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The field.

Spent Tan-bark.

PILES of this refuse material may be had at the tanneries, and it is often a charity to team it away. The adjacent farmer may turn it to good account. When dry it is one of the best absorbents of liquid manure, and it is an excellent help in the formation of the compost heap. It makes a good application for heavy soils, without admixture with other manures, being useful not only by means of the fluid it has absorbed in the stables, but by acting during the rotting process as a divider and lightener of stiff land. A good way of preparing it for use is as follows: have a rough shed with a somewhat flat roof, near the horse and cow stables—employ leisure opportunities during the summer in hauling an occasional load of tan-bark—throw it on the top of the shed where it will speedily dry under the action of the sun and wind—have a board or two of the roof moveable, and when the bark is sufficiently dry, let it fall into the shed. In this way a quantity may be gradually collected for winter bedding. When thoroughly saturated with the fluids of the stable, it can either be mixed with the other material of the manure heap, or thrown into a separate pile for application to the land.

Spent tan-bark thoroughly dried may be used in small quantities as fuel, along with coal or wood, in furnaces and close stoves.

Fining Manure.

A very successful English gardener lays a good deal of stress upon what he calls "fining" manure, and attributes much of his success to this process. By "fining" he means breaking up the lumps, tearing in pieces the long, strawy parts, and bringing all into such a fine state that it can be thoroughly mixed with the particles of the soil. Having broken it up he mixes it with ashes, leaves, saw-dust, tan-bark, and all the refuse of his garden, laying it up in thin layers. When it has become partly decomposed, he overhauls it, turning it over with the shovel, and making it one homogeneous mass. After the heap has lain a few months, it gets another working, and then being thoroughly "fined" it is ready for use anywhere. Farmers may learn

a lesson from this example. It is plain that coarse lumpy manure cannot benefit land as much as that which is broken up and equally diffused through it: Liquid manure and guano act efficaciously, for this, among other reasons, that they are minutely divided among the particles of the soil.



Turnip Culture.

THE time for putting in this valuable crop is just upon us, the middle and latter end of June being the proper season for Swedes, and July for the White varieties. We would say to every one of our farming readers, be sure to sow a patch of turnips this year—the larger the better, provided you only attend to it properly. The hurry of spring work is over, and, with a little extra industry, you may provide an article for next winter's foddering, the effect of which, in eking out your hay, and keeping your stock in condition, will astonish you, if you have had no experience as yet in its use, which is the case with thousands of farmers in Canada. If the animals now grazing in your fields could speak in reference to the matter, their unanimous and earnest request would be for a juicy addition to their dry winter's meals, such as the crop now recommended so well furnishes.

A small turnip patch is better than none. Where is the farmer, however hurried or short-handed he may be, or however unsuitable his land, who cannot, if he will, prepare and sow at least an acre of turnips? Should he obtain but 600 bushels—which is about an average crop—he will have more than enough to give three milch cows, or other cattle, a bushel per day from the 1st of December to the last of May. The turnip crop is by no means a difficult crop to grow. An abundant yield may be had from new land, dragged before sowing, and harrowed after sowing, with a light brush harrow. Older land re-

quires more thorough preparation. It should be ploughed twice, thoroughly cultivated, well manured with rotten dung or compost, bone-dust, leached ashes, &c., and finally prepared for the seed, either by throwing up drills, or well levelling, as the one or the other mode of cultivation is preferred. The drill method is most commonly practiced, and it is usual to apply manure in the drills, as well as broadcast. If there be only manure enough for one application, it will tell more effectually upon the turnip crop, by putting it in the drills. No one should grudge the trouble of preparation or the expenditure of manure in turnip-raising. They will bring an ample return in the root-crop of the present season, but in addition to that, the land is left in such prime order, that the next year's grain crop is sure, other things being favourable, to be an extra good one.

Next to care in putting in the seed, a timely thinning and hoeing of the young plants is important. If they are suffered to go too long and become crowded, they acquire a spindling, weakly growth, which does the crop irreparable injury. The quickest way of thinning them is with a hoe about eight inches broad. A little practice will enable the hoer to strike with such precision as to render stooping and fingering the plants quite unnecessary. Once well thinned and hoed, the rapidity of their growth renders further attention unnecessary. Their broad leaves soon shade the ground, smothering down all weeds, and keeping the soil in that moist condition which is so favourable to rapid growth. Pulling and housing turnips may be delayed until all the other crops are secured, as they are hardy enough not to suffer from the first slight frosts. In taking the tops off turnips, it is important to avoid cutting too deeply into the bulb. The accompanying cut

will show how the operation ought to be performed. There are several kinds of turnips, the chief of which are the Swedes or ruta-bagas, and the common White turnip. The former is the hardiest of all the turnip family, and best suited to the Canadian climate. It keeps well, requiring only a temperature just above the freezing point. Should the Swedes fail, from attack by the fly or any other cause, the common White can be sown, which, though it will not keep well through the winter, answers an excellent purpose for late fall or early winter feeding.

If every rod of ground be occupied by other crops, it is possible still to have turnips. The stubble, or six weeks turnip, as its name implies, may be sown on a barley or wheat stubble. It resembles the common White Globe, but will not yield more than half as much as the earlier sown White kind. This, too, must be consumed before winter fairly sets in.



Tobacco Culture.

WE quote the following, from an essay issued as a circular, by the proprietors of a Tobacco warehouse in Kentucky, in reply to some enquiries from a correspondent, about the management of this crop.

THE SEED.—Among the various names, we give the preference to the Blue Prior. It does not produce as long, leafy staple as many other varieties, but, all things being equal, it yields a finer fibre and richer texture than most varieties, and is alike adapted to manufacturing and shipping.

THE PLANT BED.—In open weather in January, February or March, select a rich spot of virgin soil; clean the surface of all leaves, burn thoroughly, so as to destroy all wild seeds, then dig three or four inches deep, thoroughly pulverizing the soil, incorporating the ashes with the burnt earth; rake smooth, removing all litter, and sow at the rate of one table-spoonful of seed to one hundred square yards of surface. Mix the seed in dry leached ashes, say one quart of ashes to the spoonful of seed. It is best to sow the bed both ways—now rake again, then tramp with the feet and cover with green brush, without leaves. Remove the brush after the frost is out of the ground and the plants begin to cover the bed.

THE PREPARATION OF THE SOIL.—This crop requires the best soil that you have. "New ground" or virgin soil yields the finest manufacturing leaf; but old well-manured land will give a larger yield and a richer, heavier article, which will be sought by the exporters. The soil should be thoroughly cultivated before the crop is planted. The ground having been well ploughed and cross-ploughed and harrowed, you will lay it off three and a half feet each way, and raise a small hill in the check. You are now ready for

PLANTING THE CROP.—This you will do the first "season," after your plants are large enough—when the first leaves are three or four inches long, just as you plant cabbages, replanting, of course, until you get a stand. You will find many impediments in your way of getting a stand.

Field cultivation will bring into requisition the plough and hoe. The ground should be stirred at least once a week, and not a weed or sprig of grass be permitted to show itself. The last step in this process, or the "laying by of the crop," consists in drawing up the earth carefully around the plant with the hoe. At this stage your first planting will begin to "come into top," or has attained sufficient size to be topped.

Topping is simply arresting the growth of the plant by taking out the bud, and is best done when the terminal bud alone has to be removed; if it goes beyond this point much of the strength of the plant has been expended in the formation of leaves that are lost. "Prime" off the under leaves up to the first good leaf, which is usually a hand's breadth from the top of the hill, then top, leaving ten leaves at first topping and reduce as the season advances.

SCORING AND WORMING.—So soon as the growth of the plant is arrested by topping, it will throw out "succors" just above the foot stalk of the leaves and around the main stalk. These, with the horn worm, will demand your vigilant attention. Never let them get a start on you. Once a week will ordinarily suffice to keep them under. In the midst of this struggle with these two formidable enemies you will find the first planting thicken and changing its colour; losing some of its clear deep green. The leaf, if folded between the thumb and finger, will break readily. These are some of the evidences that it is ripe and ready for the knife.

The cutting process is very simple. Split the main stalk down to within two inches of the bottom leaf, then with one down stroke cut the plant off just below the bottom leaf, and in raising place it on the ground, resting on the top leaves; so soon as it "falls," or wilts sufficiently, gather up and lay eight or ten plants together with the hands to the sun. The best cultivators do not scaffold in the field, but "hang" on sticks, one end in the ground, and remove directly to the barn.

The curing of the crop is one of the most important steps, in its whole treatment, and most difficult to describe in the space of a circular. If house room is plenty it may be cured with but little firing, indeed without firing, but if house room is an object, heavy firing is necessary; it is always necessary when a dark rich colour is desired. Do not begin with large fires. Keep constant, gentle fires until you attain the desired colour, then press your fires day and night until the entire leaf is thoroughly cured. It now hangs until you are ready for the next step, and until it comes in "case" for

STRIPPING.—Whenever the leaf is soft enough not to break or crumble in handling, "strike down" and bulk; removing the plants from the sticks, you lay it

in bulk, the tails slightly lapping over to preserve the "order." Now, put your best judge of the article to sorting; he will take off all ground leaves, lugs or cullings, and the strippers will separate the different grades, putting the bright in one lot, separating the long from the short of the same class, the dark heavy shipping leaf to itself, the fine dark manufacturing to itself, &c. Tie in hands of from five to seven leaves, wrap smoothly with a slip or short leaf, make the tie not over one inch and a half long. Hang on sticks and "hoist" in barn. When it has thoroughly dried and again comes in case or "prizing order," that is when the leaf is soft and the main stem is sufficiently dry to break readily for one-third its length, from the larger end, bulk down as follows: Raise a platform on your barn floor, cover with boards, over them a layer of dry straw, and lay one or two hands at a time, heads out, a course the length desired for the bulk; then a similar course, so as to have the tails about meet; then a third course with heads about midway the first, and the fourth with heads midway the second, and repeat this process until the work is completed. Cover with boards and straw, and put the weights on practicable. You are now ready for

PRIZING.—Procure a good strong cask of all well-seasoned timber; the drawn staves are the best; avoid poplar and all soft, brittle wood for staves. The prizing process is an important one, and we recommend the following mode. Get a piece of board cut to fit the inside of the cask, say six or eight inches at the broadest point, lay this in the cask and pack the first course with the heads against the straight edge of your board, the tobacco of course laid at right angles with it. This course being completed, place the board on the opposite side and pack as before; next place the board at right angles with its first position and pack as before—then opposite this last position and repeat the process, and so continue until the work is completed. You will always find straight samples drawn from hogheads thus packed.

Never put into the hoghead more than one hand at a time, and let that be carefully straightened and pressed in the hands of the attendants of the packer before it reaches him.

If your tobacco is ripe, rich, and of fine fibre, from 1,200 to 1,500 pounds is enough to put in a hoghead. If very fine or bright, 1,000 pounds is heavy enough. In "turning out" your hogheads, leave space enough to secure well the top head; see that it is well fitted and securely "lined;" then nail all the hoops, and mark your name plainly on both heads and across the staves, putting on it your private number.

Note in your memorandum book the quality and order of each hoghead, and furnish your commission merchant with a copy of it.

Valuable Testimony in Favor of Drainage.

To the Editor of THE CANADA FARMER:

SIR,—Although the notice which has lately been attracted to the subject of underdraining in this country has not been entirely unproductive of practical result, yet the extent to which the system has been adopted has, up to the present time, been so trifling in comparison with what might have been expected from the important benefits to be derived from it, that there has been little encouragement to any effort to keep the matter before the public. Success, as a general thing, is the test of merit, and as in spite of thorough draining and other high cultivation I have been unsuccessful in avoiding the attacks of the midge and army worm, which have been so destructive in all the old settled parts of the country for many years past, I have felt disinclined to pursue the subject until the passing of these scourges left me better results to communicate. Last year my wheat was a decided improvement, one field yielding 29½ bushels per acre, while the crop in the neighbourhood ranged from 4 to 8 bushels, rarely going beyond 10 or 12, and I have heard of few as high, but none higher than 20 bushels per acre. My barley, however, having been sown very early, though in the first period of its growth giving the brightest promise, was with, I believe, all barley sown at the same time, almost entirely destroyed by the midge, and only gave 13 bushels per acre. This year, in consequence of my experience of last year, I made up my mind not to sow before the 15th May.

I now come to the point which has determined me to bring this subject forward again, namely the remarkable effect the draining has had upon my lands during the whole of this very wet season. The most sceptical observer could not have further doubted on

witnessing the condition of my drained lands. At any time during the spring they might have been ploughed to the greatest advantage. During the last four days of last week, and the Monday of this, being from the 11th to the 16th May, I ploughed and harrowed in 20 acres of barley and seeded the land with clover. About half of the field is low clay land, and I think there are few lands, if any, of that description that could have been so treated during those days. What particularly arrested my attention, however, were the circumstances attending a drenching rain, which fell between 11 o'clock and noon on Tuesday—a partial storm, which did not extend more than three miles south of the town line of York and Vaughan, and thence in a westerly direction. It was the most violent down-pour of rain I ever witnessed, surface drains, ditches and culverts which have previously been ample to receive and discharge the water being overflowed and washed out. Several rods of plank were washed away from some of the roads, and although the rain only lasted less than forty minutes, the water in the Humber River was immediately raised more than twelve inches. The fields of my neighbours at once became as it were the beds of rivers wherever there was an opportunity for the water to gather, running off in bodies of from two to three square feet from areas of four or five acres. Yet for all this, not a drop of water gathered on the surface of my fields. Where they were thoroughly drained, none, of course, ran off; and what is yet more remarkable, the flow of water was not perceptibly increased from the outfalls, the land having been previously left so dry to the depth of the pipes that it was in a condition to receive and absorb all that fell as fast as it came.

