to throw a tree in a given direction, let it be first cut on that side three or four inches lower down than on

tened round the stump below the place where it is being cut off. By doing this tightly, the pole will bend, and all its elasticity made to contribute toward forcing the tree to fall in the desired direction. The use of the "spring-pole," requires much judgment and caution. A tree will usually fall on that side of the stump which is cut the lowest. If it be desired to throw a tree in a given direction, let it be first cut on that side three or four inches lower down than on

the other side, and it will surely fall as intended, unless the wind is contrary, or the tree leans. These circumstances must always be taken into account at the outset to prevent mistakes and avoid accident. The direction in which the chips fly, and the line they form as they lie on the ground, will indicate where the tree will fall. Care must be taken and judgment exercised in felling trees to prevent mishaps. Accidents occur through ignorance or carelessness, and there are few cases in which injury is done by the falling of branches, or the tree going in the wrong direction, that the chopper is not to blame. Many act very recklessly, especially when the tree gets lodged in an adjacent tree. In such a case great caution should be used, no risks run, and no hasty measure attempted. Better take a little more time than hazard life or limb.

When the tree is felled, it requires to be cut into suitable lengths for the log-heap, in which it is to be burnt out of the way. No particular rule can be given as to the length of the logs. It depends very much on the size of the tree. As far as possible the logs ought to be such as a yoke of oxen can draw, or, in the case of the very large ones, twist round to form the beginning of a heap. In cutting off a log there is a right and a wrong way of forming the kerf or chip. Both modes are shown in the subjoined cut:



A is a badly shaped kerf or chip. B is one of the proper shape. The rule, among good choppers, for the length of the outside kerf, usually is that it must not be less in length than the diameter of the log. Thus, if a log be two feet through, the kerf should be commenced two feet long. It is best to do this in the shape of a double chip, each half being about one foot in length. A chip of more than a foot long, will not fly readily. The outside chips will come off more readily, in the case of large logs, if the ends of the chip are cut off square. When this is done, every blow tells with redoubled effect.

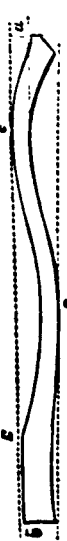
Before closing these remarks about chopping, it may be as well to say something about the axe, and the mode of "hanging" it, as it is called. The annexed figure represents an axe ready for use:—A is



the poll, which is often made of steel; B is the edge; C the steel; D the outside corner; E the inside corner; F the eye through which the helve or handle passes, and into which it is wedged; G is the helve or handle; H is the hilt of the helve or handle. The dotted lines represent the angle of the axe and helve, and show how the axe should be hung. Axes are made of different sizes and weights, choppers are not agreed as to whether a light or heavy axe is the more effective. Perhaps it depends somewhat on the workman. A slow chopper can use to advantage a heavier axe than a man who is quick in his movements, while the latter will make up in the number of his blows

for the lightness of the tool he works with. A good helve or handle is very necessary in order to pleasant and effective work. In many cases it so happens that the chopper must make his own helve. This is not an easy task. Many a good mechanic cannot make a helve fit to chop with. Our space will but admit of a suggestion or two in reference to this point. In the first place, the helve must be flat or rather oval, as a round helve will turn in the hand and is neither pleasant nor safe to work with. The shape will be better understood by the help of the

following diagram, which will also be a guide in making the helve:—About two feet eight inches in length from a to b will suit most men. It is well, if it can be done, to take a good helve as a model, but if this cannot be done, a pattern can be made in a few minutes, out of a thin piece of board, as shown by the dotted lines. At a it should be about three inches wide, and at b about two and a half inches wide. At c about six inches from the end near d, make a mark for the most prominent point. At D make another mark about two-thirds of the distance from a to b. At E make another mark, six or seven inches from b. The shape should be marked out with a pencil, as near like the figure as possible, and then it should be cut out very carefully and exactly. Tough hickory is the best wood for a helve. Rive out a piece and dress it four square, as thick at the large end as the hilt, and wide enough to mark the shape with a pencil by the pattern. Then with such tools as may be at command, reduce it to proper shape and dimensions. Drawing-knife, smoothing-plane, spoke-shave, rasp, and sand paper, are most venient, but sometimes all these are not within con-reach. In laying the pattern on the stick let the part at a c E be towards the bark, and the part at D towards the heart of the tree. Then if the helve springs no mischief will be done, but rather good, while if it springs sideways it will be worthless for chopping purposes. In hanging the axe, as it is termed, i. e., putting the handle in, it is necessary to have the edge range exactly with the centre of the hilt, and also to have the hilt, the centre of the eye, and the centre of the blade, at right angles. Much depends upon the axe and axe-handle being "all right," but full particulars would swell to a long dissertation, and become tedious, especially to such of our readers as know "all about it."



hints about March work.

Hints about March Work.

THE brief hints given in our first issue for February, in reference to work for that month, hold good, many of them at least, for March also. The present month is a rather uncertain one in this climate. Usually winter loosens his hold very sensibly by the middle of the month, and yet he often gives us rather unpleasant reminders that his reign is by no means over. Preparation should now be made in good earnest for spring work. Tools should be in perfect order; vehicles well greased; ploughs ready to start; harrows in right trim, no teeth missing, and all sharp; harrows oiled, and if necessary repaired; cultivators, whiplike-trees, ox-yokes, &c, fit for use. As this month is noted for high winds, secure everything liable to receive damage from this cause. Look after barn and stable doors, gates, loose fence boards, and the like. Working oxen and horses should be well cared for as the trying time of hard work approaches. If they can be moderately used, as well as properly looked after, they will become gradually prepared for the severe tasks before them. March is rather early for lambs in this country, especially from fine wool flocks; but it is desirable to get mutton lambs as early as possible, that they may attain a better size and be sooner ready for the butcher. Breeding ewes should be well housed, either in closed sheds or in the barn, with litter enough to keep the fleeces clean. It is possible to keep them too close; they are the better of some ventilation. Toward the end of this month usually, the banking up may be removed from cellar windows, when cabbage leaves and other decaying rubbish should be cleared out; sprouts rubbed off from growing potatoes, and the interior cellar walls white-washed. Winter grain may be rolled if the ground be dry enough. This should especially be done on soil much heaved by frost. Breeding cows ought to have regular feeds of roots; raw potatoes, carrots,

or even turnips will do. It is not often that ploughing can be done in this country during March. But on porous or well-drained land it is sometimes feasible. Our spring is so short that the earlier the plough starts the better. On sandy soils ploughing may begin so soon as the frost is out of the ground. But in the case of clayey or rich soils, the action of the sun is needed for a time before the ground can be stirred. It will not do to plough clayey land while it is wet. Clover seed should be sown early. It may be done best on a light snow some still morning. The seed and footsteps are then visible, helping the sower to do his work evenly, while the moisture of the melting snow hastens germination. This is the month for making maple sugar. Full directions how to do this will be found in No. 4 Vol. I of this journal. Cows that come in early, should be carefully attended to, and their calves kept warm, especially those intended to be reared. If exposed to cold, their growth will be seriously retarded. Poultry should be allowed to get picking at the first grass, chickweed, &c., that starts. Hens inclined to sit may have eggs put under them this month, but it must be in a warm place, and the early chicks must be looked after, or they will not live long. The orchard should be watched. If trees have been injured by mice or rabbits, treat them to a plaster of cow-dung and clayey loam, well beaten together, and fastened on with an old cloth. Stable manure may be scattered liberally over the roots of fruit trees. A sharp look-out should also be kept for insect depredators in the orchard.

"Candour" on Flax Culture.

To the Editor of THE CANADA FARMER:

SIR,—I notice in No. 3 of the present volume, that "Candour" takes me to task for giving my experience in flax culture.

By way of apology for meagreness of detail, I may say that I always aim at brevity, and do not wish to load your columns either with unnecessary details or exhibitions of wit. If "Candour" wants experience on a more extended scale, let him take, by chance, say twenty names from among the largest growers on his books, and I will assist him in getting certified details, a summary of which can be published in THE CANADA FARMER. Will he do this? I would like, for instance, to hear from Mr. S. Wallbridge, of Ameliasburgh, who, I understand, sowed several bushels of seed. Doubtless, my flax could have been pulled in a few hours had no weeds been present—and their absence would be a rare exception. I have more than one year's experience in flax culture, and will give full details of the crop of 1863, if "Candour" desires them. I shall dismiss his figures with a few words: other crops did realize from \$20 to \$25 per acre—fall wheat for instance; other crops did not average that, neither did flax; our own fall wheat realized \$28 per acre after paying for seed—the straw and chaff paid abundantly for harvesting and threshing: hence the absurdity of comparing flax with wheat, in harvesting, still remains, and will continue to do so while cradling is more rapid than reeling. If parties have realized double or treble this amount from flax, it must have produced from four to six tons per acre. That the market for wheat is "universally an uncertain one" is an astounding fact and beyond my comprehension. I merely spoke of hay, because it is likewise sold by the ton. In comparing profits, it is necessary to deduct the cost of cultivation and harvesting in each case. This, "Candour" does not do. It is well enough that manufacturers should understand that farmers have interests of their own. They cannot afford to raise crops that do not pay; and flax at the same price as hay most assuredly will not. I wish simply to give my brother farmers the truth, and this can only be done by exhibiting every side of the question. If I have shown some of the difficulties in flax culture, others have not been lacking to show its advantages. On page 47 of the present volume, are some calculations which show that an acre, after deducting the expenses of manufacturing, will yield \$70 worth of flax. The plan there detailed would enable farmers to grow flax to the benefit of themselves and the country at large.

Sidney, Feb. 17, 1863.

E. M.

Flax Culture.

To the Editor of THE CANADA FARMER:

Str.—Spring is fast approaching, and with it enquiries naturally begin to arise in the breast of the agriculturist, viz: shall I put in the ground this year that will secure to me a better return than the last? The failure of the wheat crop has been severely felt of late years by all classes of the community, but more especially by the farmer himself, who depends entirely on his industry and exertion to secure a good crop; in a word, he it is that has to bear the burden and heat of the day.

Several other crops present themselves to the view as a sure remedy to meet this deficiency in the wheat crop—Hemp, Tobacco, and Flax. The reader must not imagine we are to lose sight of the other staple crops, such as barley, oats, and hay, as it is highly desirable that, when farmers can do well by raising any of these, they should not depart from their culture.

Flax has already been tried, and when it has received that attention necessary to secure a good crop, the result has proved most favourable. The writer's object is to invite the farmers to give it a fair trial, and this can only be done by adhering strictly to a proper mode of cultivation.

Many have failed to my own knowledge, from putting the seed in ground not properly prepared, sowing too late in the spring, and a variety of other causes. Those making the trial this spring should see that their land is in proper till, clear of weeds, and thoroughly cultivated, and there need be no fear of the result. So far, this winter has been most favourable to the fall wheat, from the fine heavy coat of snow that has covered it, but we have the spring before us, and in all cases where it should be the misfortune of the farmer to have it injured with frost early in the spring, this offers a good opportunity to replace it with flax. Another great advantage following a crop of flax is, it is not subject to the many drawbacks wheat is—such as the ravages of the weevil, fly, midge, rust, &c. Unless when flax is very rank indeed, even rust seldom does much harm.

Farmers should not fail to make use of the many favourable opportunities offered them by millers and others, who liberally offer seed for sowing, taking in return, after harvest, a like quantity, or making such mutual arrangement in this way as is most congenial to both. The success of those already engaged in this new branch of Canadian industry ought to be an incentive to others to follow their good example. When we are aware that such men as Messrs. Gooderham and Worts, of Toronto, are giving it their attention; who have not only established an oil mill, but are prepared to supply seed of the best description for sowing, and are now making arrangements at Streetsville, in the township of Toronto, to get the farmers to put in some 1,000 or 1,200 acres this spring; others of less enterprise will be safe in making the trial. Many complain of the want of a market. There is no need of this, now that we find men of enterprise taking hold of it. They will, in all cases, be able to purchase from the farmer. Another complaint has been urged—that farmers do not get a price to please them from the parties owning such mills. Let them first give the cultivation of the land proper attention, when they will be sure to produce a quality that will command a good price. They have in all cases to submit to market price for their other products. However, I may be allowed to state that I have known more than the value paid for inferior qualities by the scutch millers, with the view to encourage others in the neighbourhood to grow it another year. But what is to prevent a few farmers joining together and putting up a mill of their own, which can be done at a cost of \$800 or \$1,000, as did Messrs. Black and Forester, of St. Mary's, who, after scutching their own flax, are doing a profitable business in scutching for their neighbours?

Too much cannot be said in favour of this new branch of agriculture, in the face of such an outcry of hard-times, which has arisen chiefly from the failure of the wheat crop for so many years back, which is one of the principal staples for raising money. I now most respectfully invite every farmer who can make it convenient to visit the Emigration Office, 11 Front street, Toronto, and examine samples of flax in its various grades, from the seed and straw from the field, to the manufactured goods so much in use, and of which we are importing so largely every year, and paying a duty of 20 per cent.

Lastly, it is most desirable that agricultural societies should offer handsome prizes, to be awarded this fall at the autumn exhibitions, for the best quality and the largest number of acres produced.

JOHN A DONALDSON.
G. E. Agent.

Toronto, Feb. 18, 1865.

Discussion on Manures.

THE *Maine Farmer* gives a report of the discussion at the late meeting of the Maine Board of Agriculture, on "Manures and their Applications."

Mr. Anderson regarded this subject as very important, one which, in fact, lies at the foundation of our agriculture—in a very practical way. Surface manuring should of course, be governed by circumstances—though he believed, as a general thing, that manure should be near the surface. He hoped the experience of members of the Board would be given upon this point. The subject of mixing the different soils as a substitute for manure, was also a matter of much importance, and he hoped it would receive attention.

Mr. Rogers made some remarks upon the report. He regarded surface manuring—or placing it near the surface—to be the most proper and correct mode of applying it. Objected to the mixing of soils, as being a work of too much labour and too great an expense, though the principle of improving a soil in this way was no doubt correct. He had used some of the concentrated manures, and in his own experience had received great benefit from using them. The last year, however, he had received very little benefit from using phosphate of lime, and would like to know the cause. He regarded the soil from the road-sides as equal if not greater value than muck as an absorbent. It is more easily obtained, and he believed it was worth more, load for load.

Mr. Goodale spoke of the value of night soil, which in nineteen cases out of twenty is almost lost. It decomposes so rapidly that attention to it must be given at once. He suggested this method: Have near your privies an abundant supply of perfectly dry soil. Throw in a few shovels full once in one or two days. In the larger towns in England it was formerly the practice to use water and wash the contents of the privies into the sewers. Now in many towns soil is entirely used. He had endeavoured to apply this for the past year, and had been surprised at the great deodorizing power of purely dried soil. If properly managed he believed that each farmer could make an amount of superior dressing—equal to five dollars invested in concentrated manure for each member of the family—from the privy, if composted in the manner above suggested.

Mr. Leach had found the best success—upon a granite soil—by placing his manure near the surface. He had formerly spread his manure before ploughing for corn, but had abandoned the practice. Had noticed the excellent results of applying about fifteen loads of clay per acre to soil somewhat open, and believed it to be a valuable and permanent way of manuring.

Mr. French believed farmers should adopt some means by which liquid manure could be taken from yards and vaults, and applied directly to grass lands. It had been suggested that an apparatus something like a street sprinkler would answer an excellent purpose.

Mr. Anderson had used the sprinkler alluded to by Mr. French, and found it impracticable. He believed the best method was to absorb it in some material that could be applied to the soil in a different manner. He had never felt sure of the beneficial results of using artificial manures, except in one or two instances.

Mr. Bigelow had found it an up hill business to purchase manures, and believed that the best and most practicable way was to manure the farm from resources within itself.

Mr. Smith spoke of the value of poultry manure when composted with plaster or ashes, and he believed it to be one of the most valuable fertilizers for garden crops, beans, &c. This he believed was often allowed to go to waste, but this should not be. He also spoke of the value and importance of muck, and urged its constant use as an absorbent for the liquid voidings of stock.

Theory of Land Drainage.

A PLANT, though spreading its roots to a certain distance all around it in the soil, is stationary, and must have its food brought to it. That is the first main fact on which the need depends for a current of water through the land. Water, a powerful solvent, brings substances out of the air which the plant requires as food, and these substances increase its powers as a solvent of other matters in the soil which the plant also needs as food. Moreover, water brings from the air materials of use in the soil in manufacturing food for the use of plants. On all these grounds, then, it is of importance that water should go through the soil after going through the air. It becomes laden with vegetable food by passing through

the air, and it becomes still more laden with vegetable food by passing through the soil, till, when traversing the soil, it passes stationary roots and enters them, and feeds the plants to which they belong. And there are special reasons why rain-water should be induced to pass through the soil rather than lie stagnant on it. In the latter case it is not only useless to the plant, but it is directly mischievous. By evaporation it cools the surface, whereas by percolation through the land it carries the warmer temperature of the surface into the sub-soil; and of what value this is to the growth of crops may be gathered from the experience of the last autumn, which has been so productive of growth in our pastures to so unusually late a season—not so much from the increased temperature of the air during November and December, which has been only about 2° or 3° above the average of the last 30 years, as from the increased temperature of the soil and subsoil at 1 and 2 feet deep, which has been 5° and 6° above the average of the past 13 years, during which observations have been made near London. And not only is it of importance that rain, by passing through the land, should carry the temperature of the surface, warmed by the direct rays of the sun, downwards, rather than, by evaporating from the surface, it should carry the heat away and cool the soil; but the percolation rather than the stagnation of the water is desirable, because in the one case air is made to permeate the land, in the other it is excluded. The chemical changes which air produces on and in the soil are desirable, and result in the preparation of useful food for plants; while by its exclusion, substances of a poisonous nature, especially where iron and vegetable matter exist together in the soil, are formed.—*Morton's Farmer's Calendar.*

Climate of Soils.

As the atmosphere has its own climate, so the soils have theirs. Two general conditions are the modifying powers most potent in producing climate in soil—first, moisture; secondly, the colour of soil. Rain aids in warming the earth in the spring. A rain fell whose temperature was 58° when the earth was 51°, and the surface was raised soon after to 53°. Wet lands are cold. The application of the thermometer proves it; and such coldness is found to arise from a superabundance of water. Water, in passing from a liquid form to that of vapour, takes caloric from the surrounding bodies; and hence where this process goes on rapidly, the surface will be kept cold by the loss of heat required to convert a liquid into a vapour.

The colour of soil is of much importance. Iron is invariably found in soils, and the colour it imparts to the soil (making it red or brown) causes an absorption of more heat than light-coloured soil, and renders it much warmer, other conditions being equal. The highest temperature of the ground which is on record is 72°.

Maize will only germinate when the temperature of the soil in which it is planted is 60° or more. If planted when the temperature is 50°, it will certainly rot. The temperature must reach the point of 60° in order to excite germination, when the grain is safe.—*Com.*

TOO MUCH LAND FOR FARM IMPROVEMENTS.—Less land will give more chance for work. It will cover the bare spots on your farm; your naked hill-side; which is an improvement, not only to your pocket and farm, but to the appearance of the landscape. We have already instanced how this may be done. Top-dress with compost manure; sow peas; and plough under, when in full blossom. Then raise a crop, and seed down. Perhaps the second coat of manure is wanted (on your hill-sides); or, for your hill-sides, sow clover; cover lightly with straw—just cover—and then top-strew with rotten manure. Unless a freshet should immediately wash all away, you will stand a good chance to form a sod. That will give you a hold. This we have seen tried, and it is a fine thing.—*Maine Farmer.*

EXTRAORDINARY COLLECTION OF WHEAT.—In the Museum of the Highland Society, George IV. Bridge, Edinburgh, there is at present a collection of wheat, consisting of upwards of seventy varieties, the greater portion of them having been selected and raised by Mr. Patrick Shirreff. The wheats were grown at Haddington last season under a parity of circumstances, and are arranged so as to afford at a single glance the characteristics and comparative worth of each variety. So instructive a collection has never before been exhibited; and as it may not long remain in its present position, the admirers of the wheat plant ought to embrace an opportunity of examining this interesting and beautiful collection.

The Breeder and Grazier.

Extreme Fatness and Health.

The condition of the animals lately exhibited at the different fat cattle shows, and especially at the show at Islington, proved unquestionably that the system of feeding has lately undergone a very material change. With the exception of the pigs, it could not be said that the animals were fat to any excess, although it is certainly a question whether, even now, there is not more than there ought to be, having regard to the health of the animals themselves, and of the quality of the flesh, as to its fitness for human food. A proper admixture of dry and succulent fodder tends to bring up the flesh and fat evenly distributed throughout the carcass. Oil-cakes and other artificial foods are given to stimulate the appetite, and, so far, the business is conducted *secundum artem*. But, is the animal thus fattened in a healthy condition, and is the flesh really fit for the table? This brings us to the point.

The question of fat in the human subject has lately been made the basis of much discussion and controversy. In this case, however, the object was not to lay on fat indefinitely, but just the reverse, to rid the unhappy victim of obesity from his unhealthy superfluity; the process in this case consists not so much in the reduction of the quantity as in the matter of the quality. Without going very deeply into the medical treatment, it will be enough to state that the two articles which chiefly go to the production of fat are sugar and starch, and in fact both may be ultimately resolved into the one article of sugar. In all cases where fat has abounded, it has been found that the abstinence from saccharine matters generally will bring about by degrees a reduction of the fatty tissues. Now it has been discovered that the liver of all animals secretes sugar, which in proper proportion supplies the waste of the system; but if those substances are introduced which tend to increase the secretion of saccharine matter, the excess thus engendered is distributed over the system as fat, whilst during the process the organ itself undergoes a change, and from being in a healthy condition becomes enlarged, and then performs its functions irregularly; the whole system thus becomes vitiated, and a liability to disease of all kinds is engendered. Now this condition is analogous in the human and the animal subject; and it will be found that as the secretion of sugar increases, the whole system is liable to disorganization, and the tissues of the body are necessarily brought into an abnormal state. Taking then this starting point, we may fairly ask, can it be considered that animals thus treated and brought into a preternatural fatty state are really fit food for the population—assuming, as is almost necessarily the case, that the liver is thus in an unhealthy state, and that the tissues generally are unhealthy too? The whole question is thus brought to a very narrow issue. If the system of fattening produces as a necessary consequence disease, ought it to be continued? Is it right year after year to bring together, for the admiration of the public, animals proved from the premises above deduced to be in an unhealthy state, when a very slight relaxation from the ordinary rules of judging, by giving the prizes only to animals in a healthy condition, would do away with the whole evil? We may for a time shut our eyes to these facts, but the truth must at last prevail, and sooner or later a change must come over the entire system of shows of fat cattle. When it becomes more generally understood under what conditions necessarily the animals are brought into this state of obesity—when it is known that fat in excess is only a form of disease by bringing an important internal organ of the animal into undue activity, and thus stimulating the production of an unhealthy secretion, it is easy to foresee that a revolution must in time be effected, which will materially affect the whole process of feeding animals throughout the country.

We have assumed here that sugar is the basis of fat. Now, this fact, which is an important consideration in the fattening of animals, ought to have its weight in measuring the food to be administered. In the catalogue of the late show at Islington, treacle and molasses are introduced more frequently than

hitherto as having been used for food. Now, if these substances are essentially fat-producing, the process of adding a little fat to an animal a short time previously as a preparation for the shambles, might easily be done by this addition to the feeding stock, and with this advantage—that the amount could almost be regulated, and all done, too, on the cheapest scale possible. A cask of treacle or molasses would be a very cheap substitute for oil-cake and artificial foods, and the animal could be brought to market in just the fit state for human food. This point may, perhaps, be worth the attention of the agriculturist, more especially at this time when the production of meat is admitted to be profitable, while the failure of green food makes the keep of an animal a very serious matter. The whole argument is based upon a simple fact, which can at any time, and easily, be brought to a practical test.—*Field*.

A Good Lot of Pigs.

ENS. CO. GENT.—I noticed in your paper of Jan. 5, an account of two pigs, 7½ months of age, that weighed 640 lbs. We have just dressed seven pigs, all of one litter, just four months and one week old, that weighed 789 lbs. nett—an average of 112 5-7th lbs. They were weaned at two months of age, and then slopped with house-slops, cooked pumpkins, and shorts, until corn gathering, when they had the soft corn until two weeks before they were dressed, when they had sound corn on the cob. They have not had to exceed 20 bushels of corn altogether. It is not a brag operation, but we like to let our New England friends know that we are not asleep when we read the *Country Gentleman*.

Richmond, Ind. CHARLES G. CARPENTER.

GREAT DEPOSIT OF FAT IN AN OX.—A four year-old ox of the Shorthorn breed, slaughtered at Wooler the other day by the Messrs. Rutherford, of that place, by whom also it was fed, though only weighing 74 stones, contained no less than 131 lb. of fat.

TO PREVENT CATTLE FROM JUMPING.—“A Soldier Boy” writes to us that he has always succeeded in breaking cattle of the habit of jumping, by piercing the ears of the unruly animals, and tying them over the head, with a piece of twine or ribbon. The philosophy of this is that an animal always droops its ears when about to jump. When thus tied, this cannot be done, and the idea is abandoned.—*Prairie Farmer*.

A PRIZE OX.—Last week we noticed the fact of a fat ox being slaughtered in Elgin, the weight of which was 1½ cwt., and 240 lbs. of tallow. This is, however, completely cast into the shade by the weight of the prize ox at Forres. The animal was shown by Mr. Harris, and purchased by Messrs. Harold & Ross, fleshers, Forres. The carcass of the monster weighed 1890 lbs., or 135 stones at 14 lbs. the stone, to which must added 264 lbs. of tallow; which, added to the weight of the beef, makes 2154 lbs. avoirdupois, or about 153 stones. What the weight of the hide, horns, hoofs, &c., may have been we cannot say, but we well remember the time when an ox of 160 stone was a perfect wonder, and as such was dressed out in ribbons, with a piper on his back, to play through the streets before the ox went to the shambles. Is it not possible that oxen as large as elephants may yet be seen in the north of Scotland?—*Elgin (Scotland) Courant*.

WINTER FOOD FOR STOCK.—The following are a number of different plans:—(1), 4 lb. of bean straw, 12 lb. of oat straw, 3 lb. of bran, 4 lb. of rape-cake, and 40 lb. of swedes (Mr. Horsfall); (2), 2 lb. of crushed linseed boiled in three gallons of water, 5 lb. of ground corn, 10 lb. of straw chaff, 80 lb. of yellow bullock turnips, with a little wheat straw (Mr. Marshall); (3), ½ stone of linseed cake, 140 lb. turnips; (4), eightpence worth of linseed and ground corn, 70 lb. of Turnips (Mr. Hutton); (5), 1½ lb. of linseed, 5 lb. of bran meal, with turnips; (6), 3 lb. of oil-cake and 3 lb. of bean meal, with 40 lb. more turnips than in No. 5; (7), 40 lb. of steamed potatoes, 4 lb. of ground corn, 6 lb. of cut straw (Mr. Marshall); (8), 1½ to 2 cwt. of turnips and straw (O. S. I.); (9), 4 lb. of oil-cake, 2 lb. of barley meal, and 100 lb. of turnips (Harkness); (10), 4 lb. of linseed and bean or barley meal cooked, with three seeds of turnips (about 40 lb. each), straw *ad lib.*; (11), straw *ad lib.*, and 4 to 8 lb. of oil-cake each, and water (Lincolnshire).—*Agricultural Gazette*.

WHY SCALDED MEAL IS MORE NUTRITIOUS THAN RAW.—The nutriment afforded to animals by seeds and roots, depends upon the rupture of all the globules which constitute their meal or flour. These globules vary in different roots, tubers and seeds. Those of potato starch for instance, are usually from fifteen ten thousandths, to the four thousandth part of an inch; those of wheat rarely exceed the two thousandth part of an inch, and so on. From experiments made on these globules by M. Raspail, the author of “Organic Chemistry,” and M. Biot, of the French Academy of Sciences, the following conclusions have been drawn:

1. That the globules constituting meal, flour and starch, whether contained in grain or roots, are incapable of affording any nourishment as animal food, until they are broken.
2. That no mechanical method of breaking or grinding, is more than partially efficient.
3. That the most efficient means of breaking the globules is by heat, by fermentation, or by the chemical agency of acids or alkalis.
4. That the dextrine, which is the kernel, as it were, of each globule, is alone soluble, and therefore alone nutritive.
5. That the shells of the globules, when reduced to fragments by mechanism or heat, are insoluble, and therefore not nutritive.
6. That though the fragments of these shells are not nutritive, they are indispensable to digestion, either from their distending the stomach, or from some other cause not understood; it having been found by experiment, that concentrated nourishment, such as sugar, or essence of beef, cannot long sustain life, without some mixture of coarser or less nutritive food.
7. That the economical preparation of all food, containing globules or fecula, consists in perfectly breaking the shells, and rendering the dextrine contained in them, soluble and digestible, while the fragments of the shells are, at the same time rendered more bulky, so as the more readily to fill the stomach.—*Mass. Ploughman*.

Shery Husbandry.

Mr. Cowan and the Cheviots.

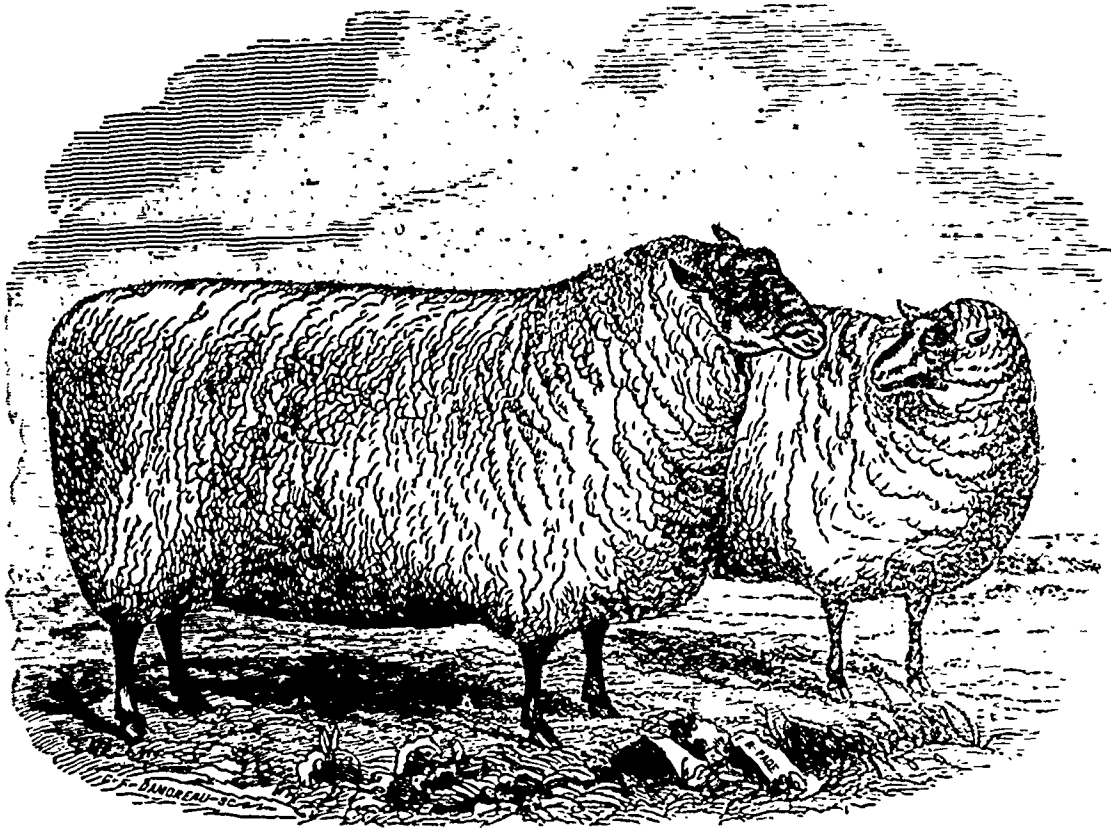
To the Editor of THE CANADA FARMER:

SIR.—At the Convention held at Hamilton on the 20th December last, J. Cowan, Esq., M.P. for Waterloo, made a dashing speech against the Cheviot breed of sheep, without giving any cogent reason for his dislike of them. This was the more strange as he is the father of that class of sheep in this country. Nevertheless, he now says they will not answer this climate. To this I will just say, either Mr. Cowan is a fanciful judge, or utterly ignorant of Cheviot sheep. I might remind him of the fact, that I had the pleasure of judging, along with him, at Beverly Township Show. In the shearing ewe class, a pair of pure-blooded Leicester ewes, bought from Mr. Cowan, and shown by an exhibitor, and a pair of Cheviots, competed with one another. Without hesitation, the Cheviots were awarded the first prize, and the Leicesters the second, showing Mr. Cowan's opinion then of the “absurd patronage of the breed of Cheviot sheep, which are utterly useless for this climate.” Take Mr. Cowan to witness, sixty sheep out of every hundred standing without either shed or shelter, and with food of the poorest kind, which is too often the case all over Canada, the Cheviots can stand such keep better than any others can. I imported at first Leicesters, but found they did not pay so well as the Cheviots on ordinary keep, either in wool or lamb, which induced me to prefer the Cheviots; and until I find a better breed, I shall continue to do so. I would rather take in hand to keep five Cheviots, than I would three of the larger breed on the same amount of food, and they would produce a greater profit, barring fancy prices. I hope to see, before long, that the Provincial Board will find the necessity of providing a class of sheep to prove the best first cross from a pure breed on the one side, and exhibit the same at the Provincial Show, that everyone may be able to judge for himself.

I read in an old country paper last summer, of a lot of lambs just weaned being sent to feed in winter for the fat market, that realized thirty-eight shillings, or nine dollars and a-half each. The lambs were a cross between a Cheviot ewe and Leicester ram. This shows how far we are behind still in preparing sheep for the fat market.

D. ELLIOT.
GRAFTON P.O.

FIRST PRIZE SHROPSHIRE DOWN RAM AND EWE, AT THE PROVINCIAL EXHIBITION,
HAMILTON, SEPTEMBER, 1861.



OWNED BY MR. GEORGE MILLER, MARKHAM.

The accompanying engraving may be regarded as a faithful likeness of a Shropshire ram and ewe, owned & imported by Mr. GEORGE MILLER, of Markham, and which obtained the first prize at the last Provincial Show in Hamilton. A cursory observation of the cut will at once indicate the general type of the animals, and a more thorough and critical examination, will reveal the harmonious combination of the several points, which indicate a pure and distinct breed—qualities which have not been generally accorded to Shropshire sheep, till within the last few years. We well remember being present at the Royal English Society's Show, at

Shrewsbury, in 1845, when the Shropshires were emerging from comparative obscurity, and several breeders were devoting special attention to their improvement. We went over the same county in the summer of 1860, and had consequently a good opportunity of making close and extensive observations. The improvement that had taken place in this class of sheep, during the interval of 15 years, was truly astonishing. In size and expression, the full and harmonious development of the most valuable parts,

the quantity and quality of the wool,—each and all clearly indicated, that the old Shropshire had undergone a complete metamorphosis, and might now rightfully occupy a high position among the best and purest breeds of the present day. To bring the Shropshire Downs to their present state of advancement, has been the work of much sound judgment, and perseverance. The ewes were crossed in the first instance by Leicester rams, then the Cotswold, both of which greatly improved the carcass and the

animals of this valuable breed, within the last few years, and others among us have, to a less extent, done the same, so that there will be no difficulty in the future for farmers who may be so inclined, to extend the breed in this country; to the pasturage and climate of which, as far as experiment has yet gone, it seems well suited. The reader will find a fuller description of the improved Shropshires in our last year's volume, page 84.

fleece, which were greatly increased in weight, the wool being of a medium staple. The pure Southdown blood was afterwards introduced, which imparted an additional fineness to the wool, and a greater delicacy to the flesh. With these combinations, the modern Shropshire Downs have acquired all the characteristics of a distinct breed, their carcass and wool being certainly somewhat less than either the Cotswold or the Leicester, but the quality of both, unquestionably superior, partaking more of that which has always been regarded as constituting the peculiar distinction and value of the Southdown.

Mr. Miller has imported a number of very fine

THE BREEDING FLOCK.—At this season the breeding ewes demand the farmer's particular attention; this year, circumstances render them more than usually dependent on his liberality, from the scarcity of roots throughout the greater portion of England, as also the absence of any quantity of fog or old grass on the pastures, a few frosty nights quite denuding them of their verdant appearance, thus reducing the keep to the cut chaff and artificial food supplied in the troughs. Some farmers do not approve of giving their in-lamb ewes much corn, or other fattening or stimulating food until a short time before the period of gestation expires, as they say the ewe is liable to become too fat, if kept well for a length of time previous to lambing, which is consequently attended with greater danger to the ewe, rendering her more liable to inflammatory disease, or parturient fever. Our experience leads us to a different conclusion. Ewes in lamb from the middle of February to the middle of March, should now be well kept; they will then be strong and healthy, and be much better able to withstand the fatigue and pain of yearning. By a niggardly system of pinching during pregnancy, the ewe greatly suffers both in health and condition, becomes emaciated, the wool gets dead, great quantities of it peel off, and are lost. When a breeding animal of any kind has gone half its time with young, it is difficult then to greatly improve the condition of the parent; the greater portion of the nutriment of the food then goes to increase the *factus* in the womb, in which case we have a large offspring and a weaker mother, consequently increasing the danger and difficulty of a safe delivery. 1 lb. per head per day of oats, at a cost of 3d., with a good supply of cut chaff, barley or oat straw, with a small quantity of hay cut up along with it, will maintain the ewes in a state of healthy progression; let them have plenty of exercise, with their freedom of pure water, and we have no fear of the results.—G. Murray, Overstone, in the *Gardener's Chronicle*.

Raising Sheep on a Small Scale.

Messrs Editors.—I will write you my experience in keeping sheep. When we first wanted to keep sheep, we were too poor to buy, so we agreed to take six sheep four years, and at the end of that time, to return to the owner six sheep and six lambs, with these restrictions: "We should keep the sheep in the yard, during the winter, never house them, feed them in the yard, shear them in June." To these conditions we adhered during the four years.

The first time we sheared the sheep, we had nine pounds of washed wool, one and one half pounds to each sheep, though they lost much of their wool in April and May. We continued to shear in June, and feed them in the yard, till the four years were ended, then we drove the six sheep, and six lambs, home to their owner. We then prepared a place between the barn floor and the hay-mow, six feet wide by twenty feet long, nailing a board ten inches wide to the foot of the posts that are eight inches square, for the sheep to feed over. We then put down stanchions ten inches apart, for the sheep to put their heads through; we then took away the bottom of the barn floor partition, about fifteen inches high, so that the feet and shoulders of the sheep are about nine inches from the inside partition, feeding them in the barn floor. We can put the hay to the side of the board, that is, at their feet, and always feed them in the barn during the winter; thus they have a warm place. We have a small door which is kept open in pleasant weather, the sheep go out and in at will; in stormy weather we shut them in, and on very cold nights, fasten them in. We have a well and trough in the yard, from which the sheep drink at their will. We keep twelve now, and for many years our twelve sheep have averaged from sixty-four to sixty-eight pounds of washed wool. The lambs have increased in size in proportion to the increase of wool. We sell the buck lambs, keeping the ewe lambs for our own use. We take

care of the old and feeble ewes, and never let the butcher have the ewe lambs. We tag our sheep in March, shear them the last of April or the first of May, by taking a warm time, and we are sure to have them in this warm room every night, for at least one week after shearing.—J. K. W. in *Maine Farmer*.

On Tuesday last says the *Guelph Advertiser*, Mr. Joseph Carter, West End, Guelph, had thirty-one valuable sheep worried by dogs. Mr. Carter estimates his loss at \$150.

A PRIZE LINCOLN EWE.—The Lincoln ewe exhibited by Mr. T. B. Marshall, of Branston, near Lincoln, and which obtained first prizes at the Birmingham and Smithfield shows, has since been slaughtered by Mr. J. Webb, of New King-street, Deptford. It weighed 33 stone 4 lb., or 67 lb.; per qr., and was probably the heaviest ewe sheep ever slaughtered.