I will not at present trespass further upon your space, but hope that my experience may encourage me to address you again at some future time on the subject.

HUMBERFORD.

West York, May 18, 1864.

Horse Pitch Fork.

To the Editor of THE CANADA FARMER:

SIR,—As hay-making will be upon farmers in a few weeks, and Mr. A. B. C., of Howard, wishes to know, through THE CANADA FARMER, about a horse pitch fork, I will give you a description of one which I have used for some years, and which I find to be a great saving of labour and time. Two men and a boy can, with the team with which they haul the hay in, unload a ton in fifteen minutes, raising it 25 feet high. It lifts about 200 lbs at a time, and costs about \$10. I have two blocks made of 1½ inch plank, 12 inches wide and 18 long, a cross-piece at each end, the thickness of the wheel, and bolted together. The wheel is cast iron, 10 inches wide and 1½ thick, and hollow on the outside. I hang the one block to the point of a pair of rafters, a little back on the mow, so as to swing the hay in over the beam, the other I pin to the post at the corner of the door as low as possible. The chain is about 60 feet long, of ½ iron, with a small hook on one end so as to pass through the blocks and hitch to the whippetrees. The other end is made forked for 2½ feet, with a bolt on each end 5 inches long, for putting through the head of the fork, which is made of oak, 4 inches square and 3 feet long. It has 4 prongs 22 inches long and bent to about the shape of a teeth hook, and 10 inches apart, they stand straight out when the handle stands up; it is 3 feet long. The chain comes down the back of the handle with the bolts put in from the same side as the prongs so as to balance the fork; a 3 inch ring is put through a link of the chain near the top of the handle, and another about 6 inches higher for a rope to go through and tie to the outer end of the ring below it.

The man on the waggon presses the fork into the hay with his foot, and slips the ring into the end of the handle, and gives the word to start. When the hay is high enough he pulls the rope which lifts the ring off the handle and lets the fork tip forward, and the hay falls. I use this fork for filling my stable loft, by opening the gable about 8 feet wide and hanging the one block to the point of the second pair of rafters, and the other to a stake fastened in the ground on the outside of the waggon.

A. H.
Rossville, May 27, 1864.

Mr. Blasard's Board Drains.

To the Editor of THE CANADA FARMER :

SIR,—Your Mornington correspondent wishes to know more particulars about the wooden pipes for drains, that I mentioned in the 6th number of your paper. The top and bottom boards are 4 inches wide, any length you choose, but 4 or 5 foot long is the handiest, side pieces 2 inches projecting 4 inches forward, so that they slip 4 inches into the next pipe at the sides. Your correspondent is afraid the pipes will not let the water in. I thought so myself at first, but you cannot keep it out, for willow roots will grow into the pipes, in low ground where they grow, and choke them, and the pipes will burst and the water come out to the surface. I suppose the water gets in at the saw marks at the sides, as well as the bevels at the ends. I have seen the water coming out of the pipes at the end of the drains, as much as the pipes would hold. Water will follow wood. You may put single rails into drains and the water will follow to some extent, but when stone drains are filled up 1½ or 2 feet with loose stones, sand and earth will run in and choke them. They are like a mason's wall, built with mortar—no water can get in. Most of my land lies sloping to the south or east, and there are layers of sand in some places about 3 feet from the surface, and 2 inches thick. When the land is wet this sand becomes quicksand, and runs into the drains: undermining the land above the drains so that the surface drops down. I have put 10 loads of stones in these holes, and it still undermines above these stones, if not stopped by sods or something else. This device may be of use to some farmers. It would have saved me hundreds of dollars if I had put pipes in place of stones, as pipe drains do not cost one-half what stones do. Stones laid in the bottom, on each side, and covering on the top, do not choke as soon as stones filled in loosely.

I dig stone drains 3 feet deep, drains for wooden pipes 2 to 2½ feet deep. Pipes cost about a cent a foot, boards, nails, and labour; 80 nails to the pound and 2 nails to the foot, will nail together 40 feet of pipe.

J. B.

Otonabee, May 28, 1864.

Read's Patent Subsoil Plough.

To the Editor of THE CANADA FARMER :

SIR,—Your correspondent "G. Y." of Ormstown, Canada East, wishes to be informed where he can obtain a good subsoil plough. I have no hesitation in stating that Read's (English) Patent Subsoil Plough is one of the best—I consider it the very best—ever invented. I have seen a great number, but not one that can break up a hard pan equal to it. Two horses will break up the hardest subsoil with it. It is very simple and easily made. I have one, imported several years ago. I am known to most, if not to all, of the farmers in Ormstown. I will, with much pleasure, loan my plough to their Agricultural Society, so that they can put it in operation and, if approved of, get one made.

The Society paid me a high mark of respect, in the *Huntingdon Herald*, 27th September, 1862, for what they were pleased to say the benefit I had rendered to that part of the country. They will, therefore, know who I am and how to address me. My plough was the first of Read's imported into Canada.

AN OLD SUBSCRIBER.

May 10, 1864.

How to Lay Drains in Quicksand?

To the Editor of THE CANADA FARMER :

SIR,—Having had considerable experience in draining in Aberdeenshire, I would suggest, in answer to the above enquiry, that the drain be opened from the mouth to the top; then commence at the top, lay a board in the bottom, and one, two or three drain tiles, as the quantity of water may be, cleaning out the drain as you proceed to the mouth; at the same time not forgetting to provide yourself with some tough June grass-sod to lay above the tiles, beating them hard down at the edges, so as to be close to the bottom board, and not to allow any water to enter the pipe, but by filtering through the sod, the sod will keep out the sand.

WM. WOOD.

Mornington Harvey, June 1, 1864.

COVERED MANURES.—A late number of the *Journal of Agriculture* contains a statement of the result of an experiment made to determine the relative value of manure made under cover, and that exposed in the barnyard. Both manures were applied to potatoes in equal quantities. The yield on equal portions of land was as follows:—Manure from barnyard, 252 bushels per acre; manure made under cover, 297 bushels per acre.

ERADICATION OF THE OX-EYE DAISY.—J. J. Thomas states in the *Country Gentleman* that on a farm which he lately visited in Pennsylvania, the ox-eye daisy has been so thoroughly eradicated that not a plant could be seen, though it is generally abundant in the neighborhood. The mode practiced for its extirpation is to plant two hoed crops in succession, usually Indian corn, both being well manured, to be followed by wheat and seeded by clover. The few weeds which show themselves are dug up.

A FLAX CROP.—A correspondent of the *Country Gentleman* gives his experience in flax growing as follows:

"About the first of May I sowed 4½ acres of well ploughed corn-hills, at the rate of one bushel of Saplin seed per acre, harrowed once before and once after sowing. Paid \$10 per acre for pulling, and \$2.50 for whipping off seed. Had it whipped and rotted last fall. I got about 50 bushels of seed, which I sold for \$3 per bushel, and sold the rotted straw for \$55 per acre, which, after paying all expenses, leaves a very good profit."

CLOVER AND GRASSES ENRICH THE SOIL.—The *Maine Farmer* well remarks: "Ploughing under a thick, heavy grass sward furnishes an ample manuring for several successive grain crops. The decomposition of the abundant roots and stems of the grass supplies nutrition for the growths of a different character, and having a greater money value to the farmer. Hence it may be good policy for the farmer to give a large share of his labor and attention to producing a heavy growth of grass on all lands when devoted to this crop, knowing that this most cheaply and effectively prepares his soil for the production of other crops." This is true, especially in the case of clover.

NEW SPECIES OF POTATO.—The *Gazette du Village* calls the attention of farmers to a new species of potato, called after its propagator the Chardon potato, of which the produce is on an average seven times as great as any potato hitherto cultivated. Some market gardeners in the neighbourhood of Paris have observed that the Chardon potato is very productive, very healthy, and of a luxuriant vegetation, even in poor land, determined to cultivate it on a large scale. They consequently planted several fields, being convinced that they should derive a greater profit from the propagation of the new root than from the cultivation of any other description of potato in use. They did not recollect that the Chardon is exclusively suited to the feeding of cattle. The numerous retailers of fried potatoes in the streets of Paris found it very advantageous for their traffic, as it requires but little grease; but their customers were not so well pleased. They, as well as the housekeepers who purchased it for the table, found the flavour detestable, and declared that they would not be treated as oxen or cows.—*Times' Paris Letter.*

A FEW FACTS ABOUT STRAW.—We rely pretty much upon straw as a manure—too much. There is little strength in straw, such as we generally find it, ripe—we may say over ripe. It is however very beneficial in one respect—it attracts the strength of other real manure mixed with it, that is, it fixes the ammonia, the most important part of all manure. In this way it acts like soil plaster, muck, &c., by retaining the gasses. There is another thing for which straw is good, it is good to feed, when properly produced and properly managed. There is great difference, as we have before repeatedly stated, in harvesting straw. If cut when yet green, it amounts to hay, especially pea and oat straw. If cut early enough to just secure the grain, when the berry is somewhat soft, straw produces sixteen per cent nutritive matter, according to a recent English authority, whereas, when fairly ripe, there is but ten per cent, while over-ripe straw has but three per cent. This is important information, and should by all means be remembered and acted upon. It must further be remembered that this same rich straw makes so much the richer manure. But there is another thing. Straw, when fed with grain, is better, goes farther, than if fed alone. Why it is so, we have not ascertained. We have always found it a benefit; and we find many people indulging in the same practice. Good, nutritious straw is probably as good, fed with grain, as hay; we mean the best kinds of straw, such as pea straw, oat and barley straw. These straws, when early cut and properly harvested, are under-rated as feed for stock.—*Valley Farmer.*

NOVEL MODE OF MAKING HAY.—We have alluded repeatedly, in our columns, to the successful method of hay-making pursued by our townsman, Gen. James D. Thompson. On Saturday last he filled our office with delicious fragrance, by bringing in a sample of hay, cured by still another process. The grass, cut about 11 o'clock in the forenoon of a day in July last, was immediately packed closely in a cask, the head of which was at once put in, its hoops driven, and the cask rolled into a shed. There it remained untouched until Saturday, when it was opened, and its contents were as sweet as the day when they were first packed. There were all the freshness, greenness and aroma of new-mown hay—not a suspicion of mustiness, nor a sign of decay—it was bright, flexible and juicy. At the present price of casks, this mode of curing hay would be expensive; but our neighbour suggests that grass, cut as this was, might be screwed into bundles in the field, and thus be equally well preserved.—*New Bedford (Mass) Mercury.*

WHAT AILS SOME OF OUR WHEAT LAND?—Some of our wheat crops are failing, not from the midge or fly, but the crop is deficient—not what it used to be. There are many such cases. These crops are generally grown on the same soil where wheat has been grown for years—in some instances, always. The difficulty here is, the ammonia of the soil is taken up—the soil lacks this ingredient, which is the principal ingredient in wheat. For other grains the soil is as good, or nearly, as ever. To make it good again for wheat, simply apply ammonia. This can best be done by the manures which most contain ammonia, and they are such as draw their strength largely from the atmosphere, such as clover and peas, and the root crops. These fed and the manure applied will give you wheat. So will the manure from oats fed, and some other nitrogenous grains. This manure will also hasten the ripening of wheat, and tend to give plumpitude to the berry, whereas, the other manures, obtained from straw and green crops plowed in, will grow straw, and have a tendency to keep green longer. F. G.—*Valley Farmer.*

SPRING WHEAT.—A New England farmer gives his reasons for sowing spring instead of winter wheat as follows:

In the first place, the weevil is pretty sure to attack it if it blossoms when the fly is ready for it. To avoid this difficulty the seed should be put in early. To accomplish this the plowing should be done late in the fall. A slight coat of manure on the surface is what I begin with in the spring. The ground is well harrowed and levelled. The wheat is washed, poured upon the barn floor and thoroughly coated with slaked lime. My grass seed is mixed with the wheat.—It is all put on the ground together, thoroughly harrowed and levelled. Thus managed, my crops are all good, and six years of this kind of experience gives me full confidence in the plan.—Good crops are raised on sward ground, turned under in September, and treated in the spring as described above. The exposure of the soil to the frosts of winter prepares it for grain, and the straw will stand up better and the grain will be more perfect than when the plowing is done in the spring.

THE ROLLER.—There is no better pulverizer to follow the plough than the roller. We have evidence enough of this fact. No matter how cloddy the ground lifts, if the roller follows, crushing the clods as they are freshly turned, the action of the sun and air will do more towards completely pulverizing these clods than a thorough harrowing and cross harrowing. This is of importance to farmers who may have occasion to turn dry stubble land early in the autumn with a view to seeding it with fall grain. Let the roller follow the plough before seeding. It will scarcely be necessary to touch it with the harrow, if the rolling is done the same day the soil is turned. The soil is left with a smooth surface on which the grain falls, and which is likely to ensure its being covered to a uniform depth; or if to be drilled in, this work is better done; but more important than all, an excellent seed bed is secured, in which the seed will germinate and grow quickly and continuously, without the aid of a shower, for a packed surface secures moisture generally.