ORIGIN OF SOUTH DOWN SHEEP.—The *American Stock Journal* describes the origin of the South Down Sheep. No class of sheep so clearly demonstrates the effects of good feed and careful breeding as the improved South Down. The original breed having been raised from time immemorial upon a low range of chalky hills, running parallel with a part of the southern shore of England. These are called the South Downs. They are about eighty miles in length, and from 5 to 6 miles in breadth. The soil is light and sandy; the grass short, but very sweet. The valleys among the Downs were once almost as barren as the hills themselves, but by cultivation have been rendered exceedingly fertile, to effect which the sheep have rendered considerable aid, pastured upon the hills by day and folded upon the arable lands by night which is enriched by the manure and yields a recompense in artificial food, such as rye-grass, tares, clover, rape and turnips.

The Dairy.

The Management of Bulls—their Generative Powers.

It has long been the conviction of practical men, that very insufficient attention has been generally paid to the breeding and management of stock bulls. For the purposes of procreation, an animal of either sex may be too fat or too lean; the former condition being the more unfavourable of the two. In a recent number of the *Mark Lane Express*, a correspondent communicates some interesting information on this subject. He finds from observation and experience, that bulls kept in a confined place and fed liberally on dry food, such as oil-cake, barley-meal, &c., can seldom be depended on as stock getters. Cows are continually returning to them, causing much annoyance and frequently positive loss; whereas bulls that are allowed to roam abroad on good pastures in summer, and kept warm on a moderate quantity of sound hay, with a daily supply of turnips, mangolds, &c., in winter, are seldom found deficient in procreative power. The writer states as his own experience, that of two bulls of his own, one kept in confinement on the best dry food, the other fed with succulent food, and even subjected to farm labour, the latter was by far the surest stock getter. He also contends that during the drouth of last spring and summer, when both sexes of animals had to subsist on dry and scanty food, the number of cows that failed to conceive was strikingly great. The following extract will be found interesting and suggestive:—

"The bull upon the farm is mostly taken to be a dangerous animal, and some especial attendant is generally given him. This is by no means necessarily the case. The majority of bulls, if properly managed, are as docile and gentle as the cow; but no one ever thinks of treating a bull with the same kindness and confidence as the cow; hence their surliness from being driven about, scolded, and peremptorily dealt with; no coaxing or fondling. This is wrong. It is said of Mr. Bakewell's bulls, that they will all stand in the field to be examined; when driven, it is by a little switch; that a bull, with a stick three feet long, and as big as his finger, will conduct a bull from other bulls and his cows, from one end of the farm to the other. This gentleness is owing to good management from being calves. Bulls to be good stock-getters should never be made fat. It is, however, a very common practice to get them up as near perfection as possible, both for letting and home service. It is not, therefore, to be wondered at that they should be returned occasionally as comparatively useless. What can be expected from these superb animals, being taken from the highest keep, to work in an ordinary cow pasture? It is imperatively necessary when a bull in high perfection is let, that he should be reduced by degrees to common food and lower condition before he is sent out. I am not writing for information about rearing bulls; but for their best management, with the view of safe stock-getting. A main point on this head is the proper way of putting a cow and bull together. If the cow is in season, and is driven to the bull from any considerable distance, she should be made to rest awhile to cool, before she takes the bull; and after taking him she should stay awhile before she is driven back. Much difference of opinion exists as to the number of bullings a cow should receive. Here, I think, good judgment should be used. If the bull is cool and quiet, and some time has intervened since he had his last cow, one good leap is better than more; but if there is any cause to doubt its efficiency, another might be permitted, but on no account more. That one good bulling is by far the safest and best is the general testimony. It is not good practice to permit a steer to accompany a cow to the bull, or to remain with her at all; it may prevent her standing to bull, or it may vitiate the intention of the breeder. Curious stories are told of some cows' freaks in this way. One is told of a polled Angus cow: she came into season; an ox from an adjoining field jumped over the fence and went with her until she was brought home to the bull. The herd were all polled, of the Angus breed, but this ox was horned, was white, with black spots; the produce of the cow was a calf black and white, having horns. Bulls have been known to beget calves, but the whole herd of cows have aborted them. A fact is named of a dairy of twenty cows in Cheshire having all cast their calves in one year. The farmer sold the bull to a neigh-

bour: all the cows put to him by his new owner cast their calves. His original owner took him back, and put three cows to him; they all cast their calves. Now, it is fair to presume that in this case there was some defect in the bull. The generative power in bulls is often seriously impaired by early use. They should not be put to regular service in bulling before they arrive at a mature age, which will be in about two years from calving. No bull ought to serve too many cows; the owner's judgment must decide the number according to his success and safety; nor should he have them too close upon each other: some hours at least ought to intervene. Much depends upon the animal. One will serve cows, or attempt to serve them, as fast as they are put to them; another will not stir a peg after them unless he so pleases. Some will almost violate a cow, if I may so designate it, in season or out of season; others won't attempt to serve them unless fully in season and quiet."

The Drying up of the Herds.

At the discussion at the late State Fair at Rochester, some considerable difference of opinion was had as to the time cows should go dry. Mr. Moore, we believe, stated that he had milked cows up to the time of calving, and no bad result followed from it. Lewis F. Allen, of Erie, argued that cows should have more rest, and that it was too great a tax on the animal to perform the functions of breeding and at the same time supply milk up to the time of parturition. We believe the general practice in the dairy districts is to milk up to within two months or so of the time of calving. Some animals, of course, will cease to give milk earlier, some later, and some are difficult to be dried at all, but will continue to give milk without much intermission from year to year. As the secretion of milk is to a considerable extent a matter of education, it is well to continue the milking of heifers quite late, for if dried up early they are apt to establish a habit of falling in their milk at about the same period, or a little earlier in each year. One thing ought to be observed in reference to late milking; cows giving milk in winter will require a liberal supply of food, either oat, barley, or some kind of meal or grain in addition to the usual allowance of hay. The production of milk in winter is such a drain on the animal system, and requires so much extra feed to keep up the condition of stock, that many think it poor economy to protract milking longer than the month of December. They think better results are obtained, or more profits realized, by giving the herds time to recuperate, so as to commence the spring and summer labours in robust condition. Taking this into consideration as well as the saving of food, all or nearly all the animals expected "to be in" early in March are "dried off" late in December or the first part of January.

There are so many cows annually injured in this process of drying that we refer to the matter simply to call the attention of dairymen to look through the herds from time to time, and see that there has been no neglect in drawing the milk from the udder. It seems almost needless to repeat, what any one at all familiar with milch cows already understands, that in drying off cows the udder every few days must be emptied of its contents, otherwise the old milk becomes thick and caked, producing irritation, and not unfrequently results in the loss of a portion of the bag. This examination and drawing of the old milk must be attended to until the animal ceases to secrete, or is completely "dried off." It is well not to entrust this matter wholly to hired help. A good, careful hand will probably attend to it properly, but a great many do not care, and neglect it from forgetfulness, or because it is disagreeable.

We recently saw a herd, among which were several valuable animals, which had been injured from this cause. Each had lost a teat soon after "coming in," the past season, and no cause could be assigned except that the drying off the previous fall had been entrusted to domestics, and was not properly performed. If dairymen will look back into losses of this character, and trace the matter up, they will find it to be a fruitful source of trouble with the udder in spring. Every farmer will have observed the fact that a poor cow, or one that dries up early in the fall, is scarcely ever afflicted with diseases of the udder. It is the best cows, those that secrete large quantities of milk and that are difficult to dry off, which are more liable to be attacked with inflamed bags, and in consequence, lose some portion of the udder.

The wintering of stock is expensive, and a little care and attention now will be a saving of trouble and expense in the spring, and possibly may serve to prevent the loss of valuable animals.—*Utica Weekly Herald.*

Veterinary Department.

Diseases of the Horse's Foot—Corns.

A very frequent disease affecting the foot of the horse, is one known by the name of corn. A corn consists in a bruise of that portion of the sensitive sole, situated between the wings of the coffin bone and the angle of the heel, producing an extravasation of blood, which permeates the pores of the horn, and turns it red, the colour varying from a bright to a dark red, according to the extent of the bruise. The seat of corn, is commonly between the inner quarter and the bars, but occasionally it appears in the outer quarter also, and especially in such a formation of a foot as is predisposed to corn. Horses with weak, flat heels, and somewhat curved in, are particularly liable to corn. In such feet, there is a great tendency, from the obliquity and weakness of the foot in the wall, to spread at the bottom and over shoot, as it grows down, the heels of the shoe, thereby causing the shoe to press on the horny sole, and thus injure the sensitive structure underneath. Again, a very strong foot, if straight at the heels, is also predisposed to corn.

The cause of corn, is any hindrance to the yielding or elasticity of the horny sole, whereby the sensitive sole is bruised. This may arise from a tread upon a stone; or from any hard substance, as gravel, &c., becoming lodged between the heel of the shoe and the sole. The common cause, however, is the pressure of the shoe, and the subjection of an animal to long and fast driving upon hard roads, also when the shoe is allowed to remain too long on the foot without being removed, the growth of the hoof carries the shoe forward, and the heel of the shoe becomes embedded in the horny sole, so proving an impediment to the yielding of the sole during action; and as a consequence, the organic structure must suffer compression. The same results also arise from badly formed shoes, with an improper bearing on the heels, tending to force the heels inward. The inner heel is oftentimes the seat of corn, because it is weaker, and also the inner heel of the shoe is generally made to fit closer than the outer. That the predominant cause of corn is bad shoeing, we have no doubt but there are certain forms of feet which it is almost impossible to put shoes on, without causing a corn, in fact, we have met with cases of corn in a foot that had never been shod at all.

A corn varies much in its nature, according to the time it has existed. A recent corn consists in a bruise of the parts already mentioned, causing blood to be extravasated into the horny sole, giving rise to the redness known as a corn. The extravasation of blood may be but slight, and only permeate those layers of horn next to the sensitive sole, or it may extend through the entire substance of the horn; and in the latter cases, whenever the shoe is removed, and the heel cleaned, the corn is visible. In the former case, it is necessary to cut into the sole before the corn is observed, when only a very little redness may be noticeable. In other cases, there will be scarcely any redness, but the sole, when thinned down, feels soft and boggy, constituting what is called a soft corn.

If a corn is neglected in the primary stages, the process of inflammation goes on, and suppuration follows, and this stage is designated a festering or suppurated corn. When suppuration has taken place, it gives rise to very great pain, as the matter is confined by the inorganic structure of the hoof. When this is the case, it is readily detected, as the animal is exceedingly lame, and evinces great pain if the hoof is struck with any hard substance. If the shoe be removed and the heels pinched, the exact seat of the corn can easily be perceived, and in these cases the horn must be pared down until the matter escapes, as when the matter is unable to obtain an outlet below, it makes its way upward, and breaks out at the coronet, and in this manner the case may turn into a quiter.

Commonly the symptom that leads to the discovery of corn, is lameness. The horse may be observed to go a little short in one or both fore feet, and this leads to an examination of the foot, when, perhaps, the heel of the shoe will be found embedded in the sole. On the shoe being removed, the corn will be discovered. Lameness is most obvious when the

animal is trotted upon a hard road, when the shoe also is worn mostly on the outer side, and when the animal stands with the limb bent, and the heel somewhat raised. In the treatment of corn, be sure to remove all reddened and diseased horn, and if the crust is strong at the heels, it will be necessary to reduce it slightly, either with the knife or the rasp. If it be a festered corn, remove all detached horn, and afterwards apply a poultice of bran or linseed meal, and it may be advisable to stimulate the diseased parts with a mild caustic. In all cases we recommend to pare out the sole, but be careful to preserve the bars, and apply a shoe so as to take the bearing off the heel. In bad cases, where there is a corn in both the outer and inner heel, great benefit will be found from the use of a bar shoe, properly applied. This throws the weight on the frog, and relieves the heels. In horses with weak, flat heels, and predisposed to corns, the application of a leather sole under the shoe, and well stuffed with tar and tow, will be found to be of great service in preventing corns.

TO CURE HOOTE IN CATTLE.—A writer in the *Irish Agricultural Gazette*, mentions a case of this disease that was cured by pouring a couple of cans of cold water upon the loins of the animal. He also speaks favourably of this treatment in other instances.

MILK, OR PUERPERAL FEVER.—Cows that are great milkers, and those that have been over fed, and kept on stimulating diet of a carbonaceous character, are very liable to puerperal fever. The best means of preventing this disease, is to feed the animal lightly during the last stages of pregnancy.

REMEDY FOR CHIR-BIRING.—Get a piece of thin iron, or an old wheel tire, say 1 1/2 or 2 inches wide, and raise it in a parallel position about an inch above the edge of the front and back side of the feed box, by fastening it at the end, and bracing it in the middle; and placed in this position the animal has nothing but the sharp edges of the box to catch hold of. And I assure you from three or four months experience, that you will find this remedy effectual. —JOHN P. HUTCHINSON, in *Country Gent.*

Entomology.

Entomological Society of Canada.

The annual general meeting of the Society was held in the rooms of the Canadian Institute, on Thursday last, February 16th, at three o'clock, p. m.; the President, Wm. Saunders, Esq., in the chair. The Report of the Council for the past year was read and accepted; as were also the Reports from the branch societies at Quebec, C. E., and London, C. W.; from all of which it is gratifying to learn that the Society is making very satisfactory progress.

The following gentlemen were proposed, and unanimously elected members:—James Bovell, Esq., M. D., Professor of Physiology, Trinity College, Toronto; Rev. W. A. Johnson, Weston, C. W.; John Macoun, Esq., Belleville; Johnson Pettit, Esq., Grimsby; Rev. W. F. Clarke, Editor of *THE CANADA FARMER*, Toronto; C. W. Lloyd, Esq., H. M. 16th Regiment, Toronto; J. E. Orange, Esq., H. M. 16th Regiment, Toronto. Francis Walker, Esq., F. L. S., of the British Museum, London, England, was elected an honorary member; and Beverley R. Morris, Esq., M. D., London, England, (late of Toronto), a corresponding member.

The following donations to the cabinet were announced, and the thanks of the society ordered to be transmitted to the donors:—From F. Walker, Esq., F. L. S., a very large and valuable collection of European insects, comprising several thousand specimens, chiefly of the orders of *Coleoptera*, *Lepidoptera*, and *Neuroptera*, with a few *Hymenoptera*; from the Rev. F. O. Morris, Nunburnholme, Yorkshire, England, a number of English *Lepidoptera* and *Coleoptera*; from Mr. Prest, York, England, ditto; from Mr. McLachlan, London, England, a valuable collection of typical forms of *Trichoptera*, being the British species enumerated in his recent monograph on this order; from Mr. Pettit, Grimsby, 137 specimens of Canadian insects, chiefly *Coleoptera* and *Lepidoptera*; from Mr. Saunders, London, C. W., several specimens of the same orders; from Mr. Orange, a few *Lepidoptera*.

The following works were presented to the library by the Rev. H. P. Hope, Toronto:—Gosse's *Romance of Natural History*; Broderip's *Zoological Recreations*;

Elements of Natural History, vol. 2; a copy of the *carte de visite* of Mr. H. Ulke, Coleopterist, Washington, D. C.; and a photograph of a new species of *Alypia* (*A. Langtonii*, Couper), were also announced as having been received from Mr. Wm. Couper, Curator of the Quebec Branch.

The following officers were elected for the year 1865:—President, Rev. Prof. Hincks, F. L. S.; Vice-President, Wm. Saunders, Esq.; Secretary-Treasurer, Rev. C. J. S. Bethune, M. A.; Curator, Robt. V. Rogers, Esq., junr., B. A.; Mr. Harbottle was also requested to assist Mr. Rogers in the duties of the Curatorship during the year.

The Standing Committees on the various Insect Orders were re-arranged as follows:—On *Coleoptera*—Prof. Croft, Messrs. B. Billings and Couper. On *Lepidoptera*—Messrs. Bethune, Reed, Saunders and Bowles. On *Orthoptera* and *Neuroptera*—Prof. Hincks, Dr. Cowdry and Mr. B. Billings. On *Diptera*—Messrs. Rogers, Couper and Clarke. On *Hymenoptera*—Messrs. Saunders, Beckett and Bowles. On *Insect Architecture*—Messrs. Couper, Sangster, Hope and H. Cowdry.

Mr. SAUNDERS reported on behalf of the Committee on Canadian silk producing moths, that during the past year he had succeeded in getting two of the first of our silk producers (*Attacus Cecropia* and *A. Polyphemus*) to breed in captivity, and that there is not the slightest difficulty in raising them in any numbers. Mr. BETHUNE, on behalf of the Committee on *Lepidoptera*, presented a list of upwards of three hundred Canadian species not enumerated in the list already published by the Society. He was authorized to proceed with its publication immediately. Mr. HOPE suggested that the Society should send a collection of the more conspicuous Canadian insects to the Exhibition about to be held in Dublin, in order to afford naturalists at home an opportunity of seeing some of the insect forms of this country. After some discussion, in which the suggestion was approved of, it was decided to defer any action in the matter till it was learnt whether the Government intended to make any grant to meet the expenses of forwarding articles from this country.

The SECRETARY informed the meeting of what had been done in order to procure German entomological pins for the Society. English ones had been imported in mistake by the merchant to whom the order was entrusted, but measures had been taken to send them back and obtain the desired quality as soon as possible.

Papers were read (1) by Mr. Bethune, on "Some new species of Canadian Nocturnal *Lepidoptera*;" (2) by Mr. Saunders, "Observations and Notes on Insects during the past season." The meeting also assembled in the evening for the purpose of examining specimens, comparing notes, &c., and adjourned after a couple of hours spent very pleasantly.

How to catch Curculios.

EDS. RURAL NEW YORKER.—In May last, we had occasion to use some lumber. It was laid down in the vicinity of the plum yard, and on taking up a piece of it one cold morning, we discovered a number of curculios huddled together on the under side. On examining other boards we found more, so we spread it out to see if we could catch more, and we continued to find more or less every day for two weeks. We caught in all one hundred and sixty-one. So I think if people would take a little pains they might destroy a great many such pests. These were caught before the plum trees were in flower. What is most singular is, that we never found a curculio on a piece of old lumber, although we put several pieces down to try them. They seemed to come out of the ground, as we could find them several times a day by turning over the boards.

Johnsonville, N. Y., 1865.

REMARKS.—These facts are interesting. Observers do not agree as to whether the curculio remains in the ground during the winter or not. Some assert that it lives above ground somewhere in its perfect state or form. Any facts relating to the settlement of this question, will be interesting.—*Rural New Yorker.*

GREEN-FLY.—This troublesome insect can be kept in subjection by immersing the plants in a liquid prepared by steeping a quarter of a pound of tobacco in five gallons of water, to which there has been added one pound of soft soap.

THE CHICKADEE.—At a late meeting of the New York Farmers' Club, Dr. Trimble stated that our little lively snow birds, the chickadee, always the happiest in the coldest weather, are destroying immense numbers of the larvæ of the caterpillars. These birds come close around the door and even under the stoop in the search for this food.

ANTS IN THE GREENHOUSE.—When these little insects become troublesome, they can be exterminated by mixing sugar and water or molasses with a solution of corrosive sublimate, place this in shallow dishes where the ants can find it, and they will soon eat enough to kill themselves. Care must be used not to allow children to eat it, for the corrosive sublimate is a destructive poison. Any druggist can prepare the mixture ready for use.

INSECTS—THE FARMERS PEST.—In a recent communication by Mr. Olivier, a member of the Institute of France, to the Royal and Central Agricultural Society of Paris, a description was given of all the insects which live upon the crown or collar of the roots of the grain-bearing grasses, such as wheat, rye, barley and oats: in which it was shown that "they multiply themselves without end when the same soil presents the same crop for several years in succession, or even crops of analogous species. But when a crop intervenes upon which these insects cannot live, as beans, beet, turnips, after wheat and oats, then the whole race of insect's perish from the field for want of proper nourishment;" and the next year the farmer can return his land to the accustomed tillage, without apprehension that the insects will rob him of the proceeds of his toil. A good lesson in favour of rotation of crops.

The Apiary.

Profitable Bee Keeping.

To the Editor of THE CANADA FARMER:

Sir,—I have just received from Mr. Thomas Valiquet, Station Agent at this place, some statements of his experience in keeping bees, and of his revenue from them, which are worthy of note.

He has kept bees for twenty years or more, rather as a source of pleasure than of profit. But lately he has taken pains to ascertain if they could not be made a source of profit as well. After experimenting with a variety of patterns of bee-hives, he has at length adopted what he terms a *movable comb frame hive*. In the spring of last year he had *thirty hives*, or colonies. During the season they yielded 1000 lbs. of honey, which he sold for \$160, and eighteen new swarms of bees, worth \$1 each—\$72. Besides, he saved sixty small boxes of honey, containing from one to three pounds each, for the use of the bees in the early part of the ensuing season, and before they can gather a supply abroad. The bees will consume from these as much as they may require, and then refill them from their first gatherings, when these boxes will be ready for the market. It will thus be seen that a very handsome revenue was realized. Mr. Valiquet is well pleased with his experience, and if any other bee-masters in Canada have had better results, he invites them to make them public.

In addition to the above, he has fifty hives rented out in different places, for terms of nine years each. From these he receives annually one half of the honey produced for market, and at the end of the term is to receive also the original number of hives, and one-half of the number of new swarms. Last season has been under the average of honey-making, on account of the drouth.

St. Hilair's Station, C. E., Jan. 31, 1865.

EGYPTIAN BEES.—In Lower Egypt where the blowing of flowers is considerably later than in the upper districts, the practice of transporting bee-hives is much followed. The hives are collected from different villages along the banks, each being marked and numbered by the proprietors, to prevent future mistakes. They are then arranged in pyramidal piles, upon the boats prepared to receive them, which, floating gradually down the river, and stopping at certain stages of their passage, remain there a longer or shorter time, according to the produce afforded by the surrounding country. In this manner the bee-boats sail for three months. The bees, having culled the honey of the orange flowers in the Said, and of the Arabian jess mine and other flowers in the more northern parts, are brought back to the places from which they had been carried. This procures for the Egyptians delicious honey, and abundance of bees-wax. The proprietors, in return, pay the boatmen a recompense proportioned to the number of hives which have been thus carried about from one extremity of Egypt to the other. The celebrated traveller Niebuhr, saw upon the Nile, between Cairo and Damietta, a convoy of 4,000 hives in their transit from Upper Egypt to the coast of the Delta.



Our Monetary System as it Affects the Farmer.

To the Editor of THE CANADA FARMER:

Sir,—On this subject I am not intending to lead you through a long list of statistics, but merely to explain a farmer's views, show the disadvantages under which we suffer, and suggest a remedy. We are all aware of the great scarcity of money that now exists. The causes are: the failure of the crops; the withdrawal of the money by the banks; a deficiency of currency in the country, which has been increased by the Americans using our bills as currency with them; also the uncertain state of affairs between us and the States, may have caused doubts in Europe of the safety of Canadian securities. The consequences are, that money has risen within the past few months, from a high to a fabulous and ruinous rate of interest, and the pressure falls the heaviest on the farmers. They must pay every cent they owe to merchants, they have no crops to sell, they have not the chance to get money from the banks the merchants have, and the mainstay of the country, agriculture, in some instances will be abandoned, in all will be checked to an injurious extent. Farmers can use money with more profit to the country than the majority of the merchants. Having no bank for their accommodation, they are driven to the shaving shops for money. Many of the loan offices and societies are such. I will state a few facts that I can vouch for, to establish my assertions. Some will advertise money at a reasonable rate of interest, and will charge 5 per cent. for commission, or \$20 for a small writing, besides the lawyer's, registrar's, and sheriff's fees, &c., &c., which makes borrowing nothing short of ruinous.

One farmer I know, borrowed a few hundred dollars from a building society, and through some management of the society, he will have to pay double the sum that was presented to him. Another farmer borrowed from a building society, of which, according to their placards, money was to be had at 6 1/2 per cent. He computed what it would cost him for the time he wanted the money, and found it to be between 20 and 30 per cent. The above are charges on mortgages on real estate. On notes, still higher charges are made. Twenty per cent. is now considered reasonable in the City of London, and but few can obtain it at that rate in comparison with the numbers who want it. One farmer sold four good notes amounting to \$110, for \$95; another farmer was asked at the rate of one hundred and fifty-six per cent. per annum, for \$100, for a short time. The security offered was to three times the amount required, and consisted of notes of some of the best farmers in the county. Some of the farmers have already sold the feed they required for their families and their stock, and the seed they wanted to sow their land with; one farmer is now contemplating killing his stock, and selling the hides and feed; another has, I hear, shot a lot of his animals. I know two small farmers that have left to join the American army. The Americans have a greater circulating currency than we have; they come here and purchase our coarse grain, that we ought to keep in the country for feed and seed. Such is the state of things, that should the winter continue as long as it usually does, thousands of our cattle, sheep, hogs, and horses must die. A great deal of land will be uncultivated, a great deal more badly tilled. Draining, clearing, and barn building will be nearly suspended.

As a remedy, I would suggest, that an Agricultural Bank be established, for the benefit of the farmers. Let a number of farmers join and place their farms as security, at half or a quarter of their value; let a cash capital be raised, let the Legislature be applied to for a charter, and let the bank loan money to farmers only, on farms, farm stock, crops, and chattels, secured by farmers notes. The bank to have the first claim on all property, that shall be given to it as security, that has not been previously encumbered, and to have the power of selling the property of defaulters, that had been placed in its power, without an expensive course of law, and to loan money from three months to 6 years. An interest to be charged to answer the purpose of the bank, and a plan devised to give the small farmers an opportunity as well as the large ones.

W. WELD.

Delaware, Feb. 18, 1865.

Tenant's Rights as to Fuel.

To the Editor of THE CANADA FARMER:

Sir,—WITHOUT expecting to find THE CANADA FARMER allocate a column to Legal Queries, such as is still to be found in *Bell's Weekly Messenger*, the well-known old country farmer's paper, I venture to ask you to draw your readers attention to the rights of a Tenant, as to fuel, fencing, &c.

We will assume the case of a man renting under a lease, binding him to farm in a husbandman-like manner, with a special covenant as to wood. The question arises—is the "Canadian Bush" referred to in the general covenant to be "farmed properly"? Or is the bush properly attended to, so long as it is fenced in? and can a tenant cut away, as, and where he pleases for fuel and fencing?

Custom will doubtless give the tenant firing, fuel, fencing—and, unless restricted to the contrary, he is at liberty to cut wherever most convenient—in fact, wherever he finds he can cut a cord the cheapest way, there he will be found at work. His chopper being content where he can work "at libitum," with 50 cents per cord: whereas he could not earn wages for \$1. per cord, had he to treat the bush, as an English plantation, thinning out where requisite, and selecting what ought to be got rid of for the good of the bush, rather than what is most handy for felling, chopping, stacking, and loading.

There seems to me to be but little doubt, that prevailing practice must be the guide, where there is no lease or restriction to the contrary. If this view be correct, ornamental timber, and sugar maples, are all liable to be felled—and half the rented farms in Canada give proof of this.

On the other hand, there are owners of property, who attempt to restrict their tenants from going to the bush at all, except for fallen wood. If they have made a bargain to that effect, and have a lease or evidence of such a bargain, of course it would hold good, but for want of such a lease or evidence, how can any landowner, whether in Upper or Lower Canada, prevent his tenant supplying himself and his men, with proper fuel for himself at the homestead, and not only at the homestead, but at every other house, cottage, or shanty on the premises, when he took possession. The tenant is bound to see all houses on the property he rents, (in existence when he took possession) properly occupied, and the common law of the land, founded on custom, entitles him to go to the bush to find proper fuel for such occupation. At least such is the stand I, a tenant, intend to take; admitting on the other hand, that I am bound to use the bush with judgement and care, to nurse it for the future, as far as practicable, without prejudice to my interests for the present. And any one who lets a farm, and means the contrary, ought to draw his lease accordingly. I hope this may lead to future letters from abler hands, and that they may touch upon "repairs and dilapidations."

Point Fontaine, Feb. 6, 1865.

NOTE BY ED. C. F.—It is high time steps were taken by all owners of wooded land in the older parts of the country, to guard against needless waste and wanton destruction of the growing timber. Coming scarcity will make us wise in this respect, if we do not prudently foresee the evil and provide against it.

CURE FOR FROST BITES, BURNS, AND SCALDS.—"D. B." sends the following:—"Steep a piece of lime for six hours, and then for every two spoonful of water, add one of linseed oil; stir until it becomes an ointment of the substance of cream, and then apply to the place affected. This is well worthy of a trial."

TWO-STORY STONE FARM-HOUSE.—A correspondent requests us to furnish the plan of a two-story stone farm-house, 28 by 42. We shall be happy to do so, if the party desiring such a plan will inform us what kind of accommodation is required, number and description of rooms, &c. It would be well to state the size of the family, for whose use the house is intended, whether quarters are needed for a hired man, or for a domestic servant, together with any other details that will help to make it suit the purpose of the owner and occupants.

GOLDEN SEBRIGHT COCK WANTED.—"Thos. Belford," of Caledonia, writes:—"May I ask you to enquire in your next issue where I can buy a Sebright (Golden) Cock Bird, and at what price—of course thoroughbred."

Ans.—J. Goldie, of Guelph, and J. Peters, of London, keep Sebrights of undoubted purity, and can, no doubt, supply you. We do not know at what price.

CURE FOR FRECKLES.—"M. P." sends the following request in a beautifully written note, evidently a lady's hand:—"In a number of THE CANADA FARMER will you give a remedy for freckles, and one which will not injure the skin?"

Ans.—Most gladly would we comply with the wish of our fair correspondent, who would fain be yet fairer, but really we are not skilled in the art of heightening female beauty. Perhaps some of our readers can furnish the desired recipe.

SEEDING DOWN WITH A CROP OF MILLET.—"B. S.," of Hastings, asks: "Will it answer to seed down land under a crop of millet or not? I have a piece of ground of about six acres which I intend to sow with millet, and seed down with timothy and clover. Some say that the millet will grow so thick and rank, that the grass will become smothered and die."

Ans.—We have known grass seed sown with millet, and a good catch obtained, although the habit of millet is to make a dense, overshadowing growth.

THE BEST SINGLE GRASS.—A correspondent wishes to know "which is the best single grass that may be raised either for pasture or hay?"

Ans.—This would make a very good question for an Agricultural Debating Society or Farmer's Club. Were a discussion had on the subject, some would contend for timothy, others for the clovers, some for red-top, and some for orchard-grass, and so on. But we believe it is generally admitted that a judicious mixture, adapted to the soil, stock to be fed, &c., is better than any one grass whether for pasture or hay.

THE ITALIAN BEE IN CANADA.—"H. C.," of Belmore, writes:—"Having taken some little interest in Bee-culture here, will you allow me, a subscriber, through the medium of your admirable periodical, to enquire whether the Italian bee has been yet acclimatized in Canada, and whether, if so, it has been found to be as hardy and productive in the lower section of the Province, as the native insect. Perhaps some of your experienced readers, if given the use of your columns, would kindly enlighten me upon this interesting subject."

WATER FOR THE POULTRY YARD IN WINTER.—"J. A. C.," of Toronto, writes:—"We have all felt the difficulty of supplying fowls with water on account of the pans, dishes, &c., freezing solid each night, thus requiring fire to melt out the cake of ice. To remedy this, take a common tin pan or dish of any kind, larger at the top than at the bottom, smooth and free from rust; grease it thoroughly when quite dry and clean, fill with water, and if frozen next morning, turn it upside down, and the cake of ice will drop out, leaving the pan entirely free from all but a slight coating of grease, which will again act on the same principle for a week, after which a little more grease will cover those parts exposed to adhesion of the ice when freezing. Fowls often go without water during cold weather on account of the continued freezing solid of the vessel in which the water is given them."

SHEEP PULLING THEIR WOOL.—"David Bell," of Trafalgar, sends a recipe for preventing this ailment, very properly observing that "prevention is better than cure." He says: "Take one quart of tar, to which add five pounds of lard, or other soft grease free from salt, and one pound of rendered beef tallow. Melt all these together over a slow fire, and then stir until cold. Weigh out one pound for each sheep. The above quantity will do for eight sheep. Open the wool one inch apart all over the sheep, and apply the grease with the end of your forefinger, rubbing it all along the skin. I used it for forty years in the County of Cumberland, England, and have practised it with success for six years in Canada. I find my sheep stand the winter cold much better in consequence of this application; and I can shear from one and a-half to two pounds more wool through it. At the price wool now fetches, this is quite a consideration. It is also a never-failing tick exterminator. Moreover, with the addition of sulphur, it stands second to no other cure for scab on sheep. The month of November is the proper time to apply it, and there is no danger of sheep taking cold after the application."

BROWSING SHEEP.—On this subject, "H. C." of Paris remarks:

"In the last FARMER you mention the browsing of sheep on hemlock. This I know to be a good practice. In my boyhood it was practiced in Vermont, when the sheep were kept from the ground by deep snows to feed on pine or hemlock boughs. In Canada I have kept sheep nearly forty years, and always feed pine boughs (we have no hemlock about Paris) when they are kept from the ground by snow. I do so for their health; no doubt it will save fodder. I give a few boughs every few days; my sheep not only eat off the leaves, but will bite off the bark from young tender pine saplings. Our lambs are dropped from the first of April, and I think they are stronger and better for the sheep having pine browse. If farmers don't believe it let them try it, but moderately at first. Doctor Randall quoted in the last FARMER: said he had known sheep killed by eating hemlock browse, this to my mind argues in its favour; it shows they love it. I have known a cow killed by eating hay, after she had been starved three days, then eating from a load all night. Now who will say that hay is not good for cows.

A FEW EXPERIMENTS.—"J. C." of Orillia, writes:—"In response to your call for the results of experiments, I beg to send the following:—

1. Last summer I planted $\frac{1}{2}$ acre with the dark red India corn, which often appears among the yellow 8 rowed— $\frac{1}{2}$ of the crop was red.
2. I procured from Marblehead some seed of the Turban, which Gregory calls the best fall squash. Found it equal to description; flesh being thick, fine grained, and rich. It is also an excellent winter squash, and keeps almost as well as the Hubbard. Mine, without having received any particular care, remained in excellent condition in February.
3. I tried the highly praised New Student parsnip, but could not perceive wherein it was superior to the two old kinds.
4. I obtained of Joseph Harris, some seed of the new Imperial German Sugar Beet, and found it a small or medium white beet, very sweet indeed.
5. In October hung up in a dry loft some Green Gage plums. Discovered the basket in February, and found it to contain excellent prunes."

PROPERTIES OF MARL.—"A New Subscriber" writes from Dorchester as follows:—"I would be glad if you could inform me, through your valuable paper, of the uses or properties of marl as a manure. In draining a swamp last fall, I found a bed of it, which a neighbour says is as good as any he ever saw in the old country."

ANS.—Marl is a mixture of lime and clay, or lime and sand, and is beneficially employed—clayey marl on sandy soils, and sandy marl on clayey soils. Its peculiar advantage is its readily crumbling to powder by the effect of air and moisture, and thus becoming intimately and quickly mingled with the soil. Marl is not a substitute for dung. In addition to its use, land requires to be enriched with manure, and if this be not done the application of marl only hastens the exhaustion of the soil, as its effect is to render soluble the fertilizing matter with which it comes into contact. It is a good plan to employ marl in conjunction with dung and swamp muck, in forming compost-heaps. Successive layers should be formed of the various ingredients, which are at length mixed thoroughly together, and in that state applied to the land.

ARTIFICIAL INCUBATION.—"J. R." of Amherst Island enquires:—"Would artificial incubation pay? Where could an incubator be purchased, and what would be the probable cost?"

ANS.—We have observed from time to time in the newspapers, items about egg-hatching by artificial means, and various details in reference to this subject are to be found in poultry-books, but our impression is that on the whole, artificial incubation is not found to pay. If it were profitable, it would doubtless be carried on as a regular business, in the neighbourhood of great poultry markets, but we are not aware of any establishment of the kind in actual operation. A similar remark may be made about incubators. If the business were a paying one, it would lead to the general manufacture and sale of the necessary apparatus, but the following from the *Field*, is the only advertisement we have observed in any of our exchanges.

"The Registered Incubator, and Artificial Mother. Prices, 10l., 15l., and 20l.—Apply to Messrs. Nutt and Co., Manufacturers, 192 Albany street, Regent's-park, N. W. The Incubators are capable of containing 350 pheasants' eggs, and other eggs in proportion."

A clipping which will be found in our Poultry department, narrates an intended egg-hatching enterprise on a large scale in Australia, and mentions a small incubator, which might suit our correspondent, but we cannot tell where it is to be had.

STRETCHES IN SHEEP.—"Jonathan Glover," of Yarmouth, enquires:—"Do you ever hear any complaints of a disease among sheep called the stretches. I have had several cases in my flock the present winter—they refuse their food, and set their fore and hind feet as far apart as they are able, and appear to stretch themselves—the cause I suppose to be long confinement to dry food. My treatment is to give a good dose of physic, I am not very particular of what kind, when I happen to have nothing else by me, I make a junk bottle full of strong soap-suds, with five teaspoon-full of epsom salts dissolved in it, at other times I have given oil or melted grease, and always hitherto with success, for they have always recovered, whether by the aid of the not very scientific treatment, or in spite of it, I am unable to say; but if not promptly attended to, I believe it generally proves fatal. Perhaps you, or some of your correspondents, can throw a little scientific light on the subject."

ANS.—The ailment you speak of is well known to experienced flock-masters. It is, in reality, colic, and usually results from the too exclusive use of dry feed. The best preventive and remedy is to give a portion of green feed—turnips, and the like. In cases that require immediate attention, the following medicine is recommended:—An ounce of Epsom salts dissolved in warm water, with a drachm of ginger and a teaspoonful of the essence of peppermint. The above is the dose for a sheep; half the quantity will do for a lamb. Other remedies are used with good effect, such as decoction of thoroughwort or boneset, warm tea; also, castor oil mixed with a moderate dose of aloes, if the case be obstinate. Some farmers, absurdly enough, lift the sheep by its hind legs and shake it; others drag it about by the hind legs. It is best to prevent this complaint by giving an allowance of green food.

The Canada Farmer.

TORONTO, UPPER CANADA, MARCH 1, 1865.

"High Farming without Manure."

M. George Ville, Professor of Vegetable Physiology at the Museum of Natural History, Paris, has been at work for some ten years past, under the liberal patronage of the Emperor of the French, upon a series of experiments, the results of which are of the highest practical importance. His theories, and the demonstrations of them, are now given to the public in the shape of Six Lectures on Agriculture, which have been published both in France and England under the title "High Farming without Manure." From a pretty extended review in *Bell's Weekly Messenger*, we gather the outlines of M. Ville's discoveries, of which the journal just named says, "they bid fair to raise agricultural science to a very exalted position among what are termed 'positive' as distinguished from merely 'conjectural' sciences, and to work also a revolution in practical husbandry." The system laid down in these lectures, relates chiefly to the nutrition of plants, or the particular uses of the several fertilizing agents, a system which met with violent opposition when first broached, but one which is now backed by the results of careful and long-continued observations. In the first instance, M. Ville diligently studied the appetites of plants belonging to "those three great families upon which agricultural industry is most exercised, viz.: the cereals, leguminous plants and roots, and he has deduced from this study the formula of a normal manure," i. e. a manure comprising all the constituents of plant food. At the

outset of his experiments, he took calcined sand for his soil, and common flower pots for his field. He ascertained that the preferred though not the exclusive ailment of the cereals is nitrogen; that of the leguminous plants, potassa; and that of the roots, the phosphates. These three substances in varying proportion are needed by all, with the addition of lime to promote assimilation. Chemically prepared fertilizers added to pure sand, brought out the results obtained, and the accuracy of the conclusions reached, has borne the test of repeated trials on a field of the Imperial farm at Vincennes. A series of square plots have been manured and sown according to the rules laid down. Upon some of the plots the seed has never been varied; the same soil has been sown four times in succession with wheat, colza, peas, and beets. At the commencement each plot had a supply of the normal, or complete manure—a chemical preparation combining all the required elements of fertility, and thereafter each year there was supplied what M. Ville terms the dominant ingredient, that is to say, the special manure craved by the plant grown. Four years are assigned to the action of the normal manure, replenished after each harvest by the particular element demanded by the crop. On any sign of diminished vigour in the soil, the normal manure is applied again. If any one of the leading substances in the compound be omitted, the crop suffers not merely from the loss of one ingredient, but from the imperfect action of the rest. The curious fact is stated that "when a single leading element is suppressed, the mixture at once loses three-fourths of its value."