If the clods are allowed to get thoroughly dry, the good effect resulting from the use of the roller is much diminished thereafter. It cannot be too strongly urged that this work of rolling be done as soon after the ground is turned as possible.

And, talking of the roller, it should be here asserted that a farmer can just as profitably put in crops and cultivate his soil without a harrow as without a roller. It is gratifying to know that very many farmers have learned this fact; but there is still a large per centum who are either ignorant or indifferent respecting it: It should be impressed upon them.—*Rural New Yorker.*

The Breeder and Grazier.

The Clydesdale.

This breed of horses, now almost exclusively employed for farm and road work in the Lowlands of Scotland, derives its name from the district—the valley of the Clyde—where it has been bred and improved for a great number of years. The County of Lanark has long been distinguished for its powerful and active draught horses. Situated in a mining and manufacturing district of considerable extent, having the flourishing city of Glasgow for its centre, the kind of carriage employed for the transport of minerals and manufactured goods, being the single-horse cart, the horses required were those which should combine with weight of body a considerable degree of muscular activity. By perseverance in a judicious selection of animals intermixed in blood, formed on a common model, a breed has been produced of well-defined character. It is to be found not only in Lanarkshire, but likewise in the neighbouring counties of Renfrew, Ayr, Dumfries, Galloway, and, indeed, throughout most of the low, rich lands of Scotland, where it is almost the exclusive breed employed for draught. We were much impressed with the fact, while attending the Highland Society's Show at Dumfries, in 1860, to find the Horse department consisted entirely of the Clydesdale, for among the splendid collection of animals, it was only here and there a solitary specimen of any other breed could be seen.

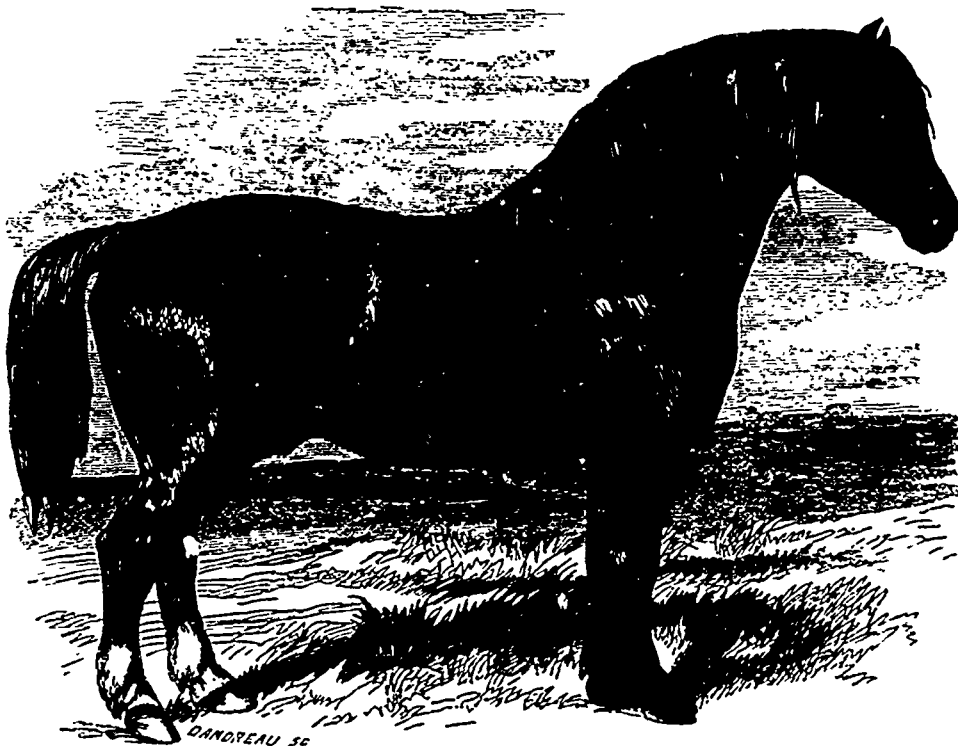
The Clydesdale is said to have originated from a cross of a number of Flemish stallions imported by a former Duke of Hamilton, and crossed with Lanark mares. This fact seems to be well established. But, observes Professor Low, it may likewise be believed that horses from different sources have been, from time to time, introduced into the populous mining and manufacturing district of this part of Scotland, and thus the breed of Clydesdale is really of very mixed lineage, although its distinctive characters have been communicated to it by the blood of the Black Horse.

"The Clydesdale breed of horses as it now exists, is of the larger class, the ordinary stature of the individuals being sixteen hands. Their prevailing colour is black, but the brown or bay is common, and is continually gaining upon the other, and the gray not unfrequently manifests itself, although the parents should have been dark. They are longer in the body than the English Black Horse, and less weighty, compact and muscular; but they step out more freely, and have a more useful action for ordinary labour. They draw steadily and are usually free from vice. The long stride, characteristic of the breed, is partly the result of conformation, and partly habit and training; but, however produced, it adds greatly to the usefulness of the horses, both on the road and in the fields. No such leads are known to be drawn at the same pace by any horses in the kingdom as in the single horse carts of carriers and others in the west of Scotland; and in the labour of the field these horses are found to combine activity with the physical strength required for draught."

The Clydesdale horse is larger than the modern

Suffolk, and has a better head, a longer and very handsome neck, a lighter carcass, and deeper legs. He is hardy, has a firm and quick step, pulling true, and generally of a docile disposition. His general characteristics are short and well formed legs, and strong, thick, and compactly formed body, a fine handsome head, and well set on neck, wide expanded nostrils, full chest, well laid back shoulders; deep from shoulder to heart; round well formed ribs; short back; strong loins, with short couplings, long well formed hind quarters, sound well turned hips, tail well set on, strong hocks, strong flat bone, but not coarse; sound, good feet; heavy legs and full of muscle; colour black, brown, or grey.

Mr. Aiton, in the *British Farmers' Magazine*, remarks:—"The breed of horses generally, though erroneously, termed the Lanarkshire or Clydesdale breed, is the most valuable breed of draught horses in Britain, and that not only for farming business, but for every description of work where strength, agility, and docility of temper are required, that are any where to be met with; and that whether the ground or roads on which they are employed are hilly or more level. They are natives of every county of Scotland, south of the Tay, and therefore ought rather to be denominated the Scottish breed of horses.



In all moorish districts, and even when the lands is of a medium quality, the farmers keep some mares, who, besides bringing them a foal every year, or second year, perform their ploughing and ordinary light farm work, as well as the horses, except a few months in summer when suckling their colts; and at that season, farmers of that sort of land have but little work for their horses, while their colts bring them often good prices. This mode of rearing young horses, does not prevail in Lanarkshire more than in all the other southern and middle counties of Scotland, and the breeds of horses in all these counties, are much the same as in Lanarkshire."

In every district of Scotland, the horses used in agriculture have been raised principally from the original native breeds, and still retain their properties, being hardy, and remarkable for activity and strength, which they can apply with great spirit in the draught, and many of them are fast trotters, and walk well, a great property in the farm horse, as it is his superior step in walking that renders him so valuable in farming purposes, which require to be done with great despatch at all seasons of the year.

It may not be uninteresting to observe in this con-

nection, that in ancient times the chief employment for horses in Scotland, as in other countries, was in war. wheel carriages were not in use, from the badness of the roads, and oxen were chiefly used in agriculture. In 1327 horses were numerous in Scotland, as Randolph, Earl of Murray and Douglas, made an invasion into England with no less than 20,000 horses; and it appears that, during the reign of James III., Spanish horses and mares, and also horses from Poland, were introduced into Scotland for the improvement of the breeds; and it is known that an Arabian horse reached Scotland 450 years before we have any authentic records of this breed being introduced into England, which in some degree accounts for the original native breeds of Scotch horses resembling the Arabian and Spanish in colour and other characteristic marks.

From the earliest times a breed of horses has existed in Scotland known by the name of Galloways, from their first being brought into notice in that district. These were so much esteemed in former times that it became necessary to restrict their exportation. It has been often reported that this breed originated from Spanish horses that escaped from the wreck of a vessel of the Spanish Armada; but it appears more probable, from some passages in Shakspeare, that the Galloway horses were in repute at an earlier period. The inhabitants of Scotland being engaged in constant predatory warfare, great value would be attached to light, active horses, peculiarly adapted to climb over high and rugged mountains, and to endure fatigue, cold and hunger to a very great degree. The breed being thus constantly improved by the most hardy, would soon attain that excellence for which it has been so justly prized; but when tillage came to be an object of importance and particularly after the introduction of wheel carriages and two-horse ploughs, larger horses were found necessary, and farmers perceived the advantage of increasing the size of the native breed of horses, by better feeding, and from the improvements

in agriculture a more ample supply of food was afforded at all times. The original native breed, formerly known by the name of Galloways, which are of a smaller size, are now extinct, or at least only found in a few moorland or less cultivated districts.

"The Clydesdale Horses," observes Professor Low, although inferior in weight and physical strength to the better class of the Black Horse, and in figure and showy action to the draught horses of Northumberland and Durham, yet possess properties which render them exceedingly valuable for all ordinary uses. On the roads the individuals perform tasks which can scarcely be surpassed, and in the fields they are found to be steady, docile and safe. It is important not only to the district which produces them, but to all the others to which they are carried, that a due attention be given to a development of the useful properties distinctive of the breed. In Clydesdale, some breeders apply themselves to the rearing of stallions, and exhibit in their practice the skill and liberality which can be desired; but in the case of the mass of breeders in the district no peculiar energy or skill is exhibited. They are too easily contented

with cheap and inferior mares, and not always sufficiently aware of the importance of employing stallions of the first class."

This valuable breed of horses has not yet perhaps been sufficiently tested in Canada as its merits deserve. A few stallions have been imported at different times, and some good stock has been got out of our native mares; but somehow or other a pretty wide spread impression seems to prevail that they are too heavy and not sufficiently active for the wants of this country. Of course they will become fatigued when driven beyond their usual pace, which, compared with their great muscular power, is by no means a slow one. For deep cultivation and the drawing of heavy loads singly in carts the Clydesdales are certainly unsurpassed, if equalled, by any other breed, when their agility is considered. Of late years more pains have been taken in their breeding, and the long legs and slender frames which formerly characterized too many individuals have been superseded by opposite qualities. Some very powerful and active animals have recently been obtained in Scotland by putting the best selected Clydesdale mares of good action, to *thorough-bred*, strong boned, well-formed stallions; the progeny are found to move quicker in the plough, and to answer the road better; and if got by the very strongest thorough-bred horses they prove sufficiently powerful for all descriptions of farm work.

The accompanying engraving, from a copy by Harrison Weir, represents a Clydesdale cart horse sixteen hands two inches high, the property of the late Prince Consort, and purchased by him for five hundred pounds. By comparing this engraving with one we gave of the Suffolk Punch, in a recent number, the reader will perceive that the modern Clydesdale, though higher in the body, is shorter in the legs than the latter. The illustration will also afford a correct general idea of the characteristic features of the most recent and approved type of this excellent breed.

Mule Growing at the West.

Mules are chiefly grown in Southern Ohio, Indiana, Illinois, Iowa, in the States of Missouri, Kentucky and Tennessee. The improvement in mules has been very considerable—Kentucky taking the lead. Henry Clay imported the best Spanish jacks, and that blood has now diffused itself throughout the west. The small Santa Fe jacks are unsought, while jacks weighing 1000 lbs. and standing fourteen hands high, are frequently met in the mule breeding districts. Jennies of large size and beautiful form are bred and sell readily for more than horses. Lovers of horses seem to affect surprise that any man should fancy the mule. In our acquaintance with mule growers, however, we find their attachment for their favorites fully as strong as that of horse growers.

A large and superior jack is the first requisite in mule growing. To produce such the largest and finest jennies are sought and carefully bred to the best jacks. The product of first class animals, whether male or female, sells at fabulous prices. The jacks should have a large bony leg, a large head and large ears with a long wide-bowed or Roman nose. He is a homely, strong, and long-lived animal; and, well-bred, sells readily for from \$500 to \$2,500. A superior pure Spanish jenny sells at from \$400 to \$500. The next necessity is mares of good health, size and blood. The offspring of a first class jack and mare in Southern Illinois sometimes measures three feet six inches in height. A jack colt has measured at birth three feet four inches.

In profit mule breeding properly followed with good stock, exceeds any other branch of western husbandry. They are early servicable, always in condition for work, hardy, efficient, seldom diseased, long-lived and always find a ready market. We have Illinois farmers whose sales of mules have annually reached \$4,000, and this from a homestead of not more than 400 acres. The range outside the farm was used as occasion required for summer pasturage. The market for the mule is ample in its demands and capable of consuming a much larger supply. All the slave working States use mules, also California and Oregon and all the territories. The present war cuts off the Southern demand but opens a new one in mules for the army use, and will in the end give a wider market range, as it will convince many

men of the utility of mule labor who never knew before the worth of the mule.

The show of mule jacks and jennies at the last Illinois State Fair was magnificent. Henry Tanner, of Christian County, showed a jack for which he paid in Kentucky \$1,500—others little inferior were shown. Mr. T.'s jack was as large as a common farm horse and stood upon the most massive legs we ever saw. We were pleased to witness the interest felt in this pursuit.

For fatiguing labor no animal surpasses the jack or mule. In economy of keep and cost of service rendered it is one universal verdict in favor of the mule as against the horse.—*Am. Stock Journal*.

Lice on Cattle, &c.