Under M. Ville's management, "the crops have reached to results of irrefutable eloquence." During four years in succession, he has cultivated "wheat upon wheat, peas upon peas, and beet-root upon beet-root," always obtaining bountiful returns. He has no doubt he can continue to do this indefinitely, the only pre-requisite being a return to the soil, in sufficient proportion, of the elements fundamental to its productiveness.

It is contended that animal charcoal and guano, though they give rich harvests under certain conditions, are after all only expedients, not specifics; while even farm-yard manure does not altogether meet the requirements of the soil and crops. On the contrary, it is alleged that the continued use of farm-yard manure alone is a process of slow exhaustion. "Fossil manures," it is urged, must occasionally be used to supply the deficiency, and it is questioned if even these do it perfectly. It is, at best, only a closer approximation to the desired result.

Of course it is not desirable to do away with good rotations of crops. There are other reasons why this must form part of an enlightened system of husbandry, beside the exhaustion of particular elements in the soil, which are taken up by the last grown crop. But if "results of irrefutable eloquence" can be secured on M. Ville's system, with "wheat upon wheat" year after year, what may not be expected from the system in connexion with proper rotations?

The system propounded in M. Ville's lectures is not wholly new; but their author claims to have been the first who has elucidated the theory most completely "based on the principle of supplying to the soil the chief agents of production, not as a complex manure, but one after the other in such manner as to supply each kind of crop with the agent that assures the maximum yield."

M. Ville's learned and scientific reasonings translated into the language of common life, simply amount to this:—You cannot get out of the soil in plant life, what is not there in elementary principle. Would you raise a given crop, you must see to it that the food on which that crop subsists is plentifully supplied. Put into the soil a liberal, various, and appropriate stock of fertilizers, and you may grow any thing you please. But "out of nothing, nothing can come." The application of these reasonings to the style of farming too much in vogue in this country is obvious. No wonder the defrauded soil refuses

to yield wheat and other crops in the liberal measure in which it once did. If it had a tongue it would bitterly complain of the unjust demands made upon it when its wealth is "vanished all and gone." No case has ever occurred in which land thoroughly enriched and properly worked, has refused to yield its increase. There is no mystery about the matter, though multitudes fail to comprehend the true state of things. The soil is just a manufactory, to which the raw material must be supplied; and if this be done in due measure, the finished workmanship will rejoice our vision in the shape of teeming harvests, and universal plenty.

The Provision for Agricultural and Veterinary Instruction in Canada.

The arrangements made by the Board of Agriculture of Upper Canada for the delivery, each winter, in Toronto, of a familiar course of lectures on the several scientific subjects relating to Agriculture and the Veterinary art, have attracted the notice of the conductors of the *North British Agric. Journal*, an excellent weekly paper published in Edinburgh, who, in a recent and approving editorial article, request to be informed by THE CANADA FARMER of particulars relative to this movement. We have much pleasure in complying with the wish of our respected and able contemporary; although we have nothing to report but what will be considered as of an ordinary character; the work of instruction in the principles of scientific agriculture, being slow and difficult on this side of the Atlantic, as it proved to be for many years on the other.

The late Hon. Adam Ferguson, an old member of the Highland Society, and as well known and respected in Scotland as he was for many years in Canada, long cherished the idea of introducing Veterinary instruction in connection with the study of Agriculture, into this Province. Three years ago the Board of Agriculture, of which Mr. Ferguson was then a member, secured the services of Mr. Andrew Smith, a licentiate of the Edinburgh Veterinary College. The principal object of the Board has been to establish, by degrees, a Veterinary school, in which young men may be trained and prepared for the practice of the art, as a profession. The great improvement effected of late years in our live stock, and their vastly increasing numbers and value, require a much higher order of professional attainment in the treatment of diseases, than most of the persons that undertook the task, possessed; and it was also thought that a short and familiar course of instruction in this department, would be of much service to young men engaged in, or intended for, Canadian farming. Hence familiar lectures in the theory and practice of agriculture, and the sciences relating thereto, have formed a part of the course. This portion of the duty has been undertaken by the Professors of the different branches of physical science in University College. The number of students in regular attendance during the three winters in which the lectures have been given, has varied from a dozen to 20 or 25, mostly young men from the country, and the greater part of them actually engaged in the work of the farm at home. About half a dozen have been studying the Veterinary art as a profession; most of whom it is expected will be able to pass, in a satisfactory manner, a final examination at the expiration of the present term. The course extends over six weeks; Veterinary students, however, have to remain longer, and attend daily practice for three terms. The Board as yet, has given no diploma or certificate. It was thought that the course would be highly advantageous to young men engaged in farming who could not leave their homes but for a few weeks in the depth of winter; the main object of the teacher being to give them as much useful information as possible during the time, to awaken a desire for knowledge, to assist in forming habits of accurate observation, so important to the

farmer, and to put them in a way of studying and observing for themselves. The result, as far as mere numbers are concerned, has scarcely come up to what was expected—the work is slow and difficult, and sometimes discouraging, but facts now and then come to the knowledge of its promoters, which convince them that their labours have not been wholly in vain. In a new country like this, but sparsely inhabited, and where land can be readily obtained in almost unlimited quantity,—where in fact labour is high and produce low,—it would be unreasonable to expect in a new movement of this sort very rapid success. The Board will persevere, and adopt such measures during the present year, as will attract, it is hoped, much wider attention to this important object. In the Veterinary department, which is under the superintendence of Mr. Smith, that gentleman gives instruction in the anatomy, (including dissection), and diseases of the domesticated animals. Mr. McEachran, M. R. C. V. S., takes Veterinary Materia Medica, and Dr. Bovell, the able Professor of Physiology in the Toronto School of Medicine, gives instruction in Animal Physiology. Professor Buckland is assisted in the department of scientific and practical Agriculture, by several of his colleagues, the Professors of the Physical Sciences, in University College.

American Cotton.

Our neighbours on the other side of the lines, are by no means willing to admit that King Cotton either has been or is likely to be dethroned. The Bi-monthly Report of the Agricultural Department at Washington, for November and December, contains a very interesting article in reference to the production, and superiority of American cotton, the pith of which we will endeavour to give our readers.

The article in question, sets out with a table showing the imports of cotton into Great Britain during the first nine months of 1863 and 1864, and the countries from whence imported. The whole number of pounds imported in 1863 was 411,108,096, and for the same period in 1864, 596,199,632. Of this the United States furnished, in 1863, 4,627,728 pounds, and in 1864, 13,088,416 pounds. In 1860 the cotton crop of the United States was 2,079,230,800 pounds, or 1,237,668,875 pounds greater than the exports of all the cotton countries in 1861. This calculation is for nine months only. Adding one-fourth more for the imports from other nations, and the entire cotton crop of the world, exclusive of the United States of America, would be about 931,561,925 pounds. But as a quantity of the imported cotton credited to the Bahamas, Bermuda, and Mexico, is doubtless Southern cotton which has run the blockade, only about 841,561,925 pounds, can fairly be set down to the account of countries other than the United States. The quantity produced under the stimulation of an unusual demand and a high price, still leaves a large field for American cotton.

But the report affirms that the quality of foreign cotton is inferior to that of the United States, and for this reason can never supersede it. It is further contended that it cannot be made equal in quality to American cotton, either by improved methods of culture, or change of variety. This is stated to be admitted by the *London Times*. More skillful management and better appliances in the way of implements and machinery, have been already brought to bear without success in raising foreign cotton up to the standard of the American article. Very elaborate explanations are made, aided by diagrams, of certain climatic peculiarities about the cotton-growing states, not to be found in any other part of the world. The mountains of Central America from their position and altitude, arrest the course of the dry trade winds from the West, which would otherwise cover the region, south of the 39th degree of latitude rendering it rainless during the summer; and the same rocky barrier acts as a dam against the rainy belt in its

course from the East. The effect of this is a diversion and distribution of those enriching summer showers, without which the corn-producing prairies of the West and the cotton-growing valleys of the South, would be little better than barren deserts. The explanations and diagrams are taken from Butler's *Philosophy of the Weather*, a work which we have not seen, but which the report characterizes as "one of the most practical books on meteorology, and one that should be studied by every farmer desiring to learn the character of that atmosphere which rules the productiveness of the earth."

Another reason why Great Britain must look to the United States for the bulk of her cotton, is that the United States largely consumes English manufactures. Other nations do not thus consume, and as a consequence the cotton they supply must be paid for in specie. There is no mutual exchange of the products of industry, and with all its wealth Great Britain cannot afford to pay for her textile material in gold and silver. The *London Economist* of Dec. 3rd says: "Many people are surprised at the revival of the export of gold to Alexandria, and of silver to India. But the real ground of surprise is that the revival has not taken place earlier. An idea prevails in some quarters that our exports to the East have grown to such a magnitude as to counter-balance the largely increased imports of cotton. But the figures of the Board of Trade do not countenance such an idea." So it seems that King Cotton has good prospects of dominion still left.

The Increase of Manures in British Agriculture.

The recent improved mechanical appliances are among the principal causes of the very great advancement of British Agriculture, during the last quarter of a century. A more thorough and economical cultivation in connection, where necessary, with an efficient system of drainage, has doubled the former produce of land. In this estimate, however, the increased amount and improved quality of manures must be taken into account. The reader will be interested in the subjoined statement, condensed from a paper in a recent scientific English periodical:—

The imports of guano since 1810 have amounted to three and a quarter millions of tons; the imports of cubic nitre, which averaged 10,000 tons per annum up to 1858, have since varied from 25,000 to 40,000 tons per annum. The imports of bones since 1848 have increased from 30,000 to 70,000 or 80,000 tons annually. All these are valuable manuring substances. From 75,000 to 80,000 tons of Suffolk and Cambridgeshire coprolites, and 15,000 to 20,000 tons of Sombrero phosphate, are also used in the Superphosphate manufacture, which now probably exceeds in worth £1,000,000 per annum. To facts like these add the enormous extension in the use of oil-cakes and richer foods in the meat manufacture, by which the richness of the home-made manure is increased—the more general adoption of the practice of applying manure at once to the land, instead of rotting it in heaps, which is an economy, the wider practice of feeding and collecting manure under shelter, which is another great economy,—and the greater care taken properly to pulverize and even dissolve manures, so as to distribute them thoroughly through the soil, which is another first class example of a most important improvement in farm practice. On the other hand, there is the increased value of town sewage,—due to the improved drainage of towns, which is still suffered to go to waste. The increased fertility of the soil is due not only to improved drainage and tillage, but also to the direct application of fertilising ingredients in a much more liberal and economical manner than heretofore.

Some farmers in the neighbourhood of Limerick who tried the Sax culture, have realized profits this year ranging from £18 to £35 per acre.

Brant County Wool-Growers' Association.

A LARGE and influential meeting of the sheep-farmers of the County of Brant was held lately in the village of Claremont, Township of Burford, to take into consideration the best mode of advancing the wool interest. Dr. M. D. Brown was appointed Chairman, and J. Bingham, Secretary, *pro tem*. The object of the meeting having been stated, considerable discussion, and interchange of opinion, was had. It was ultimately moved by Lewis Lapeer, seconded by Russell Smith, and unanimously

Resolved.—"That the wool-growers in this section of the country, having long felt the want of proper attention to this branch of farm industry, more particularly in reference to the article of fine wool; and it being desirable that steps be taken to protect their interests in the future, this meeting do form itself into an association to be called 'The Wool-Growers' Association of the County of Brant.'"

The following gentlemen were then elected office-bearers:—Russell Smith, President; Jairus Morse, 1st Vice-President; J. B. Merritt, 2nd Vice-President; Lewis Lapeer, Secretary; J. Bingham, Assistant-Secretary; and W. G. Nellis, Treasurer.

The next general meeting is appointed to be held in the Town Hall, Paris, March 17th, at 10 A.M.

We understand that the Society will not confine itself to the promotion of fine-wool sheep-husbandry, but will aim to foster improvement in all that pertains to sheep farming. Moreover, while sheep will occupy the most prominent place in the discussions and proceedings of the Society, it will keep an eye to all subjects of interest to the farmer.

What is High Farming?

This question was discussed by Mr. Saxe Milbank, at a late meeting of the Staindrop Farmers' Club, and explained to mean, "good and successful crops, assisted by increased knowledge and the appliances of the age." He maintained that "a farmer could produce double the yield of crops on the same acreage, that he did in days not far remote." "The principal results of high farming," he adds, "are an increase of crops, cereals, grass, and roots; better drainage; amelioration of soil; more shelter and better stock; a satisfactory balance-sheet; and a happier and more contented class, from the feeling of having successfully carried out and applied the same sound commercial principles in farming, as in any other industrial pursuit." The *Field* in reporting and commenting on Mr. Milbank's remarks, takes exception to the phrase "high farming," and contends with much show of reason, that nothing less than what is above described, deserves to be called farming at all.

COE'S SUPERPHOSPHATE ON WHEAT.—We would call special attention to a letter from Mr. Albert Knight, M.P.P., of Stanstead, C. E., which appears in our advertising columns, and relates an extraordinary result obtained by the use of Coe's Superphosphate of Lime on $\frac{1}{2}$ acre of spring wheat. The yield was 70 bushels and 39 lbs., weighing 69 lbs. to the bushel. Similar ground treated in a like manner except the phosphate, yielded the previous year only 12 bushels per acre. Something may doubtless be deducted for the difference in the seasons of 1863-4, but making a liberal allowance for that, the result is remarkable, and we do not wonder that Mr. Knight proposes to make a larger use of it the coming season.

A NEW MATCH.—A lucifer match is now in the market that differs from anything hitherto in existence. Upon the side of each box is a chemically-prepared piece of friction-paper. When struck upon this, the match instantly ignites; when struck upon anything else whatever, it obstinately refuses to flame. You may lay it upon a red-hot stove, and the wood of the match will calcine before the end of it ignites. Friction upon anything else than this prepared pasteboard has no effect upon it. The invention is an English one, and, by special act of Parliament, the use of any other matches than these is not permitted in any public buildings. The discovery is a curious one. There is not a particle of sulphur in the composition of the lucifers in question.

Agricultural Intelligence.

Extracts from Reports of Agricultural Societies.

EAST MIDDLESEX.—"Owing to an extended, and excessive drought, your directors are obliged to state that the crops throughout the Riding were not a prolific in yield as they had anticipated. Wheat and oats were below the average. Peas, likewise were not sufficient in yield. Hay was a very indifferent crop indeed, while straw in all these classes was exceedingly short. Barley was the only crop which gave anything like a fair produce, and in this category, the flax crop which was looked forward to with evident interest was both stunted in growth, and of poor quality. However, we sincerely hope that this will not be a barrier to the farmer, or cause him to slacken his efforts in the growth of this valuable fibre. Flax is destined to win its way in this fine county."

NORTH RIDING OF OXFORD.—"The most important labour of your directors during the year was the erection of an agricultural hall, at a cost of \$832, and which was the principal cause of an increase of members and entries. Its dimensions are 60 x 43.

"At the last annual meeting three schemes were advanced for raising funds for the erection of a building suitable to our wants. The voluntary principle was adopted, and has succeeded beyond the expectations of its most sanguine advocates. The newly-elected directors at once subscribed \$100, and during the winter the directors canvassed portions of five townships and the town of Woodstock. The following is a list of the amounts subscribed:—Woodstock, \$308 75; Blandford, \$102 20; East Zorra, \$152; West Zorra, \$16; East Oxford, \$114; North and West Oxford, \$38; making a total of \$738 95. It is but just to say that the townships having such small sums credited to them, were but slightly canvassed. Subscribers to the building fund have paid cheerfully and with little trouble on the part of the directors.

"In regard to future prospects for farmers in this county, we see no reason to hope that there will be any increase in the average yield of that great staple production, the wheat crop, until farmers are in a position to underdrain, and adopt a more systematic rotation of crops. A mixed system of husbandry seems best adapted to our circumstances, some branches of which promise remunerative returns. The dairy business promises well, and with an established reputation for a good article, and proper facilities for manufacturing, a regular market for cheese may be obtained at paying prices. The same may be said of butter, which, in small dairies, will be the ruling article. One great advantage must not be lost sight of; that dairy operations tend greatly to increase the fertility of the soil, while the opposite will be the result in continually growing cereals.

"Another important branch, and for which this country is eminently adapted, is flax culture. With this crop it is no longer an experiment. The past year, though one of the most unfavourable for its growth, resulted in a much larger profit than in grain of any description. In favourable seasons, and when its culture is better understood, no doubt it will be found to yield satisfactory returns. The market is now at our doors; Mr. Brown has scutching mills in Blenheim and Woodstock, and Mr. Cottle has erected an oil mill in Woodstock, where farmers may dispose of the seed and purchase oil-cake—a well known article for stall feeding, and especially useful in this cold climate.

"The value of superphosphate of lime as a fertilizer has been so long and thoroughly known in Europe, and more recently tested in this country, that it needs no recommendation from us; but we take pleasure in stating that, through the enterprise of Messrs. Kintrea & White, Cedar Creek Oil Refinery, Woodstock, the farmers of Western Canada can be supplied with the article on favourable terms."

DECREASE OF HOG PACKING AT CINCINNATI.—Returns made to the United States government, show the number of hogs packed in Cincinnati for 1864, to have been 370,623, against 608,457 during the previous year.

AMERICAN EXPORTS OF BUTTER AND CHEESE.—The quantity of butter and cheese exported from New York, from January 1, 1864, to December 31st, compared with that of the same time in 1863, was as follows:—Of butter, in 1864, the exports were 14,151,375 pounds; in 1863, 22,321,075 pounds. The cheese exports were, in 1864, 49,490,831 pounds, and in 1863, 39,818,483 pounds. Showing an increase of cheese, and a decrease in the quantity of butter.

PRODUCTION OF WOOL IN THE UNITED STATES.—We learn from the Bi-Monthly Report issued from the American Patent Office, that the number of sheep kept in the United States has increased in three years from fifteen to thirty millions; that the wool clip last season was about one hundred million pounds; that this amount of wool is insufficient to meet the manufacturing demand, as one hundred and fifty millions of pounds are manufactured annually; so that there is room for the wool interest to expand at least fifty per cent. before supply and demand are equal.

A SPLENDID PRIZE FOR THIS YEAR'S PROVINCIAL PLOUGHING MATCH.—We are informed that Joseph Hall, Esq., manufacturer of reapers, mowers, threshing machines, &c. Oshawa, who last year presented to the Board of Agriculture, the splendid Ball's Ohio combined mower and reaper, which was competed for and awarded as the first-prize at the ploughing match in connection with the Provincial Exhibition last autumn, has this year offered to place at the disposal of the Board, a Birdsall's patent combined clover huller, thresher, and cleaner, of his make, furnished in very superior style, and valued at \$300, to be competed for at London this autumn in a similar manner. So very handsome a present will doubtless be thankfully accepted by the Board, and we may therefore expect the ploughing match to be an interesting and exciting feature of the Provincial Exhibition this autumn, especially as the inhabitants of London and vicinity had already been taking steps to make it as attractive as possible.

ERRORS IN FARMING.—A paper was read on this subject before the Farmers' Club of Croydon, Kent, in which the author enumerates the following as among the directions in which English farmers are now liable to run into error:—1. In converting too great an extent of arable land into pasture, on account of the present low prices of grain; 2. In not sowing more clover, sainfoin and similar seeds; 3. In stinting the number or the keeping of the horses employed in farm work; 4. In threshing out of doors, leading to great waste of straw and chaff; 5. In regulating summer fallows, which he advocated in the strongest terms; 6. In not finding constant work, winter and summer for farm labourers, leading them to bad habits, poaching, and so on when unemployed, while many things were neglected on the farm which would well repay attention, such as grubbing, ditching, sowing and spreading dung, mould, chalk, marl, &c., and when it would do good; 7. In not using more lime and chalk on their lands. Some of the subsequent speakers appear to have thought none of these errors chargeable to the farmers of the district, and one of them said that instead of entitling the paper "The Errors of Modern Farming," he thought it would have been more appropriately styled, "It is an error to farm at all." However this may be, there was a great deal of good sense in much of what was said.

SHORT HORN SALERS.—We understand that John Ashworth, Esquire, of this city, whom our readers will remember as having gained some credit—and deservedly so—for his enterprise in importing superior stock of various kinds, from England and the United States, has lately sold to James A. Sewell, Junr., Esq., M. D., late of the Indian army, and now of St. Albans—a country seat in the neighbourhood of Quebec—three valuable cows and heifers, viz.: Chloe, got by Barrington, 1229, Dam (imported); Duplex by Harold, 10,299; Sallie Mills, got by Duke of Thornedale, 1787, Dam, Ohio Belle, by Marquis, 1031, and Maggie got by Pluto, Dam, Hills, by Duke of Chester, 11,301.

These valuable animals are of the best strains of Short Horn blood in this country, and we congratulate the purchaser on his acquisition, fully believing he will find his account in keeping this class of animals on his farm. We are especially gratified, however, at the transaction, since it will secure to the environs of Quebec, a breed of stock of the highest quality, which cannot fail by intermixture to improve very greatly the character of our line. A few more such purchases by spirited farmers, and before long the difference in the cattle of our district, would become marked and decided. The thanks of the community are due to both the importer and the present proprietor.—*Quebec Gazette.*



High Culture and Wholesale Market Gardening.

Very few persons have any idea of the height to which cultivation may be carried under circumstances in which there is plenty of manure on the one hand, and ready sale for produce on the other. Perhaps this is no where so thoroughly exemplified as in the market gardening operations that are carried on in the vicinity of the British metropolis. Eighty tons of dung per acre are said to be not an unfrequent dressing in the course of the year. The land is thoroughly drained, and well worked to a depth of 12 inches at least. It is allowed no rest, except during the brief period of winter. The produce obtained is almost past belief. Thirty, fifty, and even seventy tons of cabbages and greens in two or three successive crops within the year, twelve to twenty tons of carrots, eight to a dozen tons of potatoes, followed by ten to fourteen tons of onions, and these again succeeded by greens and cabbages, are yielded per acre. As soon as one crop is off, another is put in, so that the land is being perpetually robbed. Nevertheless, it annually increases in fertility, so thoroughly is it manured and worked. The market gardening in the neighbourhood of London, is in fact the most extensive and successful agriculture in Britain, and perhaps in the world.

We find in a recent number of the *Gardeners' Chronicle* very full details respecting one of the largest of these market gardens, the substance of which is as follows: Mr. W. Adams, of Phaset Hall, between Plaistow and East Ham, on the east side of London, has for many years been the tenant of 800 acres in that neighbourhood. The magnitude of the business will be gathered from some of his annual items of expenditure. His annual labour bill exceeds £1000; 70 horses are employed on his farm; his rent, rates, tithes, and taxes amount to upwards of 5000£; his payments to Covent Garden and other salesmen for commission on the disposal of his produce amount to 1500£ a year; his contracts for manure extend over many of the largest stables, breweries, and cow-houses in London; his total payments amount to close on 20,000£ a year.

Perhaps the most striking illustration that his experience furnishes of the unusual style of agriculture which is here pursued, occurs in the adoption of an occasional crop of wheat or oats (of which about 100 acres are annually grown) as a "rest." That which is the "scouring" crop in ordinary agriculture, is here adopted as a relief from the severity of the general cropping.

Cabbages taken year after year from the same land are found to be attacked by the root disease called clubbing, which shows itself very shortly after transplanting from the seed bed; and in order to escape this risk and "sweeten" the land generally for the other green crops, it is necessary both to retain some portion of land for the seed-beds which shall be always altogether new to the cabbage plant, and also occasionally to take a grain crop, during which the land shall have a chance of hardening and acquiring that condition of both texture and composition which perpetual yield of abundant fallow crop destroys.

The principal crop grown upon the farm is cabbages. The East Ham cabbage is planted at all seasons of the year. Planted at intervals of 12 inches by 20 or 24 in autumn, it yields a crop of greens all through the winter and early spring months. Ploughed up as soon as possible in spring, the land is again covered with plants dibbled in at once about 16 inches by 21, and in 10 weeks another crop is ready;

and a third is generally taken in autumn, the plants being dibbled in, and if necessary, watered individually from a water pot, as they are planted in August, and they yield an autumn crop. The first crop of greens, perhaps after peas or other grain crop, may have been heavily manured; in that case the second probably was not manured at all, but the third would again be heavily dressed. The land on the removal of this crop is deeply ploughed and left till March or April, when carrots perhaps are sown without manure. These are pulled in summer, washed and bunched for market—the work being undertaken by a man digging, women and boys and a man washing and tying, at the rate of 7s. per 20 dozen bunches; and as 50 dozen bunches a day may be accomplished by a party thus constituted, large wages are earned. After carrots possibly there may be time for a crop of greens before the next spring's potato planting. Here, again, a heavy manuring is applied; and after the potato harvest the land is deeply cultivated for onions.

But the rule which is thus described is not invariably. Whenever occasion offers a crop of cabbages is taken, and to this end seed-beds are continually being provided for use at any time of the year. On the occasion of the first potato failure, which ruined many growers around London, Mr. Adams promptly sold off his crop, being early convinced that it was to be a general loss, and he got but 10£. an acre for it; but his land was no sooner bare than he had it manured and ploughed, and in 10 weeks' time a cabbage crop for sale was ready, worth 30£. an acre. This crop is sent into market almost daily throughout the year in waggon loads of 260 to 300 dozen, and these are disposed of by salesmen, who charge 8s. a load for their commission. Potatoes in like manner are sold on a commission of 5s. a ton. The waggons bring back loads of dung of about 4 tons apiece, which the waggoners take to the field.

Besides the principal crops which have been named, mangold wurzels are occasionally grown for sale to the extent of thirty or forty acres annually, some ten acres of rhubarb are cultivated, an occasional crop of peas is taken, and as already said, about 100 acres of corn are grown. The chief crops, however, are cabbages and carrots, potatoes and onions, and of these, taken in succession, six to eight crops may be grown in the four years, and at least three of them are heavily dressed with manure from stalls and stables; probably 120 tons of dung per acre may be thus applied, or 30 tons per acre per annum, and the land will have had at least eight deep thorough ploughings.

Rent, and labour, and manure during these four years have annually cost from 20£. to 30£. an acre, and the produce of course has been proportionately large. Over some portion of the farm there will follow, after, perhaps, a crop of peas another four years of pretty much the same style of management. Over a considerable remainder the second four years will include wheat and vetches, and other crops less intensely cultivated, and more in accordance with the rules of ordinary farming. And over some portions cabbages are never taken, in order that seed-beds may be provided perfectly fresh to the crop, yielding plants, therefore, with the least possible liability to disease.

Encouragement of Horticulture by Amateurs and Farmers.

THE following appeal by the Directors of the Guelph Horticultural Society, in their Annual Report, is worthy of being well considered by all whom it may concern. We would like to see far more general and spirited emulation in the direction suggested.

"We would again solicit the co-operation of amateurs in sending their plants and flowers to our exhibitions, as many having splendid window plants neglect or refuse to send them on account of the trouble attending it, but we hope in future they will take more interest in the Society, and raise a spirit of emulation between the members, which is so conducive to the success of all Societies, and thereby assist us in our endeavours to improve the horticultural productions of this county. We also wish we could induce more of our farmers to contribute to the Society, not only in money, but in articles for exhibition. What more pleasing sight to see about a farmhouse than a garden let it be ever so small, especially when well kept, and stocked with fruit, flowers, and vegetables, all which may be had with a very little trouble and expense, thereby adding so much to the comfort and happiness of a family, and creating in the young a taste for the beauties of nature. Any one who has the least taste for flowers will find it much increased by the cultivation of them, let it be on ever so limited a scale."

The Red Astrachan Apple.

WE wish to call the attention of cultivators to this valuable variety, which is one of the few sorts that can be better grown in the climate of Canada than further south. Indeed the milder portions of Canada, between and near the lakes, are not altogether suited to its production, but in the colder parts of the Province it is developed in full perfection. In the first place, it is one of the summer apples, and for this reason is always in demand, and in addition to that it is one of the most handsome apples in cultivation, and on that account commands a ready sale; while its excellence both for eating and cooking makes it an universal favourite. Besides all this, the tree is one of the most hardy kinds known, grows very straight and stout and bears enormous crops of fruit. The Toronto market has never yet been half supplied with them, and it is in vain that fruit dealers inquire for them through the Niagara District, for this variety is not always perfect in that famous fruit region. Here is a good investment for some one having strong, well drained soil in the vicinity of Toronto, for the tree begins to bear fruit so young that it does not often attain a great size, and a ten acre orchard, planted twenty feet apart each way, would contain one thousand and eighty trees, which in five or six years would yield the owner a very handsome revenue.

Orchard Planting.

To the Editor of THE CANADA FARMER

SIR,—On planting an orchard some four years ago, I came to the conclusion that I should not occupy the whole of a small farm with the same, and accordingly planted my trees twenty feet apart, to the number of two hundred. From year to year I purchased in Rochester, N. Y. Now I know how to plant a tree, my father having had an orchard of sixty acres in Augusta, on the St. Lawrence. I have only six Rochester trees growing, after all my replacing from time to time. The land in Kent is stiff clay, generally, and I am of opinion, from grim experience, that the forced trees from a sandy soil will not do here. I then purchased one hundred trees from Mr. Dougall, Windsor. All are alive save two, though I got them in May, with the leaves on. For three years, however, they have not thriven as I could wish—not near as well as some I got from Mr. Ebert's nursery in Chatham. My experience therefore is in favour of encouraging local nurseries, and getting my trees at a higher price of course, as large round as my wrist. Now for the point as to distance in planting. Last summer we had an extraordinary prevalence of heavy winds. Orchards which were exposed, lost the greater portion of their fruit. Those trees in the centre suffered least; the thick planting then must be the best between the lakes, where we suffer from heavy cyclones. We must also surround our orchards by upright board fences, and a beautifying row of willow, maple or locust. Your correspondents who are opposed to covering their whole farm with straggling trees, are right. My neighbours who sneered at my close planting, are nowhere. I rather crowed over them when I read your articles on my side, as we all like to get a little bit the start of each other in such matters. Even no longer ago than last week, in the fruit-column of the *N. Y. Tribune*, Solon Robinson says:—"We dissent entirely from the recommendations of sundry writers to plant apple trees forty feet apart, each way. Such trees are hardly within speaking distance of each other. At farthest, thirty feet apart is all that we could recommend, that would give forty-eight trees per acre—at 24 feet 75 trees, at 18 feet 134 trees. Will any body attempt to argue that during the life-time of an orchard the 134 trees will not give as much fruit as the 48 trees. Will any one tell us what they plant land to orchard for? Is it to grow fruit or do you intend to get a fall crop of grain from the land, and as much fruit as you can besides? In our opinion you have no right to expect anything but apple trees to grow in an orchard; after the first two or three years he must not till any-

thing but trees. It won't pay to do this, where trees are forty feet apart—it will at 20 feet. Eight or ten feet is as long as limbs should be allowed to grow. When they begin to lock their tops together, is the time for the owner to begin to unlock them, &c." These remarks of Mr. Robinson agree with the observations of most people. I might continue the subject by showing the necessity of shading the body of the tree in summer, and of protecting it in winter, but of this anon. W. B. W.

Experiments in Grafting Grape Vines.

GRAFTING vines is occupying the attention of horticulturists considerably at the present time; and the influence exerted by the stock on the scion, is being carefully investigated. Two or three examples from the garden of the Royal Horticultural Society, are described in recent English papers.

1. A variety called the Black Barbaross., was grafted upon the Black Hamburgh. This has proved successful beyond all expectation. The fruit is from two to three weeks earlier, and nearly twice the size of that on plants of their own roots. In appearance, also, the fruit is greatly improved, being covered with a rich bloom. The Hamburgh flavour is unmistakable.

2. A variety known as the Golden Hamburgh was worked upon an Indian vine called Sideritis Smyrna, but in this case the graft was injured by the stock, both berries and bunches being inferior to those upon the unworked golden Hamburgh. In quality also the fruit was deteriorated.

3. The Muscat Hamburgh was grafted upon a Spanish variety, called Gross Paunse. Inferior fruit resulted from this union also. The Muscat flavour was almost wholly lost. It is intended to try the effect of double grafting Nos. 2 and 3.

The Blackberry.

THERE are several species of the blackberry, but the common high blackberry (*Rubus villosus*) is the only one which has been cultivated to any extent. This is generally quite hardy, and with good cultivation gives large crops of excellent fruit. The fruit does not ripen until the last of August and September, after the currants and raspberries are mostly gone. It is considered a very healthy article of food, and is certainly most delicious.

The cultivation of the blackberry is very similar to that of the raspberry, but as it is a shrub of larger growth, the plants should be allowed more room. The rows should be six feet apart and the plants four feet apart in the rows. The soil, cultivation, pruning and training are very much the same as was mentioned for the raspberry.

The common blackberry of our woods and fields will give large and profitable crops if cultivated in gardens, but the Lawton or New Rochelle is generally thought to be more profitable. This variety is a chance seedling, found growing wild at New Rochelle, N. Y., and first introduced to public notice by Mr. Lawton. It is hardy and of vigorous growth, the canes often being one-inch in diameter and ten or twelve feet long. It is one of the most productive of fruits, a single cane often producing from six to eight quarts. The fruit is of large size, regular oval form, and superior flavour. We have heard from some sources that it does not do well in some parts of Michigan. We should be glad if our readers who have had experience with it would let us know how it has succeeded with them. At the East it is considered one of the most valuable small fruits.—*Ex.*

NOTE BY ED. C. F.—We should like to know the results of a trial of the Lawton Blackberry in various parts of Canada. Our experience with it in the latitude of Guelph perfectly accords with the following paragraph from the *Rural American*.

"This blackberry is almost worthless in the climate of Central New York. It dies down in winter, and it is too difficult to protect it, as bending over to lay the vines down to be covered with earth or litter, causes them to break. Some gardeners dig under one side of the plants, so as to allow them to be leaned over, by pressing against the opposite side with the foot; but some of the roots are injured, and the bearing qualities of the vines impaired, we presume, by this operation. This berry is popular in the latitude of New Jersey, Central and Southern Ohio, &c., and further South. If it produces good crops further North, we should like to hear from the cultivators on the subject."

Grape Vine Culture.

BY W. S., OF WOBLERN.

No. III.

SYSTEMS OF CULTURE.

We have seen no reason to dissent from the opinions expressed in an article which appeared in THE CANADA FARMER of 15th March, 1864, that the

"SINGLE STEM DWARF AND RENEWAL SYSTEM was probably the best of many methods in use for Canada." It is beyond question the simplest of all systems, the easiest managed with regard to laying down the vines for winter protection, and the likeliest to answer our geographical position—certainly within the limits where the grape grows luxuriantly—yet, it must be conceded, almost at the extreme limit of northern latitude, where grape culture can be profitably engaged in. This system is simply to allow only a single cane to grow from each plant, with very short side branches or laterals, and to fruit it every second or alternate year. The intervening year it grows wood. The second year after planting two-year-old plants, if the cane grows luxuriantly, it may be prepared for fruiting the third year; that is it must be cut down to a height of about three feet, and the laterals all pinched back to a single joint, laid down carefully and winter protected, according to some of the methods indicated in our previous article. But should the vine have grown but very moderately, it will be better to cut the cane down to two eyes, and allow it to acquire more strength by growing wood only for another year. The appearance of the vine, as pruned and pinched ready to lay down, and to produce

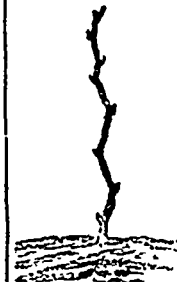


FIG. 10.



FIG. 11.

fruit the following year, is indicated in Fig. 10. Its appearance as simply cut down in order to produce wood for another year, is shown by Fig. 11. When the currant bushes bud in the spring, the winter protection is to be removed, and after allowing them to lie on the ground for about a week,

they are to be tied up to the stake or trellis as before, and the ground mulched, and kept free from weeds. During the early summer, the vine is to be pinched off when it reaches the height of the stake or trellis; and the laterals should be carefully stopped, that is pinched off, and only one or two joints allowed to grow until about the middle of August, after which, whether the plant be producing fruit or wood, it should be allowed to grow at will. The large leaves shading the fruit, are not to be removed, as some persons inconsiderately suggest. This is nature's own plan of protection. In the autumn, after the cane has fruited, it is again to be cut back to two or three eyes, and the head and stem well protected for the winter. If fruit be grown this season, the following is to grow wood—and the reverse, every alternate year, on a single cane as before. A system so simple we can hardly suppose will fail to be fully understood, by every honest and earnest enquirer.

Let us recapitulate the special features and advantages of the system. The vines are to be planted only two feet apart in the rows. Now, if the rows are, as before suggested, five feet apart, this will give somewhere about 4,400 plants to an acre, and thus 2,200 are every year producing fruit, and an equal number wood. Suppose each of these 2,200 produce five pounds of fruit, which is a very moderate estimate (double that will be nothing extraordinary or unfrequent), which again at the equally moderate rate of six cents per pound, the quantity produced will be over six tons, amounting to \$720. The semi-biennial rest of the plants is of essential service to

them, and conduces much to keep them in a permanently healthy condition; double the number of vines can thus be planted compared to any other method, and much more than double the returns can be realized, with less labour involved, than by any other system. The roots are indefinitely multiplied, the stem and head strengthened, and hence the source of supply amazingly increased. On a small quantity of wood near the ground, the whole strength of the vine is concentrated, and much finer fruit produced; and yet, another feature of primary importance in our uncertain climate, ripens much earlier.

On this system the grape vine may likewise be grown fifteen feet in length upon arbours, or in the glass vinery if desired, but for garden or vineyard culture, only four to six feet high is a better method. Low trellises or stakes, grown on the single cane system, will give the highest results, in quality as well as in quantity. The best material for tying up on the stakes or trellises is Russia or Cuba matting, well soaked in water. Fig. 12 indicates a good idea

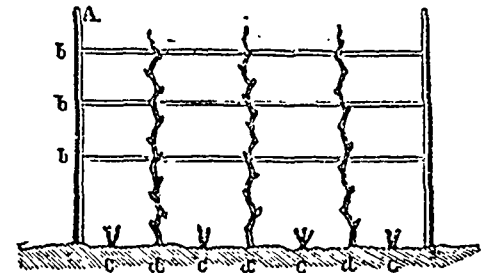


FIG. 12.

of our plan of trellis for this system. The posts (cedar wood the best,) should be set from 10 to 15 feet apart, traversed by 3 wires, commencing at about 12 to 15 inches from the ground, the second in the middle of the trellis, and the third at the top, which may be five feet from the ground. No. 12 size of wire will be found convenient. Small trellises in gardens, with almost any material for the upright posts, may be made of the slips or sidings of inch boards, which may be had for about the taking away, at almost every saw-mill. Fig. 13 shews the vines cut down to

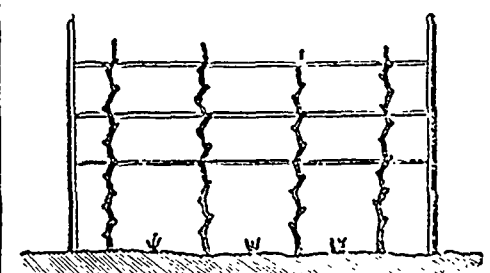


FIG. 13.

bear fruit and wood the following year. The canes are simply reversed.

Our next article will advert to the other leading systems in use in different parts of the United States.

Drive your cattle on the ice if you want cow-slips in winter.