Mr. HARRIS LEWIS, an excellent dairy farmer, of Herkimer county, thinks that a man who winters a good, thriving stock of lice, on say forty head of cattle, does so at an expense of about \$200. He informs the *Country Gentleman* of a remedy which has proved cheap, safe and effective with him, and which should be borne in mind by stock farmers for future use, viz: He rubs a small quantity of unguentum (mercurial ointment) on the *stanchions* in his stables, for a distance of perhaps two feet, up and down, covering the edges which the cattle come in contact with. As this does not kill the nits, the operation is repeated at intervals of eight days, three times, by the end of which period they will all be pretty certainly hatched out and destroyed. A fourth application may be required, but he finds three almost invariably enough. A small quantity is only required, a very light coating serving the purpose, and by this method of application the cattle cannot get at it with their mouths, or otherwise receive any injury from it.

Another point in Mr. L.'s management worthy of note is this: He keeps salt in tubs in his cattle yards, constantly accessible to the stock, with which is mixed sulphur, in the proportion of about a table-spoonful to a quart of salt. This practice was begun some years ago as a precaution against the murrain, for which purpose it was found effective, and it has been continued from the favorable influence it exerts upon the general health of cows. Since its use, Mr. L. has had but a single case of *garget* in his herd, and he ascribes this exemption from that very troublesome difficulty among dairy farmers, solely to the use of sulphur.—*Genesee Farmer*.

A horse in New Bedford, valued at \$400, died of lock-jaw occasioned by docking his tail.

A MONSTER HOG.—John W. Copeman, of Cayuga county, N.Y., it is said, has a cross-bred hog, stated to have weighed in May last 1120 pounds, in September 1249 pounds, in October 1276 pounds, and in December he weighed 1340 pounds, and has been growing rapidly since, and will probably now weigh 1400 pounds. His breed is said to be Leicester and Suffolk, with a slight cross of Berkshire.

THE ABERDEEN CATTLE TRADE.—A GOOD WEEK'S BUSINESS.—Most people know that we have a number of respectable and very enterprising dealers in cattle, located in our Market-Buildings, and at a few points over the county, but most people have no very definite idea of the actual extent of business done by these gentlemen. On a late occasion we took the opportunity of showing that the transactions in cattle and sheep in Aberdeen for the London, local, and other markets, amount as near as may be to £1,000,000 per annum! And we learn on reliable authority that the monies remitted through the local banks for cattle sent to the great Christmas market just gone past, added to the sums which one or two dealers who were in London brought down in their "breast pouches," amounted to about £78,000! Rather a handsome sum certainly; but its amount will not seem incredible if we take into account that one firm (Messrs. Martin) alone sent nearly 200 cattle, the average value of which per head would exceed £30.—*Free Press*.

FEED AND CARE OF COLTS.—A writer in the *German-town Telegraph* gives the following directions on this subject:—"Wean the colt at five months old, first teaching him, while sucking the mare, to eat oats. When taking from the dam, confine the colt closely, and put them out of hearing of each other for one week. During the first winter feed daily two quarts of oats, and all the hay the colt will eat. This, with good warm shelter, will keep him growing and improving. Don't turn out in spring till the weather is settled and warm, and a full bite of grass. The first year makes or ruins the colt. It is the most important of his life. Keep him fat the first year,

whatever you do afterwards, for this year decides whether he is to be a full grown horse or a miserable pony—no after care can atone for neglect during the first twelve months. Good pasture (mountain, if possible), the next season, and plenty of hay the next winter, with a quart of grain, if convenient, will bring you a finely-formed, powerful two-year old."

WATERING HORSES.—The quantity as well as quality of the water given a horse will greatly affect his condition. Perhaps no animal is more distressed by thirst than the horse, a fact not generally known, or if known, not fully appreciated. Horses should be watered regularly, when not at work, as well as when at work, provided, in the latter case, that care is taken not to let him have it when overheated by work. Irregularity in the supply of water is often followed by a refusal to partake of solid food, and more frequently by colic and founder, in consequence of his drinking inordinately when an opportunity offers. For horses, when they are not at work, it is perfectly safe to keep a supply of pure water always within their reach; but as before remarked, there is some danger in this plan when they are worked or driven, and are likely to become overheated.

There is a very certain way of determining when a horse has been neglected. If the master, on entering the stable, and lifting the water bucket, finds the animal placing himself in an attitude of expectation, and eagerly gazing upon the vessel, it is point blank evidence that his usual supply of water has been withheld. Whenever it is possible, let the horse have water from a running stream.—*Stock Journal*.

LETTING BULLS RUN AT LARGE.—The only apology for such practice can be that it *saves trouble*! A lazy, shiftless apology only. A bull at large is in nine cases out of ten breachy. He is always uneasy; goes boo-hoo-ing continually about the field, first in one place, then another, never quiet—never content, and always poor in condition. A cow from the moment she inclines to come "in heat," is incessantly beset by the bull's importunities, and half the herd are annoyed by the "ramage," and disturbed in their feeding or rest, occupying generally a day and night before the "flurry" is over. The bull sometimes gets cross and dangerous to passers by, if not to the herdsmen and boys in charge of the cows—dangerous always if such be the case. The only sure and proper way to keep a bull, is to have him tied in the stable, or confined in a small paddock or yard by himself. Then he is under command. If a cow incline to "heat," it can be surely known at milking time, either at morning or evening. When that is discovered, if at the proper season to put her in calf, introduce her to the bull, and when served, separate her from him and tie her up in her proper stall in the stable, and keep her well fed for the day or night, until her "heat" is over. Then, when turned out, she will be quiet, and give her usual yield of milk. The only extra trouble or expense in this practice, is that of feeding the bull. In the foddering season he must be fed hay; in the grass-growing season, if stabled, grass must be cut for him, or whatever other feed is given must be prepared. The out-going expense is trifling.—*Cor. of Country Gentleman*.

INFLUENCE OF SUNLIGHT UPON STOCK.—How few, even for a moment, are willing to give this subject the attention it deserves. To suppose that an animal confined in a dark, damp, unventilated stable will thrive, and be able to yield the same profit that it would if occupying a place the reverse of these, is to suppose an impossibility. Disease, though it may not at first be apparent to the eye, is, nevertheless, doing its work, and in some way will make itself felt to the loss of the owner. Hogs that have their pens so the sunlight can be freely admitted, thrive better and are more easily fattened, than when confined in pens, where the rays of the sun can never penetrate. So with horses. Serious diseases are engendered from badly constructed stables. The horse is fond of fresh water and light, and his stable should be provided with means of thorough ventilation and the admission of the sun's rays. He enjoys these quite as much as his master, and it seems thoughtless and cruel to deprive so good a servant of that which costs nothing, but yet serves to make him happier and more contented with his lot in life. Doubtless animals, like men, have their gloomy days, in which things are turned topsy-turvy; and could their feelings be expressed in words we doubtless should hear sad stories of their being compelled, under the whip, to do heavy and exhausting work when sick, and of being deprived of comforts through the ignorance and thoughtlessness of those who have them in care. If any one doubts that sunlight has a beneficial influence on health and spirits, let him compare his feelings during a long term of cloudy, wet weather, and then again, when every day is pleasant with warm, bright sunshine. The difference, we think, will be observable, at least with most persons.—*Dairy Farmer*.



The Dairy.

Science in the Dairy.

If there is one thing more than another from which the public suffer, it is from want of science in the dairy. It is now about the only trade or business into which science does not seem to have penetrated. Where one person makes good butter or cheese, hundreds manufacture the most atrocious stuff which goes to market as those articles. There is not the owner of a breakfast or tea-table in any city in Canada, who might not be called as a witness to this fact, and we are sure the public will agree with us, that where one pound of good butter is offered for disposal, there are a hundred separate pounds of bad, and yet all have the same article to work on. All milk when newly drawn from the udder of the cow is good, provided the cow is in health, and has been only decently fed, and when the cow's health fails the milk ceases, or the quality is so bad that even the most depraved will not pretend to use it for human food. Having, therefore, a good raw material to work upon, all the mischief must occur after its production, and it is in the subsequent process that the want of science is felt.

As the milk leaves the cow it is pure. It may be better adapted for cheese than butter, and vice versa, and here the first step in science is required. We ought to be able to determine its quality as for cheese or butter by some instrument in the nature of a Hydrometer. Who has not seen good butter produced from the most unpromising management, and on the other hand who has not seen the result of the best and most expensive dairy management end in the most lamentable failure? Now, it is the business of science to ascertain why one person makes a good article of manufacture, and another equally well situated makes a bad one.—the first eliminates or carries out some principle unknown to the other, and the object of scientific research is to ascertain the why and the wherefore, and to record the cause of both success and failure, in order that others may attain the one and avoid the other.

A step in the right direction has been made in the neighbouring Republic by the establishment of cheese factories. In these establishments they collect the milk from a whole district, taking it from the best, and worst producers, but making it into a good merchantable article, and which must be above the average quality, or the demand for it would cease. We have in this instance all theories as to food, pasture, breed of cattle, scrupulous cleanliness, &c., &c. set aside,—the milk is collected from hundreds of cows, differently fed, and differently managed, and yet the produce is nearly if not quite alike.

Butter is no doubt a more delicate affair,—the naturally strong flavour of cheese absorbs and overwhelms more delicate flavours, and it is in the delicate flavour of butter that its goodness consists, but nevertheless we know that much of our very best butter is made where the owners of the cows are poor. Where the cows are fed by the roadside, and on any slops available; where the milk-house often consists of a mere hole in the ground under the floor of a dirty cottage, where the milk pail is the first article that comes to hand, and the pans and churn are make-shifts,—also, where if extreme cleanliness is used in the butter it is the only cleanliness that is used about the premises, and where suspicion is most

strongly against such being the fact. Then, again, even amongst the best makers, they very seldom make it all alike; one week it will be good, the next less so, and sometimes the failure is as palpable amongst these persons as amongst others. There are about as many recipes for making good butter as there are cures for the tooth-ache; every one has his own peculiar ideas and notions, but no one knows for certain, the cause of either success or failure.

The nearest approach to certainty in butter-making is the scalding system, but in this we sacrifice the fine summer flavour for the purpose of avoiding the thousand and one bad flavours which at times horrify us at our breakfast and tea-tables. It is, however, certain, that in winter a first-class article can be attained by this system, and at a very moderate degree of trouble.

If any person, who is a good manufacturing chemist, would take this question in hand, the best results might be hoped for, and success would be indeed a blessing to mankind.

As our readers may not be well acquainted with the scalding system of butter-making, we shall now proceed to describe it,—premising that it cannot be depended upon during our hot Canadian summers, nor with grass fed cows, unless some grain feed is given to the animals with each meal; but for winter, and stall-fed cows, if the directions are faithfully carried out success is certain. Even distillery slop-fed cows yield a most excellent quality of scald-cream butter.

The milk should be set for cream for 24 hours, in a place where the thermometer varies from 55 to 60 degrees. It should not be too deep in the pans. Two inches is quite sufficient to produce the greatest result. The cows must be well fed, no straw feeding will answer. Plenty of roots, good slop, and good hay, or chopped straw and one-third hay must be the feed. Pea meal makes excellent slop and a large quantity of excellent butter, but ground oats, shorts and bran (not bran without shorts), or any other rich fattening food will do, but the better the food the larger the yield of butter will be.

When the pans have stood for 24 hours, remove them to the kitchen stove, heat them slowly until the heat arrives at 180 degrees by the thermometer, (Fahrenheit scale.) or if you have no thermometer, until the peculiar smell of boiled milk appears, then take them off the fire and set them in their original position, there to remain for 24 hours more (twelve hours will, however, often answer the purpose). Then take off the cream with the least possible amount of milk, and set it by for churning—it is ready for churning at once. It will keep for two or three days, but not longer.

For churning place the cream in a large wooden bowl, and stir with the hand for about ten minutes. The whole of the cream will become almost solid and finally turn into firm and fine-flavoured butter. It can then be worked, washed and salted in the usual manner, and you will find that you have a most excellent article. The butter will be pale in colour, particularly if the cow has not lately calved. To meet this you can put a small quantity of anatto, properly liquified with skim milk, into the cream before churning, or what is much better, and gives a fine grassy flavour, grate an orange carrot fine, put it in muslin or some such fabric, and work and squeeze it about in a very small quantity of skimmed milk until all the colour is extracted, then add the coloured milk to the cream before churning, and proceed as before. This gives not only flavour, but a colour equal to the best grass-fed butter. Butter made in this manner would be certain to realize in our cities, throughout the winter season, from 20 to 25 cents per pound; it always has done so even when the best tub butter could be had at from 12½ to 15 cents per pound.

Bear in mind, however, that the foregoing instructions must be strictly followed. If you do not make the milk hot enough the butter will be strong and

blitter, and will not keep. If you make it too hot you lose in quantity, and the butter will be full of little white particles which injure its appearance.

Now, here we have two facts, first, that cheese factories succeed with mixed milk obtained from a hundred sources; secondly, that certainty of flavour and quality can be obtained in winter butter by scalding, and that end is attained without reference to any special feed. Let all interested in the matter turn their attention to summer butter, and we venture to predict that success will crown their efforts; and if they will report the results of their labour to *THE CANADA FARMER*, some of our scientific readers will be able to collate the facts and put the matter on a correct basis. It is a business that can never be overdone, and therefore none need hesitate in making their experience known. Good butter will always bear a good price, and the more there is of it the greater the consumption will be. We are assured by persons who have been very successful with scald cream butter that it will keep as fresh butter for many weeks without getting rancid, and in fact very much longer than the best summer made fresh butter will keep. Try it.