A GIANTIC ROSE TREE.—In Mr. Peter Ford's garden, at Heathcote, may be seen a rose tree which measures seventeen inches round the trunk just above the ground, and it has attained the height of at least fifteen feet. The tree is of that kind known as the "cloth of gold," and during a greater portion of the year is loaded with its golden-coloured flowers.—*M'Leor Times*.

THE SAVIN.—Juniperus Sabina, is a splendid lawn plant, when left to take its natural growth in an open space and kindly soil. A plant twenty-five years old measured twenty-two yards in circumference. The branches radiate from a single stem, which is invisible in the centre, feathering all round, without gap or blemish down to the grass, and rising only about three feet in the middle. It is at all times a pleasing object; but in the spring when it has put forth its tender shoots, or in the autumn, when bespangled with dew it is particularly beautiful.—*Horticulturist*.

Poultry Yard.

Gapes in Chickens.

I WILL next mention a disease common to chickens at an early age—I mean the gapes. These are caused by numerous small worms in the throat. The best way I know of getting rid of them, is to take a hen's tail-feather, strip it to within an inch of the end, put it down the chicken's throat, twist it sharply round several times, and draw it quickly out: the worms will be found entangled in the feathers. When this is not effectual in removing them, if the tip of the feather be dipped in turpentine, it will kill them, but it must be put down the windpipe, not the gullet. I have always thought these are got from impure water, and I have been informed by a gentleman who inquires closely into those things, that having placed some of the worms taken from the throat of a chicken, and some from the bottom of a water-but where rain had remained for a long time, in a microscope, he found them identical. I have never met with gapes, where fowls had a running stream to water at. Camphor is perhaps the best cure there is for gapes, and if some is constantly kept in the water they drink, they take it readily. This has been most successful.

There is also another description of gapes, arising probably from internal fever; I have found meal, mixed with milk and salts, a good remedy. They are sometimes caused by a hard substance at the tip of the tongue; in this case, remove it sharply with the thumb-nail, and let it bleed freely. A gentleman mentioned this to me who had met with it in an old French writer on poultry. Sometimes a fowl will droop almost suddenly, after being in perfect health; if caught directly, it will be found it has eaten something that has hardened in the crop; pour plenty of warm water down the throat, and loosen the food till it is soft, then give a tablespoonful of castor oil, or about as much jalap as will lay on a ten cent piece, mixed in butter; make a pill of it, and slide it into the crop; the fowl will be well in the morning. Cayenne pepper, or chalk, or both, mixed with meal, are the best remedy for scouring.—*Wülkes' Spirit.*

WHAT OUR COTTAGERS LOSE.—During the year 1861 we paid, upon an average, from £60,000 to £70,000 a month for foreign eggs.—*English Paper.*

TURKEYS BURIED UNDER SNOW.—A man of my acquaintance—and I have no reason to dispute his veracity—tells me that during the severe snow and cold of last winter, he had turkeys lay buried in the drifts four weeks, with nothing within their reach but snow that they could eat, and they came out alive, and did well afterwards, though very poor on being found.—*Cor. of Country Gentleman.*

EGG-HATCHING MACHINE.—The *Dallarat Star* thus refers to an egg-hatching machine, imported from France by Dr. Schmidt, of Clunac:—"The machine, which is capable of hatching 50 eggs per month, is about three feet square, and is so constructed that there is an equal heat kept up in the whole of it, by means of a small lamp fixed beneath. The eggs are contained in a lot of little drawers. It is the owner's intention to construct large ovens on the same principle, for the purpose of carrying on the business of egg-hatching; and we are informed that he has applied to the Board of Land and Works, for a lease of 30 acres of land, in the neighbourhood of the Clunac cricket-ground, under the novel industries clause, to enable him to rear fowls of every description, on an extensive scale. Whether the Government will regard this as a truly novel industry or not, remains to be seen; but in anticipation of obtaining the land, operations will probably be shortly commenced upon it, in the erection of the ovens, which will be built large enough to hatch 5000 eggs per month."

POULTRY MANAGEMENT IN FRANCE.—In some districts of France the farmers appropriate rooms called "covoit" for their sitting hens, round which are laid planks raised on tressels about 18 inches from the ground; on these planks are placed little baskets of osier, close made at bottom and round the sides, but with widely barred tops; each of these baskets contain one hen. Some of these covoits are adapted to hold from 300 to 400 hens; which are all taken off at intervals to feed, and to have their legs washed and cleansed. The hens are generally set in lots of from 6 to 10, so that at hatching time the broods may be increased or diminished, according to the success of each hen. The coops in use for the broods are large, and a hen is often allowed from 15 to 24 chickens. As fast as the chickens are hatched they are taken with the hen that is selected to act as mother to them to an orchard or enclosed space, and are there fed and tended until big enough to shift for themselves.—*Genesee Farmer.*

HOME-MADE GUANO.—I have a snug little hen house in which I keep a dozen hens. Here they always roost, and spend a part of every day. The bottom consists of a layer of clay, beat hard and smooth. Every summer I have a load of peat or good loam placed by the side of the building. After the manure has been taken out in the spring, I spread a layer of peat or loam about two inches deep over the bottom, and once in about two weeks I repeat this operation, placing it somewhat deeper directly under the roof. In the spring, a day or two before using it, I shovel it over and work it fine with a hoe, throwing it into a heap. Thus I have a good load of the kind of manure that I want to start early peas, lettuce and radishes, and perhaps some left for sweet corn, and a few in lots of early potatoes, and a little bed of tomatoes. These I set in an open frame, covering them at night with a piece of m'iting. This costs nothing but a few hours' work, and ensures a good supply of early vegetables for the table. In addition to this pleasure, if there is a wheelbarrow load left, my wife and daughter are sure to coax it into their flower bed; and I wish, Mr. Editor, you could see how it makes the crocuses, tulips, pansies and balsams blush and sparkle.—*Economy, in New England Farmer.*

The Household.

Skeletonising Leaves.

"What are you doing so mysteriously, Mary," asked Madon, "with that pan of very dirty-looking water?"

"I am trying to make skeleton leaves," she replied.

"Oh, I remember, Mr. Hope said something about our trying that; but it has been forgotten, for we have found so very much to do this summer. I never felt so busy in my life."

"It is too late in the year now," said Mary.

"Then why are you trying, if it is too late?"

"Oh, I began more than six weeks ago, and this is only part of the method."

"Do tell us all about it," asked Margaret, "and then we can try it next year."

"I shall be very glad to tell you, and show you all I can. I procured this large earthen pan, and put into it a quantity of leaves. At first I thought any kind of leaves would do, but Mr. Sinclair told me that those of the oak, chestnut, elm, sycamore, and walnut, which I thought would all make pretty skeletons, had so much resin in them, that they would not decay themselves, and they would also prevent other leaves, that were mixed with them, decaying, because the resinous quality in them would affect the water; so I had to throw all those away, and lost some time. He then advised me as to the choice of leaves, and seed-vessels also, which must be gathered just before the seed is ripe. He wrote me out a list of leaves, and Harry and I gathered a quantity of those we could procure."

"Do tell us what they were."

"The leaves we gathered were those of the poplar, lime, tulip tree, the apple, pear, apricot, orange, lemon, box, ivy, holly, magnolia, and passion flower. Then we added the calyxes of several plants, as the nicandra, campanula, dictamnus, mallow, poppy, and several more; and also a few stalks of cabbage, flax, hemp, and singing-nettle. We procured a good quantity of each, as that helps the decay."

"What did you do then?"

"We put them all into the pan, and poured a quantity of boiling soft water over them."

"Why boiling water?"

"Mr. Sinclair told us it would destroy the vitality, as he called it, and hasten the process. Then gardener put the pan on the top of this low out-house to be out of the way of the fowls, and that it might be exposed to the sun and rain."

"But did not the water dry up soon?"

"No; the rain filled the pan again several times; and Harry used to get up once a week and stir it. Now gardener has taken it down for me, as I believe in six weeks some of the leaves are ready."

"And what are you going to do now? They look so messy and discoloured, that I cannot imagine anything pretty being made of them."

"I will try one," and Mary put her hand into the discoloured water, and drew out a tulip-tree leaf, which was already showing some of its fibrous formation, the green part having decayed, and partly fallen away into the water; this leaf she held carefully by the stalk, under the tap of the butt. The stream of water quickly washed away all the remaining fleshy decayed green part, and left the leaf a skeleton, to the great delight of the girls; then placing it carefully in some clean water, Mary tried another leaf with the same result. Now and then one gave them

more trouble, being so tender that the force of the water broke it all to pieces; then Mary remembered Mr. Sinclair had told her that in this case she should lay the leaf on a little piece of board, and holding the two together, between her finger and thumb, the stream of water would run over and through the leaf, without breaking it. Some they found, even after this process, had little bits of green substance, which would not come away; when it would not yield at all, even after being carefully rubbed with the finger, they returned that leaf to the pan to be soaked some days, or a week, longer. The process interested and amused them very much, and they had a good quantity of tolerable specimens thoroughly cleared of all the fleshy part, and were beginning to think of leaving off, when Herbert and Harry returned from their morning studies, and joined them. Herbert, who knew what Mary was going to do that morning, had asked Mr. Sinclair what was to be done to bleach the leaves, and had been told what to procure at the chemist's in the village, on his way home, and how he was to manage the process.

They now returned to the house, and went to the boys' play-room, anxious to see the whole. Herbert procured a hat-box, and tying some of the skeleton leaves to strings across the top, and placing some sulphur, which he set on fire, in a cup at the bottom, he shut down the lid, and left it closed for the sulphur to bleach the leaves, which it would do gradually. On some of them he tried another experiment; he had procured a little diluted chloride of lime, and also chloride of soda; these he poured into separate shallow vessels, and immersed some of the leaves in each for a few minutes, and the party had the great pleasure of seeing the skeletons gradually lose their dirty appearance, and become very white.—*Churchman's Family Magazine.*

Help Father!

"My hands are so stiff I can hardly hold a pen," said farmer Wilber, as he sat down to 'figure out' some accounts, that were getting behind hand.

"Could I help you, father?" said Lucy, laying down her bright crochet work. "I should be glad to, if I only knew what you wished written."

"Well, I should'nt wonder if you could, Lucy," he said, reflectively. "Pretty good at figures, are you?"

"It would be a fine story if I did not know something of them, after going twice through the arithmetic," said Lucy, laughing.

"Well, I can show you in five minutes what I have to do, and it'll be a powerful help if you can do it for me; I never was a master-hand at accounts in my best days, and it does not grow any easier, as I can see, since I put on specs."

Very patiently did the helpful daughter plod through the long, dull, lines of figures, leaving the gay worsted work to lie idle all the evening, though she was in such haste to finish her scarf. It was reward enough to see her tired father, who had been toiling all day for herself, and the other dear ones, sitting so cozily in his easy chair, enjoying his weekly paper, as it can only be enjoyed in a country home, where news from the great world beyond comes seldom, and is eagerly sought for.

The clock struck nine, before her task was over, but the hearty "thank you, daughter, a thousand times," took away all sense of weariness.

"It's rather looking up, where a man can have an amanuensis," said the father. "It is not every farmer that can afford it."

"Nor every farmer's daughter that is capable of making one," said mother, with a little pardonable maternal pride.

"Nor every one that would be willing, if they were able," said Mr. Wilber—which last was a sad truth. How many daughters might be of use to their fathers, in this and many other ways, who never think of lightening a care or labor! If asked to perform some little service, it is done at best with a reluctant step, and an unwilling air, which robs it of all sunshine or claim to gratitude.

Girls, help your father: give him a cheerful homo to rest in, when evening comes, and do not worry his life away by fretting, because he cannot afford you all the luxuries you covet. Such a home atmosphere tends more than anything else, to produce a hard, morose character, which must ever make old age unlovely, and uncomfortable. Children exert as great an influence on their parents, as parents do on their children.—*E. L. M., in Country Gentleman.*

A STITCH IN TIME SAVES NINE.—Have a large pin-cushion with a pocket at one end, and hang it near your fire-place, with a threaded needle in it, a few pins, cotton, thimble, scissors, buttons and tape. By this easy plan many a button and string will be sewed on, which would otherwise be neglected.—*Ex.*

Hints on Cellars.

CELLARS under our dwelling-houses are generally deemed indispensable. They are certainly very useful; but there are evils of such magnitude connected with them, that some have advocated their non-construction. They are almost universally manufactories of foul air, which, finding its way upwards by means of doors, windows, stairways, and crevices in the floor, diffuses its noxious elements through the rooms above, and becomes a fruitful source of disease; and again, they serve as a harbour for rats and mice, in the mode in which they are usually constructed, affording access to the side walls from below. It is not necessary, however, that they should be infested with vermin or half filled with rotten garbage, to produce the results complained of. The surface of the earth is filled with decomposable substances, and whenever the air is confined in any spot, it becomes saturated with various exhalations deleterious to the health. Means must be provided, therefore, for their thorough ventilation, or cellars must be totally abandoned. A cellar, to fully serve its purposes, should be cool in summer, impervious to frost in winter, and at all times free from moisture. The walls should rise one or two feet at least above the level of the surrounding ground, and should be laid in good lime mortar, or at least pointed with it. The thickness of the wall should not be less than fifteen or eighteen inches; and if the house walls above be built of brick or stone, two feet is preferable. The cellar should have a connecting drain at its lower corner, which should be kept free from obstruction; and each room in it should have at least two sliding sash windows to secure a good circulation of air. In very cold climates those portions of the wall above the surface of the ground should be double, either by means of a distinct thin wall on the outside, or by lathing and plastering on the inside, and be furnished with double windows as a farther security against frost. An outside door with a flight of steps is desirable in every cellar, and especially in one connected with a farm house.

It should always be borne in mind that in constructing cellars, particular care should be taken to have all its walls, and their connecting surfaces with the ceilings above, all perfectly tight, and secure from the egress and ingress of all vermin, however diminutive. A due observance of these hints, with those given above, in regard to keeping the cellar clear from all rubbish and decaying vegetable matter, will ensure any house from the presence of vermin.—Herald of Health.

Dr. Hall on Failing Eyesight.

WHEN the sight is beginning to fail, the eyes should be favoured as much as possible. This can be done:

- 1. By sitting in such a position as will allow the light to fall upon the page, or sewing, obliquely over the shoulder. 2. By not using the eyes for such purposes by any artificial light, or before sunrise or sunset. 3. By avoiding the special use of the eyes in the morning before breakfast. 4. By resting them for half a moment or so, while reading and sewing, or looking at small objects, by looking at things at a distance, or in the sky; relief is immediately felt in so doing. 5. Never pick any collected matter from the eyelashes, or corners of the eyes with the fingernails; rather moisten it with the saliva, and rub it away with the nail of the finger. 6. Frequently pass the ball of the fingers over the closed eyelids, towards the nose. This carries off any excess of water into the nose itself, by means of the little canal which leads into the nostrils from each inner corner of the eye, which canal tends to close up, in consequence of the slightest inflammation attendant on weakness of the eye. 7. Keep the feet always dry and warm, so as to keep any excess of blood from the other end of the body. 8. Use eye-glasses at first, carried in the vest pocket, attached to a guard, for they are instantly adjusted to the eye with very little trouble; whereas, if common spectacles are used, such a process is required to get them ready, that, to save trouble, the eyes are often strained to answer a purpose. 9. Wash the eyes abundantly every morning. If cold water be used, let it be flapped against the closed eye with the fingers of the right hand, not striking hard against the ball of the eye. But it would seem a better plan to open the eye in pure blood-warm water, because warm water is more penetrating than cold; it dissolves more rapidly and readily any hardened matter that may be about the lids, and is more soothing and more natural. 10. The moment the eyes feel tired, the very moment you are conscious of an effort to read or sew, lay aside the book or needle, and take a walk for an hour, or employ yourself in some active exercise not requiring the close use of the eyes.—Hall's Journal of Health.

Poetry.

The Old Kentish Cherry that Grows in our Lane.

When now I look back to when I was a boy, And muse on those objects that then gave me joy, Though few things of child-like odour in mine olden days, Still there lingers a life-long attachment to the old Kentish cherry that grows in our lane. Some flower or shrub, in our garden or lawn, Oft carries us back to life's early dawn, And there a nothing impressed on my memory more than Than the old Kentish cherry that grows in our lane.

The snow-drop and crocus—the hollyhock of spring— What bright inspirations their faded leaves bring! The daffodil meadow, whose venturesome flowers Send forth its perfume with the first April shower, Our own native balsam, with its silvery spray, And that noble evergreen, Spruce of Norway These all have their charms, but my thoughts turn again To the old Kentish cherry that grows in our lane.

For their associations, same objects we prize, Though the sight of them brings a momentary tear to our eyes, 'Twas my Agnes who planted that grape near the hall, But she long has been dead—her sweet voice is now still! 'Neath that vine fancy sees her, and hears her soft tones Her voice warbling forth "The Sally Night" of Tom Moore; But the first time I heard her sing that evening, I saw, Was beneath the old cherry that grows in our lane.

But apart from all this, do I love this old tree, Through many long years it has fruit given me, Which for canning, and drying, and baking in pie, From its high-titled cousins will bear off the prize. Though the winter be hard, and the spring not to be feared, It does not refuse to bear fruit like the rest; As fiful and faithless, I cannot complain, Of the old Kentish cherry that grows in our lane.

That it is not perfect, I frankly confess, Yet while owning it faulty, I love it no less; Although hardy, and patient of cold and neglect, In flavour it is not quite free from defect. One word of advice, noble tree! then add: Wed thy cousin the Duke, or the Black Dog breed; Then thy offspring the fame shall for ever maintain Of the old Kentish cherry that grows in our lane.

PARIS, C. W. C. A. (Somewhat altered)

Miscellaneous.

A machine has been invented in Springfield, Mass., which washes dishes. It will wash all the dishes on a table for 12 persons in 10 minutes.

Winch is True?—Woman is like ivy—the more you are ruined, the closer she clings to you. A vile bachelor adds, "Ivy is like a woman—the more it clings to you, the more you are ruined."

OILING TOOLS.—I shall do your patrons good service if I can induce all who do not, to use painters' (linseed) oil on their tools. Every farmer should have a can of oil and a brush on hand, and whenever he buys a new tool, soak it well with the oil and dry it by the fire or in the sun, before using. The wood by this treatment is toughened and strengthened, and rendered impervious to water. Wet a new hay rake and dry it and it will begin to be loose in the joints. If well oiled the wet will have but slight effect. Shovels and forks are preserved from checking and cracking in the top of the handle, by oiling. The wood becomes smooth as glass by use, and is far less liable to blister the hand when long used. Axe and hammer handles often break off where the wood enters the iron. This part particularly, should be toughened with oil to secure durability. Oiling the wood in the eye of the axe, will prevent its swelling and shrinking, and sometimes getting loose.

The tools on a large farm cost a large some of money. They should be of the most approved kinds. It is poor economy at the present extravagant prices for labour, to set men at work with ordinary old-fashioned implements.

Labourers should be required to return their tools to the convenient place provided for them, after using. They should be put away clean and bright. The mould boards of ploughs are apt to get rusty from one season to another, even if sheltered. They should be brushed over with a few drops of oil when put away, and will then remain in good order till wanted.—W. D. Brown, in Massachusetts Ploughman.

Markets.

Toronto Markets.

"CANADA FARMER" Office, Feb. 24, 1865.

We have nothing different to note in the state of our markets since our last report. During the good sleighting of the previous weeks a fair quantity of produce, with beef, mutton and pork of good quality was offered, but the sales were only for local consumption. The continued inability to forward grain by the Grand Trunk is the general complaint, and transactions in consequence are limited, and confined almost solely to local trade. The mild, pleasant weather of the last few days will destroy the sleighting and render the roads bad and disagreeable, so that we may look on that account to a continued scarce supply in ordinary daily markets.

Flour—Unchanged; No. 1 superfine at \$3 78 to \$3 85 per bbl; extra, \$4 20; superior extra, \$4 45 to \$4 65; fancy, \$4 80. Fall Wheat—Steady and firm—not much doing; selling at 90c to 94c per bushel.

Spring Wheat unchanged at 82c to 84c per bushel. Barley steady and lower, at 60c to 65c per bushel. Oats at 42c to 45c per bushel. Rye 60c per bushel.