Butter-making not a Mystery.

The New England Farmer has a communication from a correspondent, with the above heading, most of which we transfer to our columns:—

“How do you make such nice sweet butter in winter?” is a question often asked by my customers, as I carry them their usual allowance of fresh butter for the week. Sometimes I answer, ‘I will tell you when you go to farming.’ For me, it seems a very simple thing to make butter that is good and uniform through the whole year. But, were it simple to all, butter would hardly command the present high prices. In reply to the question, ‘How to make good butter in winter?’ I would say, make it just as it should be made in summer. Yet as you may not think that a very definite explanation of the process, I will tell you how good butter can be made in summer. There are about five or six weeks in spring and fall, when, I suppose, every farmer's wife can make a fair article of butter. It will almost ‘make itself,’ with good June or September feed, in a clear, dry, June or September atmosphere, with the mercury indicating an average of 60°. What else causes butter made in June, September, and a part of October, to bring better prices than that made at any other time of the year? But for the dairy to yield a generous profit through the whole year, a fair article must proceed therefrom every week. Everybody can not be supplied through dog-days with June butter; nor can every family have their tubs for winter filled in September. Now, if you can bring the dairy under the same conditions in August or December, that prevail in June and September, why should you not realize the same results? Doubtless you would. But this it seems impossible, at present, fully to do. Yet I think the secret of success in butter-making is to bring about these conditions as nearly as may be. In the first place, you must, of course, have good cows. Some cows will make a large amount of high colored butter, but it is too soft to handle well in any weather, especially when very warm; others yield an article too white to be attractive, though I consider color of much less importance than solidity. As far as my observation has extended, very yellow butter is not as good as that which is lighter colored. It is apt to be oily, caused, I think, first, by being naturally soft, and second, by the consequent over-working it usually receives; the butter-milk being less readily extracted from soft butter. Good cows obtained, the next requisite is good feed. And what can be better than June honeysuckle ‘up to the eyes,’ or clover aftermath in September? Probably nothing. I prefer, however, as a matter of health, to give a feeding of dry hay every day through the season. I can thus keep them more uniformly, and not subject them to sudden changes from green to dry food. But what for feed the remainder of the year? Why, get the next best thing—which is the same, cut and cured, for feeding in the stall. During the third week of last June I cut four or five acres of clover and red-top, the clover just coming into flower, the red-top showing its flower stalk. Sixty days after, I cut the same field again. This winter, the cows, to which both lots are fed, seem to know no difference between the first and second crop. It is all rotten to them. I am fully of the opinion that very little of the hay in New England is cut as early as it should be. For

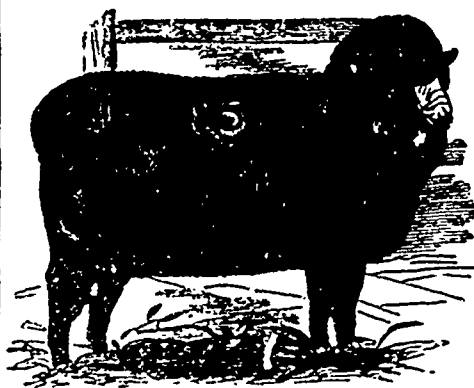
dairy cows, I would prefer it all cut before blossoming, rather than after. A large butter-dealer and a good judge, tells me that he has known his mother to make just as good and just as yellow butter in winter, while her cow was being fed solely on rowen, as she could ever make in summer, from the same animal. I think he came very near the truth. But in supply yourself with a stock of June atmosphere, to which to set your milk and do your churning, through dog-days, is not so easy a thing as to cut your hay early, and afterwards a crop of rowen. The thermometer does not usually stand at 66° from July to September 1st, nor do you generally have a clear dry air at that season. Hence I do not expect you can make your best butter, or that which will keep the longest, during this period, unless you can secure these two requisite conditions, viz., moderate temperature and dryness of the atmosphere. But the nearer you can contrive to approach these conditions the better your success. I keep my milk, during the extreme hot weather, in my house cellar, a large, light, airy room, clear of all boards and wooden utensils not used for milk; the whole room thoroughly whitewashed. The windows—a north, south and west one—are open or shut, darkened or not, just as may be needed to keep the air of the room as pure, as dry, and at the same time, as cool as it can be under the circumstances. I consider a damp atmosphere worse than a very warm one for milk. It makes the cream thin and watery, requiring much more care and longer time in churning. I need not say that I do, or that you should, set your milk in the pans two or three inches in depth, and skim it up at twenty-four or thirty-six hours old, putting the cream in a tin pail or stone jar, stirring it occasionally; for that almost all dairymen and women do. But when I say you should never commence a churning unless your cream is known to be at a temperature not any below 60° nor higher than three or four above that point, I cannot, at the same time, say everybody does that, for I do not know of one dairyman or woman, except through the books, who is exact in this respect. All butter-makers think that if cream is warm it will come too quickly, be soft and white, and not pleasant stuff to manage, and if too cold it will swell and foam, and not come at all—some one asserting that 'it did almost come, but went back to cream again.' One dairyman, who usually has good luck, told me this winter, that he churned all one day, and then gave his cream over to the pigs, only wishing he had done it sooner. Up to last April, I occasionally, and not very unfrequently, had just such 'luck.' Since that time I have used a common fifty cent thermometer—selecting one that would slide easily in the case, or that I could dip the bulb into the cream without the case. When I have gathered a sufficient quantity of cream I try it by the thermometer, and if the temperature be from 60° to 64°, I churn it immediately. If not within those limits, I bring it there, by some means, before it goes into the churn. I keep my cream in a large tin pail that can be hung in the well the night before churning—not in the water, but just far enough down to have the cream at 60°, when churning is commenced. Placing it in the water makes it too cold; and cold cream is addicted to the same freaks in summer as in winter. In Spring and Fall 62° does well; in winter, 64°; but in summer the temperature will rise rapidly enough if you commence at 60°. I never want butter to reach a higher temperature than 66° at the time it separates from the buttermilk. Following this method, I have not had the shadow of a failure for ten months. My summer and winter butter have come about equally well, varying from fifteen to forty-five minutes, according to the ripeness of the cream. I think it does no harm to run a bucket of cold water through the churn after the milk is drawn off. If the butter is a little too soft, as it almost will be in summer, it does much good by hardening it before salting. My butter is taken from the churn to a butter worker, like the small simple one that figured in Flint's work on Dairy Farming—a book, by the way, that every man or woman who expects to make a hundred pounds of butter should read through twice, as a preliminary step. In this worker the butter is salted, then returned to the well for twelve hours, after which it is thoroughly worked. And here I find a great advantage in the worker over the hands. If butter a little too cold is worked in summer, by hand, it will grow much too warm before the buttermilk is expelled; while the worker will do it quickly, thoroughly, and without causing the oily taste so commonly found in hard-worked butter. So much for summer butter. And now, to make good, sweet, yellow butter in winter, you have only to secure the same conditions that are best for making summer butter, namely, good cows, rich feed, a dry air in which to raise the cream, and a temperature as near 60° as it is possible to preserve. The latter condition is much more easily obtained in winter than in summer; for by artificial heat the air can be kept at the proper temperature in

the milk-room without being made damp, while the same result cannot as readily be obtained in summer with ice, on account of the dampness accompanying it. Indeed, I believe that more butter, and that of a good quality, can be made from a given number of quarts of milk, in winter, than can be through the warmest weather.

"Finally, in butter-making, as in ship-building, or surveying, strike the word 'luck' from your vocabulary. Learn your trade. Learn the laws that govern your work and obey them. Be not outwitted by heat or cold, by wet or dry, but press them all into your service, and be master, and not slave, of the fluid forces of nature."

RAISE THE CALVES.—We have said it before, and say it again, that the common practice of selling our calves to the butcher, is one of the poorest pieces of farm husbandry ever practiced. Not that every small farmer who may have one or two can affordably raise them, but that every farmer who has the keeping, or any legitimate way of getting it, should keep his calves until they are two or three years old. We do not advocate the keeping of any more stock than can be well kept. Very many of our farmers, by selling their calves, have let their stock run out, so does the farm also. Now we want such ones to turn over a new leaf. Commence the raising of your calves. They will gradually increase your stock, and as your stock increases in numbers, so will your fields in fertility.—*Michigan Farmer.*

Sheep Husbandry.



Numbering and Marking Sheep.

IMMEDIATELY after shearing, sheep should be marked in some way, that they may be identified as the property of their lawful owner. The common method of doing this is by painting or stamping the initials of the owner's name on the sheep's side. A paint-brush or stick dipped in paint, is the rough and ready means usually employed for this purpose, and is certainly better than nothing. A composition made of tar and lamp-black, boiled linseed oil and burnt amber mixed to the consistency of cream, is used in some localities instead of paint, and is said to answer very well. Stamping with an iron brand dipped in paint is a better device for sheep-marking than the one most in vogue. An improved stamp for this purpose has recently been invented by Mr. A. Todd, Jr., of Ontario, Wayne Co., N. Y.

The accompanying little cut will give a pretty good idea of this invention. A set of these figures is furnished for \$2. The engraving at the head of this article represents a sheep marked by this process. Those who keep sheep in considerable numbers find additional marks necessary. Sheep-breeders require to have an accurate record of the age, history, and peculiarities of each individual in their flocks. Even those who only keep a few sheep will find it very useful to have them well marked, numbered, and their characteristics recorded. Many plans have been devised for this purpose, a few of which we now propose to describe. The system of Von Thaer is a somewhat elaborate one, on which lambs are permanently numbered by notches in the ear. It is thus explained in *Randall's Practical Shepherd*:—

"One notch over the left ear signifies 1; two notches over the same, 2; one notch under the same, 3; three notches under the left ear. 9; one notch over the right ear, 10; two over same, 20; a notch under the right ear, 30; three notches under right ear, 90; a notch in end of left ear, 100; in the end of right ear, 200; these added together, 300; the point of the left ear cut square off, 400; the point of the right ear cut square off, 500; the latter and the notch for 100 added, 600, and so on.

"Von Thaer indicated the age by round holes in the ears. As there could not be a mistake of ten years in the age of a sheep, the holes are the same for every succeeding ten years. The absence of any hole indicates the beginning of each decade of years, as 1840, 1850, or 1860; one hole in left ear, 1861; two holes in left, 1862; one hole in right, 1863; one hole in right and one in left, 1864; one hole in right and two in left, 1865; two in right, 1866; two in the right and one in left, 1867; two in each, 1868; three in the right, 1869; none in either, 1870."

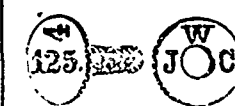
This is, by no means, a satisfactory mode, though many adopt it in the absence of a better. It is troublesome, mutilates the ears of the sheep very much, and is often inaccurate, through the healing up and obscuring of the marks. Some modifications of this plan have been resorted to, by which the mutilation of the sheep's ear is lessened. C. L. Haydon, of Wyoming, N. Y., adopts the following plan: He uses a spring punch like those used by railroad conductors, cutting a hole about one-fourth of an inch in diameter. 1 hole under right ear stands for 1; 1 hole in tip same, 3; 1 hole in right ear, above, 5; 1 hole in left ear, above, 7; 1 hole in tip left ear, 9; 1 hole under left ear, 12; 1 notch under right ear, 10; 1 notch in tip of same, 30; 1 notch in right ear, above, 50; 1 notch in left, above, 70; 1 notch in tip left, 90; 1 notch under left, 120. A notch stands for 10 times as many as a hole in the same position. A hole one-half inch in diameter in the centre of right ear, 200, same in left ear, 400. He says:—"You could, in place of the one-half inch holes, cut off the tips of the right and left ear, which I did for 200 and 100. By this process you can number up to 110 by using three holes or notches, or some of each, and with five or six, up to 700 or 800."

N. M. Carpenter, of Ellington, N. Y., has also adopted a plan "which requires about one-third less cutting of the ears" than Von Thaer's. "One notch on the upper side of the left ear, near the end, represents 1; a notch on the same, near the head, 2; one notch on the under side of the same ear, near the end, 3; and a notch near the head, on the same, 6. On the right ear, one notch near the end, on upper side, 10; on the same, near the head, 20; on under side of same, one notch near the end, 30; near the head, 60. Thus, you see, that the notches count according to the place they occupy on the ear. The above numbers may be so combined as to indicate any number from 1 to 100. When the numbering goes above 100, a notch may be taken out of the end of the left ear, and for 200 a notch out of the end of the right ear, as in the plan of Von Thaer. The places of the notches on the ear are sufficiently far apart, so as not to cause the least confusion in determining the number at a glance when one gets used to them."

There is another German mode of marking sheep, which is said to succeed fully, and to remain visible for many years. Figures are tattooed on the inside of the sheep's ears by means of a pair of nippers furnished with moveable metallic types, having rows of sharp steel points forming the numerals. This, however, is a method demanding too much time, care and exactness for ordinary use.

A correspondent of the *Country Gentleman* supplies the following information as to the system of sheep-marking practiced in his locality:—"We use a copper rivet inserted in the ear, with a number stamped on the head, and the initials on the washer."

The accompanying cut explains this mode very clearly. The 4 on the head of the rivet is for 1864. "This is a very convenient way of keeping an account with each sheep,

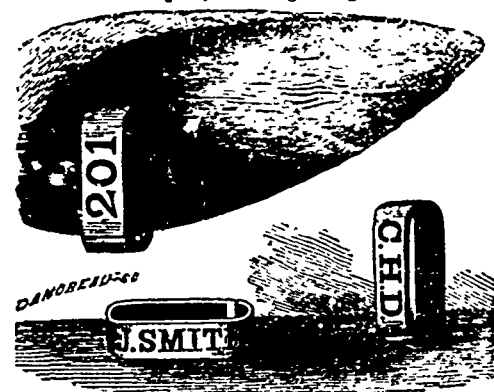


which every flock-master should do, if he wishes to improve his flock. The ear should be punched with a No. 9 punch, and allowed to get perfectly healed before putting in the rivet. Care should be taken not to head the rivet too tight, in which case it would be likely to rot out. It should be headed on the inside for the sake of convenience, as we wish to refer to the number oftener than to the initials. The rivets are such as are used by harness-makers. Mine cost \$1 per hundred, all stamped."

We extract the description of another mode from *Randall's Practical Shepherd*:

"To a ring three-fourths of an inch in circumference, and formed of smallish No. 11 brass wire, was suspended a plate of copper of the form exhibited in the annexed cut, on which were stamped the initials of the owner's name, and the number of the sheep. The ring was inserted about the middle of the ear so that the plate would remain visible outside the wool. It was found, however, that the ring sometimes cut down through the ear, and sometimes that it was itself cut through by the plate. The cutting of the ear might, doubtless, be prevented by making the holes with a punch, and allowing them to heal fully before inserting the rings, and, if necessary, reducing the weight of the plate by making it no larger than in the cut, or even no larger than a five or three cent piece, and as thin as the last-named coin. This reduction of weight would probably also prevent the ring from being cut through. Or a split steel ring, or a small T might take the place of the brass ring. This is so neat and convenient a mode of permanent marking, that it ought to be brought to perfection.

The last method we shall notice is one recently introduced by C. H. Dana, West Lebanon, N. H., and illustrated in the subjoined engraving:—



This new method consists in attaching to the sheep's ear a label stamped with the initials or name of the owner, and with numbers ranging from 1 to 1,000, or the number ordered. These labels are made of iron wire rolled flat, plated with tin, bent into link shape, being left open until they are hooked into the hole in the ear, and then closed up, as seen in the cut. Marked with the name in full, they cost \$2 per 100. They are described as simple and easy to put in, and are warranted not to lose out or make the ear sore, if properly fixed. Many American sheep-farmers highly recommend this method.

Care of Sheep in June.

AFTER settled warm weather when the water is warm and cold storms of wind and rain are no longer to be feared, but not before, the careful flock master makes preparations for washing and shearing his flock. The views of the *Agriculturist* in regard to the evils of washing sheep were expressed in our last issue. Sheep well cared for and coming through the winter in good heart, will bear shearing quite early, and a determined stand taken by sheep owners not to submit to a deduction of one-third on good clean unwashed wools, will bring manufacturers, and speculators too, to fair terms. There is a great deal in putting up wool well to attract the eye of the buyer. He expects the farmer to roll his fleeces so only the best part will be seen, and trusts his own acuto-

ness of sight, smell and handling to discover fraud, dirty tags, dung, etc., and buyers will generally do it too, and then farewell any hope for a high price for that lot of wool.

Whoever shears many fleeces, should have a fleece press. This consists of a strong box about 4 feet long and 12 inches wide inside measure. The width may be decreased sometimes to advantage if the fleeces run small, by putting in a false side of inch board on one side or both. One end of the box is moveable, the other fixed, and both consist of three perpendicular pieces, strongly braced on the outside, and set a quarter of an inch apart. The moveable end is upon a foot piece, to which the braces are attached, and which slides under cleats upon each side. This end is moved up toward the other by means of a strap which lies upon the bottom of the box, passing under the stationary end, and round a strong axle or drum, which is turned by a crank. It is drawn back by another strap, the crank being turned the other way. The fleeces are folded in the usual way laid outside up, the sides folded in, edges to meet in the middle; the ends folded in to meet in the middle; then the tips and scraps of wool are laid in and the fleece is folded again lengthwise. Strings are placed in the press, lying in the slots in the ends. The fleece is then laid carefully in and pressed into a square mass and tied. The use of cotton twine in tying hurts the sale, for shreds of cotton mingled with the wool may damage the color of some fabrics.

Some lambs ought to run with the flock for two or three weeks at least after shearing. The ticks will all or almost all leave the old sheep and go upon the lambs. Then the lambs should be dipped in a strong decoction of tobacco, soaking every part of the fleece. Randall recommends the English practice of using arsenic water. "3 lbs. of White Arsenic pulverized are dissolved in 6 gallons of boiling water, and 40 gallons of cold water are added." The fleeces of the lambs are wrung out as dry as possible after dipping, while they lie upon a dripping board, which is made of slats near together and supported above a tight inclined table which allows the liquid to flow back into the dipping box. A flock may thus with comparative ease be cleared of ticks. Precisely the same operation is a cure for scab, but more thorough rubbing in of the liquid into the affected parts is desirable.—*Am. Agriculturist*.

Washing Sheep.

OPPOSITION to this practice is being made by many intelligent sheep farmers. They urge that it is often done very carelessly, and that those who take pains to do it well are losers by the process, since buyers make no discrimination between thoroughly and carelessly washed wool. Besides, sheep often suffer much from washing in cold water; prior washing delays shearing longer than is desirable, and the sheep are liable to contract contagious diseases, such as hoof-rot, by using the same washing yards and pens. On these and other grounds, buyers and manufacturers are urged to reform the wool market, so that the unwashed fleece can be equitably sold, and the process of cleaning performed by machinery altogether. At present a uniform deduction of one-third is made on unwashed wool. This rule was established at an early day, when very little unwashed wool appeared in the market. That little was brought in by slovenly farmers, who took no care whatever of their sheep. Those who would dispense with sheep-washing advocate the abolition of this rule, and propose that unwashed wool shall be bought as wheat and other articles of farm produce are, according to cleanness as well as quality. They contend that it is as easy for the buyer and seller to agree on the amount of deduction as it is to agree on the quality, and that this mode of purchasing is for the interest alike of buyer and seller.

Considerable discussion on this subject is being had among our American neighbours in sheep conventions, and in the columns of the agricultural journals. So far as we can judge, the preponderance of opinion is against washing sheep.

A Killing Sheep Medicine.

To the Editor of THE CANADA FARMER:

SIR,—In your issue for May 2nd, I was made to ask—"Do sheep require salt and saltpetre?" &c. It should have been "salts." The reason why I asked was this. About the 1st of April I noticed one of my sheep unwell; the symptoms were the same as those

described by T. Cullis of Hamilton Township, in the issue of May 2nd. Two sheep died in a few days. Shortly after I noticed another with the same symptoms, and not knowing what was the cause, I went to a person of considerable experience among sheep, he having been a shepherd in England for a number of years. He said sheep required physic in the spring, and my flock being 100, he told me to get 8 lbs. of salts and 2 lbs. of saltpetre. Having mixed the above in about 12 or 15 gallons of water, he began to administer at the rate of a pint to each sheep. This, he said, was about half what they usually gave in England in such cases. We had only dosed about 20 when we noticed one dead. Soon another, and still another, tumbled and died. Being alarmed lest all which had gotten the stuff would die, I stopped the operation as it seemed worse than the disease. On examination, we found several gnats in the heads of two, but not any in the third sheep. We also examined the one which died before the doctor came, and found it to have gnats in it. The result of the affair was this: The one which was sick when he came died, and seven or eight others, which were apparently well until they got the medicine, and what is singular, none of those which got no medicine died or showed any symptoms of disease since. The whole flock were in ordinary good condition, and, to make the loss greater, those which died were all good ewes, and mostly carrying twins.

M. L. FERGUSON.

King, May 27, 1864.

Correspondence.

Queries about Ditches.

LOVELAND writes us as follows:—"Please answer the following queries in your valuable paper:—

1st. Can the owner of woodland which is not enclosed be compelled to dig a water-course through such land in order to carry off the water from his neighbours?

2nd. If he cannot, is the proprietor of enclosed woods obliged to make such water-course?

3rd. What are the legal steps required to compel parties to make a way for the water which injures their neighbour's property?

4th. And who are the proper parties to decide what size the ditch shall be? I think a synopsis of the law respecting ditches and water-courses would be highly interesting, as farmers depend more upon their neighbours in the making of water-courses than in extirpating thistles and other noxious weeds, and many are at a loss to know how to proceed, having no acquaintance with the statute which has reference to ditches, &c."

ANS.—It would take up too much space to answer in full all your queries, but by reference to the Consolidated Statutes of Upper Canada, page 689, Chapter 57, intitled, "An Act respecting Line Fences and Water Courses," you will find that you can compel your neighbour to bear his just share of the expense of the drain, and the amount to be paid by him is to be decided by the Fence Viewers of your Township, who are empowered by this Act to decide all disputes. The Fence Viewers are by this Act arbitrators for the purpose. You had better see if there are not some Township By-Laws, for by Chapter 54, sections 278 and 279 of the Consolidated Statutes of Upper Canada, the Township is empowered to assess the parties whose land the drain benefits and fix the time for payment. By referring to the Acts above mentioned you will get all the information you desire. Section 14 of chapter 57 is as follows:—"If a party refuses to perform his share of a ditch, a water-course, &c., the other party may do it for him, but at the expense of the person in default." This is a mere synopsis of the section, but if you cannot borrow the Consolidated Statutes of Upper Canada from your neighbour the "Squire," we will be happy to give you further information.

HAMILTON HORTICULTURAL SHOW.—A correspondent says:—"You have given a good account of the Toronto Horticultural Society Show. I was present at the Hamilton Horticultural Society Show, on the same day, and found it to be truly splendid. I did not take any notes and cannot give you any description."

Super-Phosphate of Lime for Turnips and Potatoes.

To the Editor of THE CANADA FARMER:

SIR—I should much like to try the Super-Phosphate on Turnips and Potatoes, but I do not wish to do it in such a way as to lose my labor and the benefit of the manure. My practice with turnips is to open drills, put in manure, close again, roll and sow with barrow. I do not think it would do to apply as you direct at page 89. "by putting it in the drills," and if applied as a top dressing it would be removed from the plants by the subsequent hoeings. Potatoes, after having the ground well harrowed, I plant with a dibble and afterwards work with horse-hoe and plough. In this case I think it would do to apply to the plants as soon as up; and shall feel obliged for opinion and advice.

BRIAR.

NOTE BY ED. C. F.—We think our correspondent will find on trial that the Super-phosphate of Lime will do applied to turnips in the manner directed on page 89 of THE CANADA FARMER. Why not? It will also benefit potatoes if used after they are up, but still more if put into the rows before planting. If the dibble is used in planting it would not be easy to apply the Super-phosphate, as it is too rich to be safe in immediate contact with seed of any kind. It requires to be well intermixed with the soil in all cases.

SCRATCHES.—"I. K. S." will be replied to on this subject in our next.

SHOULDER STRAIN IN HORSES.—"C. G.," of Manvers, will have his enquires answered in an editorial under the veterinary heading in our next.

BROWN BREAD.—"A Subscriber" writes from Clinton:—"Perhaps you or some of your correspondents could tell me how to make Brown (or Graham) Bread. If so, please state in THE CANADA FARMER."

WEATHER INDICATOR.—A correspondent referring to an item in our last respecting barometers, strongly recommends a "Weather Indicator," got up by P. R. Randall, Toronto.

ACKNOWLEDGMENT.—"T. F.," of Metis, C. E., has our thanks for his suggestion. We will endeavour to act upon it in future. His enquiries will receive attention shortly.

HALL'S THRESHING MACHINES.—We have received several communications highly recommending these machines; among the rest a very enthusiastic letter from Mr. John Moore, of Eramosa.

ROOT HOUSE.—"W. W." writes:—"I am going to commence to build a root-house to hold turnips. Perhaps some of the readers of THE FARMER will give their experience as to the best kind for the above purpose, and if it will be safe to put 12 or 1500 bushels in one without danger of heating."

DRAINING TILE.—A. T. McLachlin, of Mallorytown, wishes to know where he can get tile for draining, and at what prices?

ANS.—We do not know where our correspondent can get what he wants sufficiently near his own locality to be available. Perhaps some of our readers can inform him.

ACTION OF PLASTER.—"H. C. T. A." enquires in what way plaster acts beneficially upon growing crops?

ANS.—It furnishes two elements of plant food, lime and sulphur, and also fixes the ammonia of the atmosphere, and husband it for the future use of plants. It acts chiefly through the leaves of the plants to which it is applied, and should be scattered in the shape of fine powder while the dew of morning or evening is on the plants, that it may stick. It should not, however, be applied in rainy weather.

DRIVING BEEF CATTLE TO MARKET.—"A Subscriber," writing from Blanshard, asks:—"Could some of your readers inform Mr. Alex'r. McDougall, of Blanshard, the best way to manage beef cattle to be easily driven to market? A short time ago he was driving two of them, tied head and foot, to St. Marys, when the animals became perfectly savage, (though driven quietly along,) and he and others ran great risks of being gored by them. He could not get them into the village, but had to drive them into a neighboring field and leave them there till the butcher (Mr. Young) came out and slaughtered them there."