Peas inactive at 65c to 70c per bushel. Hay—Market well supplied at \$13 to \$18 per ton. Straw in fair supply at \$13 per ton.

Provisions—Butter—Fresh, wholesale, per lb. 18c to 20c; retail, per lb., 15c to 20c, in tubs, wholesale, per lb., 16c to 18c. Eggs—Wholesale, per dozen, 16c to 20c; retail, per dozen, 20c to 25c.

Hams—Wholesale, per lb., 9c to 10c; retail, per lb., 10c to 12 1/2c. Fitch Bacon—Wholesale, per lb., 8c to 9c; retail, per lb., 11c. Cheese—Wholesale, per lb., 10 1/2c to 11 1/2c; retail, per lb., 14c to 15c.

Lard—Wholesale, 11c to 12c per lb.; retail, 12c to 15c. Beef in good supply at \$4 50 to \$6 per 100 lbs.; 6c per lb., wholesale; 8c to 10c per lb., retail. Calves \$4 to \$5 each; few in market.

Sheep, by the car load, \$4 to \$5. Lambs, by the car load, \$2 50; very good bring \$3 50. Pork \$6 50 to \$7 25 per 100 lbs. Hides (green) lower; per 100 lbs., \$3 50 to \$4 40; dry hides, 6c to 8c per lb; cured and tanned, 4 1/2c to 5c.

Tallow 6 1/2c to 7 1/2c per lb. Wool, 36c to 40c. Calveskins (green) 10c per lb.; dry, 16c to 18c. Sheepskins (green) \$1 75 to \$2 00 each; dry, 16c to 18c. Lambskins 87c to \$1 50 each.

Cow, Leligh \$10, Scranton \$8, Buttimous \$7 50 to \$8. Wood \$1 80 to \$3 per cord. Salt \$1 80 to \$2 per bbl. Water Lime \$1 50 per bbl.

Potatoes in better supply at 30c to 35c per bushel retail. Apples, \$1 60 to \$2 00 per bbl. Ducks, 35c each. Chickens, 25c to 30c each.

Turkeys, 75c to \$1 each; \$1 30 asked for prime birds. Geese, 30c to 60c each. Oil Cake, \$22 per ton, or \$1 75 per cwt.

Hamilton Markets, Feb. 23.—Flour—Superfine No. 2, \$3 30 to \$3 50; Superfine No. 1, \$3 75 to \$4; Fancy, \$4 to \$4 12 1/2; superior extra, wholesale, \$4 50 to \$5; do, retail, per 100 lbs., \$5 50 to \$6 25. Fall Wheat, per bushel, 87c to 90c. Spring Wheat, 80c to 82c. Barley, per bushel, 65c to 70c. Peas, 75c to 85c. Oats, 4c to 45c. Clover Seed, \$7 to \$7 25. Beef, per 100 lbs., \$4 to \$5. Butter, per lb., 14c to 16c; do, in firkins, 12 1/2c to 15c. Pork, \$6 50 to \$7. Mess Pork, per barrel, \$13. Rye, 60c. Indian Corn, per bushel, 60c to 65c. Eggs, per dozen, 17c to 20c. Hay, per ton, \$12 to \$15. Tallow, per lb., 6c to 7c. Green Hides, \$3 50. Green Calveskins, 7c to 10c. Sheepskins, (outside quotations) \$1 25 to \$1 50.—Spectator.

London Markets, Feb. 23.—Fall Wheat, per bushel, 85c to 90c. Spring Wheat, per bushel, 80c to 85c. Barley, per bushel, 65c to 70c. Oats, per bushel, 45c to 55c. Peas, per bushel, 75c to 75c. Corn, per bushel, 60 lbs., 55c to 60c. Hay, per ton, \$18 to \$22. Dressed Hogs, per cwt., \$6 to \$7. Beef, per cwt., \$5 50 to \$4 25. Butter, fresh, per lb., 18c to 25c; ditto, keg, 15c to 16c. Potatoes, per bushel, 35c to 40c. Flour, 1c 100 lbs., \$2 to \$2 60. Hides, dry, per lb., 7c; ditto, green, 3 1/2c. Sheepskins, fresh off, 75c to \$2. Calveskins, per lb., green, 8c to 10c; ditto, dry, 14c to 15c. Wool, per lb., 45c to 45c.—Prototype.

Guelph Markets, Feb. 23.—Fall Wheat, per bushel, 80c to 85c. Spring Wheat, per bushel, 75c to 80c. Oats, per bushel, 55c to 65c. Barley, per bushel, 55c to 65c. Peas, per bushel, 65c. Oats, per bushel, 40c. Butter, cr lb., 16c. Eggs, per dozen, 15c. Beef, per cwt., \$3 to \$4. Mutton, per cwt., \$4 to \$5. Pork, per cwt., \$6 to \$6 50. Hay, per ton, \$10.—Messenger.

St. Thomas Markets, Feb. 23.—Wheat, per bushel, 80c to 85c. Fall Wheat, 75c to 80c. Spring Wheat, per bushel, 75c to 80c. Oats, per bushel, 55c to 65c. Peas, per bushel, 65c. Corn, per bushel, 60c. Barley, per bushel, 65c. Peas, per bushel, 65c. Oats, per bushel, 40c. Butter, cr lb., 16c. Eggs, per dozen, 15c. Beef, per cwt., \$3 to \$4. Mutton, per cwt., \$4 to \$5. Pork, per cwt., \$6 to \$6 50. Hay, per ton, \$10.—Messenger.

St. Thomas Markets, Feb. 23.—Wheat, per bushel, 80c to 85c. Fall Wheat, 75c to 80c. Spring Wheat, per bushel, 75c to 80c. Oats, per bushel, 55c to 65c. Peas, per bushel, 65c. Corn, per bushel, 60c. Barley, per bushel, 65c. Peas, per bushel, 65c. Oats, per bushel, 40c. Butter, cr lb., 16c. Eggs, per dozen, 15c. Beef, per cwt., \$3 to \$4. Mutton, per cwt., \$4 to \$5. Pork, per cwt., \$6 to \$6 50. Hay, per ton, \$10.—Messenger.

Peterborough Markets, Feb. 22.—Flour, per bushel, \$4 50 to \$5. Fall Wheat, per bushel, 80c to 85c. Spring Wheat, per bushel, 75c to 80c. Oats, per bushel, 55c to 65c. Peas, per bushel, 65c. Corn, per bushel, 60c. Barley, per bushel, 65c. Peas, per bushel, 65c. Oats, per bushel, 40c. Butter, cr lb., 16c. Eggs, per dozen, 15c. Beef, per cwt., \$3 to \$4. Mutton, per cwt., \$4 to \$5. Pork, per cwt., \$6 to \$6 50. Hay, per ton, \$10.—Examiner.

Ottawa Markets, Feb. 23.—Flour—Extra, \$3 25 to \$5 60, No. 1, \$3 to \$5 25; No. 2, \$4; Bags, full, per 100 lbs., \$2 25, do., Spring, per 100 lbs., \$2. Indian Meal, per 200 lbs., \$3 25. Fall Wheat, per bushel, 60 lbs., \$1 05. Spring Wheat, do., \$1. Corn, per bushel, 60 lbs., 60c. Peas, per bushel, 60 lbs., 75c. Oats, per bushel, 44 lbs., 40c. Pork—Mess, per barrel, \$20. Hog, per 100 lbs., \$7 to \$8. Beef, \$5 to \$6. Mutton, per lb., by the qr., 6c.—Union.

Montreal Markets. Feb. 21.—Flour, Sup. Ex. per bl \$1 50 to \$5; 1 extra, do \$4 60 to \$4 75; Fancy, do \$4 40 to \$4 50; sup. Canada do \$4 30 to \$4 40; Do. Western do \$4 10 to \$4 15; No. 2, do \$3 95 to \$4 10; Fine, do \$3 60 to \$3 70; Bag Fl. ur. d. \$2 40 to \$2 45. **Oatmeal**, per 200 lbs \$1 60 to \$5. **Barley**, per 100 60 to 70c. **Wheat**, No. 1, do \$1 37 1/2 to \$1 40; No. 2, do \$1 35 to \$1 37 1/2; No. 3, do \$1 32 1/2 to \$1 35; No. 4, do \$1 30 to \$1 32 1/2; No. 5, do \$1 27 1/2 to \$1 30; No. 6, do \$1 25 to \$1 27 1/2; No. 7, do \$1 22 1/2 to \$1 25; No. 8, do \$1 20 to \$1 22 1/2; No. 9, do \$1 17 1/2 to \$1 20; No. 10, do \$1 15 to \$1 17 1/2; No. 11, do \$1 12 1/2 to \$1 15; No. 12, do \$1 10 to \$1 12 1/2; No. 13, do \$1 8 to \$1 10; No. 14, do \$1 6 to \$1 8; No. 15, do \$1 4 to \$1 6; No. 16, do \$1 2 to \$1 4; No. 17, do \$1 0 to \$1 2; No. 18, do \$1 0 to \$1 2; No. 19, do \$1 0 to \$1 2; No. 20, do \$1 0 to \$1 2. **Peas**, per 100 lbs \$1 12 1/2 to \$1 50. **Potatoes**, per gal 30c to 55c.—Daily Transcript.

New York Markets. Feb. 21.—Flour—Market quiet and rather more steady at \$9 55 to \$10 for superfine State, \$10 20 to \$10 35 for extra State, \$10 40 to \$10 45 for choice do; \$9 90 to \$10 20 for superfine western; \$10 30 to \$10 40 for common to medium extra western; \$11 to \$11 15 for common to good shipping brands extra round hoop Ohio. Canadian flour rather more steady at \$1 55 to \$1 60 for common, \$1 55 to \$1 60 for good to extra extra. **Rye flour** quiet. **Wheat**—Market dull; No. 1 Choice Spring, at \$2 16 to \$2 20. **Rye** quiet. **Barley** dull. **Oats**—Market quiet and without decided change, at \$1 8 to \$1 90 for old mixed western. **Oats** firmer at \$1 13 for western. **Pork** dull at \$5 to \$5 57 for new mess; \$3 to \$3 25 for 1863 and 1864, and \$2 to \$2 50 for prime. **Beef** quiet.

New York Cattle Market. Feb. 21.—Prices in the best and cattle market reached their highest last week, and were followed by an immediate decline, according to the most reliable accounts, of two cents on the lb. on the best, and much more on the poorer kinds. A few very superior cattle are held at 20c per lb. another of the same at 22c. The state of the trade is rather worse on medium, and much worse on lower grades than last week. Sheep were in short supply early, and of course high, a lot of pretty good fine wool sheep, averaging 94 lbs., sold this morning at 14c per lb. on the scales; medium sheep sell at 12c to 13c, and some poor, thin ones at less than 12c. **Pigs** are declining. **Swine** are also scarce. Quotations are 14c to 14 1/2c per lb live weight, which is a slight advance.

Chicago Markets. Feb. 22.—Flour—Market dull heavy and neglected—white winter extras \$9 75 to \$10 00, red winter extras \$8 60 to \$9 25; choice spring extras \$7 75 to \$8, fair to good spring extras \$7 25 to \$7 75; spring superfine \$5 50 to \$5 50. **GRAIN**—Wheat, market was heavy and prices declined. No. 1 spring closed at \$1 35 1/2 to \$1 36. No. 2 spring, at \$1 22. **Corn** market dull and prices declined, sales at 7 1/2c to 7c. **Oats**, the demand was moderate, and prices declined, closing at 37 1/2c to 3c for No. 1. **Rye**, demand light and the market was dull and nominally unchanged. **Barley**, market very dull and heavy, nothing of any consequence done; prices were nominally lower, at \$1 20 on track, at \$1 15 to \$1 18 delivered. **Dressed Hogs**, the demand was light, and the market was dull and lower, at \$14 50. **Eggs**, market moderately supplied, and prices tend downward, at 25c to 28c per dozen for fresh.—Chicago Times.

Buffalo Markets. Feb. 22.—Flour—The market quiet, double extra Indiana at \$11 to \$11 50. **Wheat**—Market dull with no demand at \$2 15 to \$2 20 for white Michigan and Canada, and \$1 90 for Canada club, without sales. **Corn**—steady at \$1 50 to \$1 55 for old and kiln dried, with \$1 45 asked for new. **Oats**—Quiet and unchanged; held at 86c to 87 1/2c for bagged, with 57c to 64c asked by the cargo from Iowa. **Barley**—Quiet and nominal, at \$1 55 to \$1 60 for Canada. **Rye**—Dull and inactive, at \$1 42 to \$1 45 from Iowa. **Peas**—Held at \$1 60 to \$1 65 for common, and \$1 75 to \$1 80 for choice Canada. **Seeds**—In limited request, and steady at \$5 50 to \$5 75 for Wisconsin, and \$6 to \$6 25 for Illinois; clover held at \$15 to \$15 50. **Butter**—Quiet and steady, at 43c to 45c for common Western and Canada, and 45c to 52c for good to choice State dairy. **Dressed Hogs**—Firm, with no demand, quoted at \$15 25 to \$15 50 for Canada. **Potatoes**—Quoted at 90c for lemon; 92c for prime light straw, and 93c for white, with light stock.—Courier.

Advertisements.

IMPROVED PREMIUM IRON CYLINDER GRAIN DRILL,
MANUFACTURED BY
JOSEPH HALL, OSHAWA, C. W.

THE past winter having demonstrated beyond a doubt the great advantage of sowing winter grain with Drills over broadcast sowing, and the fact being clearly established, that in dry or other wise unfavourable seasons, all grains do much better when sown in drills, I have been induced to commence the manufacture of these valuable implements.

In our wet springs it is almost impossible to get the grain properly covered with a harrow, so as to prevent injury from dry weather following. Aside from these reasons, the amount of seed sown, and the increased crops raised by reason of having the grain evenly deposited in the ground, makes the GRAIN DRILL an indispensable requisite of every well regulated farm.

I am happy to say I can now offer to my customers the most perfect GRAIN DRILL in use in the United States or Canada. It will sow all grain equally well, in quantities of from one half to two bushels per acre. It can be furnished with either eight or ten tubes as desired.

When wanted, a GRASS SEED Attachment can be furnished, which will sow any grass seed in connection with the grain or alone, in quantities of from four quarts to half a bushel per acre.

All orders for these Machines, Horse Powers, Three-hors. Reapers and Mowers, Clover Mills, Sowing Machines, Mill or Job Casting, or Machinery, will receive prompt attention.

Drills can be furnished with tubes in one row or two, as desired. For rough lands two rows is recommended.

ALL MY MACHINES ARE WARRANTED.
For further information address
JOSEPH HALL,
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FLAX SEED.

A QUALITY OF
Screened Flax Seed, fit for Sowing,
FOR SALE.

St. Mary's Flax Mill,
Blanchard. **BLACK & FORRESTER.**
v25-11*

COE'S SUPER-PHOSPHATE OF LIME MANURE FOR WHEAT.

Letter from Mr. Albert Knight, M. P. P. of Stanstead, O. E.

PARLIAMENT HOUSE, Quebec, Feb. 8, 1865.

DEAR Sir,—I used some of Coe's Super-Phosphate of Lime last year, by way of experiment, upon my farm in Stanstead, on different crops.

I am able to give you the result upon wheat, and on this crop it was very successful.

On a field which had been well manured the previous year, and planted in potatoes and turnips, I sowed Spring wheat (Scotch Lark) and applied Phosphate at the rate of about one barrel per acre, and harrowed in with two seeds. The crop grew remarkably well, the stalks were even, tall and strong, and stood erect until the grain was ripe. I do not think there has been a field of wheat raised in the county for many years that presented so fine an appearance as this field did before harvest. It was seen by, I suppose, more than a hundred farmers, who stated that it was the best looking field they had ever seen. The yield was 70 bushels and 50 lbs., weighing 60 lbs. to the bushel, from 1 1/2 acre of ground. Similar ground, the previous year, treated in a like manner except the Phosphate, yielded only 12 bushels per acre.

My experience has convinced me that Super Phosphate is especially adapted to the growth of wheat, as it imparts vigour and firmness to the stalk, and gives a large product of grain, by supplying the elements necessary to the complete filling out and ripening of the kernel.

I shall make a larger use of it the ensuing Spring, and my good success last year will induce many others also to use it.

I am, very respectfully yours,
Mr. E. L. Snow, Montreal. A. KNIGHT.

Sold by J. Fleming & Co., Toronto, O. W., and in all the principal towns throughout Canada.

Toronto, Feb. 20. v25-1t

GROUND BONE MANURE.

REDUCTION IN PRICES.

FINE BONE DUST, 60 CENTS PER BUSHEL;
Half-inch Ground Bone, 50 cents per bushel.

On all orders over \$25, a discount of 10 per cent. will be allowed.

P.S.—Delivered at the Railway Station free of charge.

March 1, 1865 v25-8t

FOR SALE, AT THE GRIMSBY NURSERY, 25,000 CHOICE APPLE TREES.

ALL of the best kinds of grafted fruit; 20 varieties of which took the first prize at the late Provincial show in Hamilton.

Price 15 cents each, \$10 per 100, \$80 per 1000.

Also a general assortment of other Fruit, and Ornamental Trees, Shrubs, Plants, &c. Delaware, Diana, Hartford Prolific, and Canada Gene Vanes. All of which will be sold as cheap as they can be had, at any reliable Nursery in Canada. Farmers, club together and send and get your trees at wholesale prices.

Descriptive Catalogues sent gratis.
WOOLVERTON & SMITH, PROPRIETORS,
v25 2t Grimsby, C. W.

PRUSSIAN BLUE, EARLY KENT, AND MARROWFAT PEASE WANTED.

ANY parties having PRUSSIAN BLUE, EARLY KENT, or MARROWFAT PEASE for sale, delivered at the nearest railway station or shipping port, by sending samples by parcel post, prepaid, and communicating with the undersigned, will find a purchaser.

GEORGE LAIDLAW,
Box 398, Toronto.
January 20, 1865. v23-6t

"CAPTAIN BUFORD."

THIS BEAUTIFUL THOROUGH BRED STALLION

HAS been imported by the undersigned, and will stand for March the ensuing season, commencing from the 1st of April until the 1st July, 1865.

PEDIGREE.

CAPTAIN BUFORD by GLESCOR, out of LEOPARDISS by MDOCK; grandam, KITTY FISHER by Marshall's Moses; also the dam of Radolph. g. grandam by Cook's (afterwards Blackburn's) Whip; g. g. grandam, Harts' Maria by Craig's Alfred; g. g. g. grandam by Taylor's Belair. The Belair Mare, certified by her owner, Thos. D. Owens, Esq., to be Thorough Bred. All this maternal line were distinguished upon the turf, and of thorough bred horses.

GLESCOR, the sire of CAPTAIN BUFORD, was not only one of the best horses on the English Turf, but has proved equally successful in the Stud. His pedigree can be traced down through all the best blood of England. He was bred by Lord Jersey, in 1831; and by SLEMAN out of THORNTON, by TRUMP. Captain Buford is now 10 years old. He has received the First Premium as the best thorough-bred stallion wherever he has been shown. He is a beautiful Chezzut, stands sixteen hands high.

Remarks of FRANK HARTER, of Kentucky, one of the best thorough-bred horsemen in the United States.

"Buford is as well bred as any Horse that ever left Kentucky, and for Northern breeding, I know of none better. He has the advantage of most all thorough bred horses, in size, style, bone, and speed."

Remarks of H. H. YATES, Esq., of Chicago.

"Buford is a very sure foal getter; his colts are all fine size, and are either bay or the color of blood. I do not believe there is a horse in the world that can show as many colts as he can, with such perfect limbs."

TERMS \$25—to be settled in all cases at first service, in cash, or note, due Oct. 1, 1865; also, groom's fee, \$1 00, payable at first service.

JOSEPH GRAND, Proprietor,
ROYAL HORSE BAZAAR,
Wellington Street, Toronto.

Toronto, January 20, 1865. v25-1t

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Subscription Price \$1 per annum, (POSTAGE FREE) payable in advance. Bound volumes for 1864 may be had for \$2.50. Subscribers may either begin with No. 1, receiving the back Nos. for 1864, or with the first No. for 1865. No subscriptions received for less than a year, and all commence with the first number for the respective years.

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