DISOWNED LAMBS.—"P. W.," of Ramsay, sends us the following narration:—"In the spring of 1863, one of my ewes had two lambs. One of them she would have killed if I had not been there to save it: so I took her into the dooryard, drove two stakes into the ground, placed her head between them, gave her plenty to eat and drink, and left her lamb beside her, but as soon as it came near to suck, she would kick at it. I then placed a flour barrel at each side of her head, so that she could not see the lambs when sucking, and drove a stake into the ground just before her hind leg, to break the kick. After ten days I let her loose, when she showed no preference for one more than the other. The cure was complete."

EXPLANATION.—An enquiry having been sent us from Blanshard respecting the "Merino Sheep Speculation," narrated on page 103 of THE CANADA FARMER, we have consulted Mr. Nellis, and find that the omission of the full-stop after "53," and the insertion of a semi-colon after "hired them," have obscured the meaning designed to be conveyed. Thus corrected, the account becomes clear enough. Mr. Nellis' whole flock numbered 53; and consisted of 13 pure Spanish bucks, 10 French and Spanish ewes, and 30 Spanish grade ewes and wethers. The next sentence should read:—"Divided them out, and hired them kept by three different parties."

BALL'S OHIO REAPER AND MOWER COMBINED.—Charles Munn, of Erin Township, writes commending this machine, manufactured by Joseph Hall & Co., Oshawa, to the attention of his brother farmers. He says, "It has given entire satisfaction. Its mowing and reaping qualities, are far superior to anything yet introduced into this country, and the grand secret is, the mowing and reaping attachments are entirely independent of each other, as much so as a threshing and sawing machine would be, driven from the same horse power. I can make the change in five minutes, from a perfect reaper to a perfect mower, and *vis versa*. Were I going to make an objection, it would be the price demanded, but when I take into consideration, the quality of the material, the workmanship displayed by the iron, steel, and wood workers, the simplicity and durability of its construction, the amount of work it performs, and the almost incredible ease upon horses, I cannot say that any price, within the bounds of reason, would be an objection."

The Canada Farmer.

TORONTO, UPPER CANADA, JUNE 15, 1864.

Legislative Encouragement to Farm Improvement.

THAT the movement in the Canadian Parliament referred to in our leading editorial of March 15th was a wise and needed one, is generally, if not universally, conceded. But it is not surprising that there should be varieties of opinion as to the shape legislative aid to agriculture should take, and the objects it should seek to accomplish. We have received a number of letters expressing warm approval of the endeavour to rouse the united wisdom of Canada to a more practical and liberal care for the farming interest, and various suggestions have been made as to particular measures. Our valued correspondent, "W. S.," of Woburn, has written us on a very important subject,—that of farm drainage, and propounds a scheme by which Government may forward that greatly-needed agricultural improvement. He urges, very justly, that the great expense of draining precludes the mass of farmers from attempting it on anything like an extensive scale. He estimates the average cost to be about thirty dollars per acre,—a sum equivalent to the purchase of an improved farm the second time. Few could afford such an outlay, and to such as have their farms already encumbered, there seems, under existing circumstances, no practicable method of securing, on a widely-extended scale, this most needful improvement.

Our correspondent proposes that an Act of the Provincial Legislature should be passed, similar to that

existing in England, by which money may be borrowed for permanent farm improvement at a low rate of interest, such loan to have precedence over all other incumbrances, and to be paid off, principal and interest, in twenty-one years. Without now expressing any opinion as to the feasibility or desirableness of this particular scheme, we lay it before our readers in detail, to provoke thought and invite discussion:—

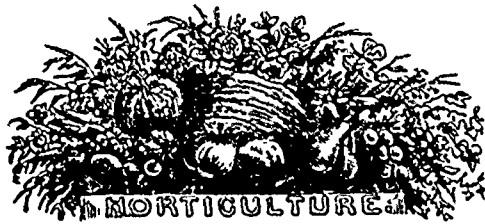
"The proposed Act might, in the first instance, be permissive, and for the Upper Province only. Let its adoption in each County be the act of a majority of the County Council; then in each Municipality of the majority of the Municipal Council, special individual loans within the limits of such municipalities, on the written application of the proprietors of lands, pledging themselves in all respects to observe the conditions. We mean by this, that each respective County must be responsible for the aggregate loans to the bond-holders, again, the Townships to the Counties; and lastly, the absolute fee simple of the lands of the Townships. Another point would be to simplify and economize the management. The most ample powers must be had to enforce prompt payments. This would be the life of the whole scheme. We would use all the existing machinery only. We would neither create new officers nor new sources of patronage. We would reimburse the County Treasurer, Municipal Collectors, Clerks, and Treasurers by a small fixed commission on the amount of business transacted; and in view of the general benefit afforded to the County, the important services of County and Municipal Officers would be honorary. The services of a competent County Drainage Surveyor or Engineer would, however, be indispensable, but his services might be secured by a per centage on the extent of work he might be called upon to perform. Preliminary to any actual operation a survey of each Township would be necessary, in order to fix the main outlets, and the expense of making such outlets available should be borne equitably by the entire Municipality. After this, when application was made for a loan, the applicant would in the first instance be required to have his lands surveyed and a plan of the works made at his own expense. It would not be expedient for proprietors to plan and carry on works under the Act themselves. The folly of those with little or no experience in draining or engineering, attempting to direct such operations would be on a par with attempting to erect a vast public building without an architect.

"Under some such proper system there would be no difficulty in obtaining more funds than would be required. The rent charge must be preferential to all existing encumbrances; but then there would be no hardship or want of equity in this; for the property would be so improved, its value in the market so enhanced, that the mere rent charge over twenty-one years would be a very small consideration. Suppose the expense to average \$30, the annual rent charge at 7 per cent. would be \$2 10 per acre. But the produce of that acre would be at least DOUBLED; how much better would be the position of the mortgagee! It must be obvious to the dullest perception.

"The interest or rent charge would be payable either at the County Treasurer's Office, or at some leading bank in England on a fixed day. Stock should be made transferrable free, same as the English public funds, and that part of the business could be effected in the offices alluded to in the Province or the Bank in London. There are various companies at present organizing in England for the purpose of loaning funds, and some one of these with means more than adequate to all our present or probable future wants might be found very willing to enter into our plans.

"We submit these views in the hope that public opinion may be aroused to examine this most important question. Others may be able to devise yet better methods. In the multitude of councillors there is wisdom."

TOWNSEND AGRICULTURAL SOCIETY.—The following are the Officers of this Society for the current year: Aaron McMichael, *President*; Henry J. Barber, *Vice-President*; Nelson Boughner, *Secretary*; James L. Green, *Treasurer*.



On the Cold Grapery.

(READ BEFORE THE HAMILTON HORTICULTURAL CLUB, BY C. MERTON.)

The Cold Grapery is a term used to denote a glass structure, for the cultivation of the hardier varieties of foreign grape vines, such varieties as mature their fruit under glass, without the assistance of fire heat. The shape and size of a Cold Grapery must be regulated by the taste and means of the proprietor. The shape may be either lean-to or span-roof; each has its advantages, according to the situation or locality upon which the erection has to be placed. A lean-to is generally erected against a wall, fence, or building, with a southern aspect; a span-roof, on the contrary, is usually erected to stand unconnected with any other building (unless it be a portion of a design), and ought to stand north and south so as to receive the greatest amount of solar light. The usual size of a lean-to is from 12 to 16 feet in width, and from 25 to 50 feet or more, in length; a span roof ought to be from 18 to 24 feet in width, and a length proportioned to the circumstances of its possessor. The intention of this paper not being the erection of a Cold Grapery, but as I apprehend its use and management, I shall confine my remarks to these.

FORMATION OF VINE BORDERS.—Upon the subject of width and depth of these, there has been a variety of opinion only to be equalled by the diversity of opinion as to the proper soil.

Speechly, (whom MacIntosh, in his book of the garden, styles the very father of vine-growing.) says one-fourth part of garden mould, (a strong loam,) one-fourth of the swarth of turf from a pasture where the soil is a sandy loam, one-fourth of the sweepings of pavements and hard roads, one-eighth of rotten cow and stable-yard dung mixed, and one-eighth of vegetable mould from decayed oak leaves. The swarth should be laid in a heap till the grass-roots are in a state of decay, and then turned once and broken with a spade, afterwards it should be put to the other materials, and the whole should be worked well together.

Vine borders at Mishaw House, Lanarkshire, in a cold and wet locality, are thus formed. Breadth 12 feet, depth of soil 18 inches, under which is laid a foot of hard clinkers (say broken stone), by way of drainage. The soil used is that natural to the garden, which had for years been under pasture, and is a remarkably strong, rich, brick-cloggy loam, with no other preparation than the addition of a moderate supply of sable manure. And in this soil the best grapes ever produced in Scotland have been grown for the last three years.

After giving the opinions of Griffin, McPhail, Abercrombie, Judd, Harrison, Appleby, Roberts, and Saunders, which all vary somewhat in detail, MacIntosh says:—"A great mistake, we believe, has very generally been fallen into by making vine borders both too rich and too light. Such may be all very well for open air culture, but when such draughts are made upon the vine, as is the case in general in hot-beds, we think a strong soil would be preferable. As to making very rich borders in the first instance, we can see little advantage as they can be enriched by the application of liquid manure whenever it may be required. If a pure rich moisture loam can be procured, little else is needed; and we know gardens where such was natural to the spot, whose vine borders have continued for many years without further enrichment, than what has been washed downwards by the rains. From the mulching laid over them in winter, to the formation of vine borders in damp localities, we prefer placing them on the surface of general ground level altogether."

Regarding the depth of vine borders much depends on the nature of the soil. In this locality where the soil is a heavy loam, it is difficult to give general directions suitable in every case, but as a

general rule a vine border, whether made on the ground level, or below it, need not exceed in depth 2 1/2 to 3 feet, including 6 or 8 inches of drainage, unless in particular cases, when the subsoil is very damp, and where it would be unsightly to have the whole depth of the border above the ground level

The season at which vines should be planted is also an unsettled point among cultivators. Some prefer fall planting, when the plants are in a dormant state, while others prefer spring, or in fact midsummer, when the plants have made considerable growth, and that, I consider is the proper season, as the vines being well started into growth, if carefully removed from the pots in which they have been growing, the natural heat of the soil from beginning to middle of June will be such, that they will receive little or no check, but will commence growing with greater vigor, and may be expected to reach the top of the rafters before the end of growing season. The usual distance is to plant a vine to each rafter, although some recommend to place them under the centre of each sash. Whatever be the position of the vine or form of the house, the distance should be from 3 feet 6 inches to 4 feet apart. Some prefer to plant much closer than that, but I cannot see any permanent advantage to be obtained from it.

The spur mode of pruning is that which I adopt, and is the system generally adopted for vines planted as recommended above. The first season after planting, train one shoot to each rafter, during that season allow the shoot to extend to as great a length as possible without stopping, and should it reach farther than the top end of the rafter, train it along the back wall, if a lean-to, or down the opposite side, if span-roofed. As the laterals proceed from the main stem pinch them off at the first joint, and also remove all the tendrils. At the first fall or winter pruning, the vine should be cut down to the bottom of the rafter; when growth commences, train a shoot precisely as last year, pinching off laterals and removing tendrils, only stopping it at top of rafter to throw more strength into the buds below. The second fall, if the vines have done well, the wood will be strong and well ripened, and may be cut back to one-third the length of the rafters—train the top shoot up the rafter, observing the same directions as last season. The side shoots, or spurs, stop at the joint above that which shows fruit, and leave one bunch to each spur. A great error is often committed by leaving too much fruit on even strong, healthy vines, which cannot be too carefully guarded against. For the guidance of those who may be tempted to allow more fruit to remain on a vine than it can possibly mature, I will transcribe a table on that subject, by Hare, at page 30 of his treatise on the vine:

"Scale of the greatest quantity of grapes which any vine can perfectly mature, in proportion to the circumference of its stem, measured just above the ground."

Cr. of Stem.	lbs.	Cr.	lbs.
3 inches	5	7 inches	45
3 1/2 "	10	7 1/2 "	50
4 "	15	8 "	55
4 1/2 "	20	8 1/2 "	60
5 "	25	9 "	65
5 1/2 "	30	9 1/2 "	70
6 "	35	10 "	75
6 1/2 "	40		

No vine is taken cognisance of until its stem measures three inches in girth, as under that size vines ought never to be suffered to ripen any fruit."

A very good, safe rule, which I cannot too strongly recommend to every one engaged in the culture of the vine.

Culture of the Grape.

To the Editor of THE CANADA FARMER:

SIR,—As the culture of the grape is now attracting a great deal of attention in this part of Canada, I take the liberty of offering a few hints in regard to the soil, exposure, protection, and varieties that are desirable to cultivate; and the possibility of a market sufficient to warrant us in embarking extensively into its culture.

SOIL.—In choosing a soil for a vineyard we should be governed by the purposes for which the grapes are grown. If grown for the purpose of manufacturing wine, where high saccharine qualities are essential, the soil should be dry, porous, light and rich, and of a calcareous nature; and the vines should be kept within moderate bounds. But if desired for table use, where high saccharine qualities are not so much desired as abundance of grapes, I

would recommend a heavier and richer soil, well drained and properly trenched. The soil cannot be too rich for growing grapes for general use, but for the purpose of manufacturing wine a soil composed of calcareous and silicious land with a sufficient amount of charcoal or black mould to give it a dark colour would prove most efficient, and would have a tendency to retain the necessary heat to produce a healthy growth of the vine.

MANURES.—The soil for a vineyard should be properly enriched with well decomposed barn-yard manure, in addition to ground or crushed bone, old leather, &c. Crushed bone is considered one of the best manures for a wine grape, as it is less apt to injure the flavour of the wine, and will last for years.

EXPOSURE AND PROTECTION.—The situation of a vineyard should be somewhat elevated, but not too high, and bottoms of valleys should also be avoided on account of the low temperature of the atmosphere. It should be protected from the West, North and North East winds by planting a belt of pine or Norway spruce, or by a double paling fence if it has not a range of hills or belt of woods to protect it. It should have a Southern aspect, slightly inclined to the East, and should, if possible, be protected from the early morning rays. If the vines are trained to trellises they should have an east and west direction, as by this means they will more evenly receive the heat of the sun, as but a small surface of the vines would be exposed to the rays of the morning sun which would warm them gradually until it attains its meridian splendour, when it would exert its full power and then gradually decline until evening, thereby giving a healthy temperature to the vine, as sudden changes are very injurious.

VARIETIES.—The varieties of the grape that I would recommend for general cultivation in the County of Lincoln,—in fact I might say this whole Southern Peninsula of Western Canada,—are the Delaware, Concord, Diana, Ontario, Rebecca, and Isabella. Highest on this list stands the Delaware, as I think it will yet prove to be the wine grape of Canada. It ripens from two to three weeks earlier than the Isabella—bunch small, very compact and generally shouldered—berries rather small, and of a beautiful bright red or flesh colour. It is exceedingly sweet but sprightly, venous and aromatic, and is considered the hardiest and highest flavoured grape adapted to open air culture in Canada and bordering States. And although it is quite a new variety and perhaps not yet fully tested as regards the properties necessary for manufacturing a first-class article of wine, I think that I cannot do the public any injustice in giving it the highest recommendation which I do, not only from my own observation and experience, but from the encomiums that have been heaped upon it by horticultural writers and grape-growers in the United States; and notwithstanding its slender vine and small sized bunches, for which it fully makes up in quality and price, I have every reason to believe it will prove to be the most profitable variety we can grow in this part of the Province. The other varieties above named are considered very excellent table grapes, but require a larger quantity of sugar if it is desirable to manufacture wine from them. To make good wine the grapes should be perfectly ripe, as a few green berries will have a very injurious effect upon the flavour of the wine.

CLIMATE.—The climate in this part of Canada appears to be very favourably adapted to the culture of the grape, situated as we are in the most southern part of the Province, and almost entirely surrounded by vast lakes, which have a tendency to ameliorate the temperature of our climate and prolong the season of vegetation, thereby allowing sufficient time for the fruit to ripen and the young wood of the vines to mature ere they are touched by the frost of autumn, whilst at the same time we enjoy a dry and healthy atmosphere, which prevents the decay of the fruit that proves so destructive to many varieties of the grape in more southern latitudes. The only additional expense that the grape culture would entail in Canada over that of a more southern climate, would be, laying the vines down and giving them a slight covering for winter, and it is thought by some that the Delaware is sufficiently hardy to withstand even a severe frost; but it is better to secure them and not run any risk.

PROSPECTS.—We have but to glance at the map of Canada to convince us that there is but a small portion of this Province wherein the cultivation of grapes in the open air can be attended with success. That portion lies south of Lakes Ontario and St. Clair. The counties of Lincoln and Essex in particular, and even in this whole peninsula, hardy varieties might be cultivated with success. I do not say that grapes cannot be grown farther North; hardy varieties may succeed there, but crops would be less certain. Therefore we may look upon the North and Eastern part of Canada, as a market for the produce

of our vineyards; whether it be the grapes fresh from the vine or wines manufactured from them. It is true we may expect competition with importation from the United States, consequently I would urge more strongly the culture of grapes that are rather adapted to the manufacture of wine than for table use. We cannot overstock the market with good wine, for the longer it is kept the better and more valuable it becomes. In Western New York grapes are cultivated very extensively and with great success.

Mr. S. H. Ainsworth, the retiring President of the Fruit Growers' Society, Weston, N. Y., in his address to that Society not long since, stated that the average profits of Isabella grape culture in New York State last year was \$432 72 per acre. He also stated from his own observations and experience that the Concord will produce as many if not more pounds to the acre than the Isabella and commands a higher price in market; and that his own crop last fall was 11,200 pounds to the acre, selling at home for ten cents a pound. At this rate the crop from an acre would be worth \$1,120; say it cost \$60 an acre to grow and pick them, this would leave a net profit of \$1,060. He also stated that he saw at Lockport last fall one-tenth of an acre of Delaware vines, only three years from planting, that produced 1,000 pounds of fruit. This would give 10,000 lbs. to the acre, which if sold at the wholesale prices of last year [20 cen. a per pound] would bring \$2,000, and if sold at the retail prices of last year would bring the immense sum of \$5,000. If grapes can be grown successfully in Western New York, we have every reason to believe they will grow equally well here. We have a climate equal to theirs and a soil not inferior. Therefore we require nothing but the vines and a little knowledge of the management of a vineyard; and as the prices of vines are rapidly lowering they will be within the reach of almost every farmer in this country, when he can test the matter in a practical way and judge for himself as to the profits to be derived from grape culture in Canada.

I trust that the day is not far distant when in those localities in this Province that are adapted to the culture of the vine will be seen acres and acres of this delicious fruit, growing in all its luxuriance; and it is with pleasure that I view the prospect of the extensive cultivation of the vine, and hope that those who are sufficiently enterprising to embark in its culture will live to enjoy the fruits of a well-requited toil.

J. W. K.

Louth, March 29, 1864.

Horticulture for the Clergy.

THE occupation a man follows, exerts a great influence over his mind and morals, for good or for evil. Some occupations demoralize good men, while others have the effect of leading the mind into healthful moral conditions.

The sedentary and recluse habits of many men of genius and education induces forms of physical dyspepsia, which acting upon the mental and moral nature, beget a dyspeptic habit of thought and feeling which renders the man unfit to stand up as an exemplar and teacher in the face of a truth-seeking public.

Again; the recluse, however healthy may be his physical condition, is not in full sympathy and daily communion with the living world, which is the great inspirer and sharpener of thought. The teacher who ignores this field of instruction, fails to gain a commanding stand-point from which to address his fellow-men who come to him fresh from the fields of trade or production, all their perceptions sharpened by what they have seen and heard. To address such an audience, the teacher must needs be *en rapport* with them, and bring his illustrations from subjects which are familiar to them, as did the Great Teacher, while fulfilling His mission among men.

As a means to this end, we have often thought and urged that no collateral occupation could so well fit the clergy of our country, for a fine, vigorous and growing condition of body and soul, capable of reaching the sympathies of the people, because cherishing their own, as a healthful devotion of spare hours to the noble practices of horticulture. Bending over his vines and shrubs and plants and flowers, inspirations will come into his soul as from the Great Fountain of Life and Light, instead of being filtered through the meshes of written theology; and the soul will conceive and grow big under an inspiration which makes its possessor feel as if he were a prophet listening to the voice of the Blessed One.

Ho! ye men of the closet and the study, come out into the garden, do your devotions and learn your lessons among the live and beautiful things of God, and then with the freshness of these things exhalting from you, may you speak in demonstration of the spirit and with power.—Ohio Farmer.

Hardy Apples in Vicinity of Cobourg.

To the Editor of THE CANADA FARMER:

SIR,—The Tulman sweet, is one of the hardiest and most profitable of our apples, bearing large crops, the last four years when nearly all other kinds failed. Hawthornden is another hardy variety, bearing very young,—the only trouble, it bears too much for the good of the tree. Alexander does very finely, forming a fine healthy tree, bearing fine crops of large showy fruit of good quality. Fall Jenetting forms a fine tree, free from disease, bearing a moderate crop of very fine fruit; Keswick Codlin stands well and bears enormous crops; Green Sweet does very well where very many kinds fail; Montreal Beauty is one of the finest crab apples for this climate, forming a perfect model of a tree both for ornament or usefulness.

There has been a great deal said about the bark of trees bursting, calling it a disease, etc. As far as my observation has gone it appears to be unavoidable in tender kinds; I have never seen it in *low branched trees*, it appears to be caused by hard freezing after the sap begins to flow in the spring.

NORTHUMBERLAND.



The Tulip.

Our engraving represents one of the early varieties known as the Tournesol. It is larger and more showy, though not quite as early, as the Duc Van Thol. The dark portion of the flower is a brilliant red, bordered with bright orange. Planted in masses or groups they produce an exceedingly pleasing effect.

The late varieties grow much taller, and are great favorites with the florists, on account of their diversity of color and markings. Those called Bizans are striped and marked with every color on a yellow ground—the Byblooms are marked with purple or violet on white ground. The Parrot Tulips have the edges of the petals very curiously fringed, the colors chiefly crimson and yellow.

There is no reason why these gay spring flowers should not be found in all our gardens. They are of easy cultivation, growing in any moderately rich, well drained loamy soil, particularly if it be a little sandy. If the soil be inclined to clay, it would be advisable to mix some sand and rotten sods tho-

roughly with the ground of the bed to the depth of about twenty inches. It is possible to make the ground too rich, which induces a rank growth injurious to the flower. When it is thought desirable to use any manure, choose old, well decayed cow manure in preference to any other. The month of October is probably the best time for planting, though it may be done in September or November. Nurserymen sometimes receive orders for Tulips in the spring, but this is not the proper season for transplanting them. After preparing the bed, by thoroughly pulverizing the soil to the depth of twenty inches, the bulbs may be set about six inches apart each way, and buried to the depth of four inches. Before winter sets in, it is usually thought advisable to throw a light covering of leaves or straw over the bed as a further protection from severe frost. By planting the bulbs six inches deep, we have been able, for several years, to winter them safely without any protection whatever. The past winter in this section has been one of unusual severity; but the Tulips never made a finer appearance. Whatever covering is placed upon the beds as a winter protection, should be removed in the spring.

About the last of June the bulbs should be taken up and allowed to dry in some airy place under cover, and when quite dry they may be put away in a box, where they will keep dry until they are planted out again in the fall.

Mildew of the Gooseberry.

"G. M." and "J. G." enquire how to prevent Gooseberries from rusting or mildewing, complaining that they have lost the fruit from this cause for the past two or three years. The Fruit Growers' Association, of Upper Canada, addressed this inquiry to every part of the Province, and received nearly a hundred replies; and although those replies are now before us, we are unable to give a remedy. From the replies, however, we think there may be gleaned a few facts bearing upon this subject that are worthy of being remembered.

First, then, the English Gooseberries are all, more or less, subject to mildew.

Second, there are some localities in which they do well, and seem to be nearly or quite exempt.

Third, in some seasons the mildew is more destructive than in others.

Fourth, there are some varieties that, in some localities, are less subject to mildew than others.

Fifth, that young and thrifty plants are less subject to mildew than old plants.

Sixth, the Houghton Seedling is very nearly exempt from mildew in all localities and on all soils.

The Houghton Seedling is an American variety, and the fact that it is exempt, or very nearly so, points strongly the direction in which we must look for gooseberries adapted to our climate. Here is a field for the gooseberry amateur, and we have no doubt but the time will come when we shall have fine and delicious varieties that have been raised by judicious selection and cultivation from the varieties indigenous to America.

Mr. George Davidson, of Berlin, County of Waterloo, says that he knows no preventive of the mildew; has tried wet and dry land, light and heavy soils; has applied lime, salt, ashes, &c., &c., but without effect. Some persons recommend mulching the ground under the gooseberry plants with hay or grass soaked in brine, some to grow the portulaca under them, some to cover the ground with boards and whitewash the surface of the boards with lime and salt, some to pick off the diseased fruit, some to plant under the shade of trees, some to plant in the open sun. We believe there are localities and seasons in which all remedies fail, and the mildew runs riot through all the varieties of English Gooseberries; and again in some seasons, and in some favored localities, the fruit is as fine and fair as in England.

Mr. S. Crosby, of Markham, County of York, has been making some experiments in raising seedling Gooseberries. Perhaps he will favor the readers of THE CANADA FARMER with the results.

On Planting and Cultivating an Apple Orchard.

To the Editor of THE CANADA FARMER :

SIR,—Having had some experience as a cultivator of fruit, perhaps a few remarks on the subject may not be unacceptable to some at least of your numerous readers.

I have found that (other things being equal) Northern slopes are more favourable for orchards than Southern ones, especially for a young orchard; the scorching summer sun, and the severe droughts to which this part of Canada is subject, will often seriously injure young trees on a Southern slope. The great success of fruit culture in the Northern slopes of Western New York, and in the Niagara Peninsula of Canada is proof in point.

Orchards planted on flat level land, especially if clay or muck soil, are almost sure to die sooner or later; such soils are not good for orchards, but if used they should always be made dry, and free from water at or near the surface, as heavy soils cannot be made too dry.

I find it best to prepare the holes or pits for the trees some days before planting, and then place the trees with great care and pains, for planting in haste is a loss of labour and capital, more or less. I will give a case in point: Some years ago I met a neighbour of mine one afternoon, who informed me that he had planted upwards of 100 apple trees that forenoon. I told him that I had been engaged the same way the same time, but I had only planted some 8 or 10; at which he seemed much delighted at his superior prowess. I contented myself by stating to him that at the end of 20 years, my 10 trees would be as valuable as his 100 trees. And now, Mr. Editor, at the end of 26 years from that day, a gentleman who is well acquainted with the facts, says to me that three of my 10 trees, are worth the whole orchard that was so planted in a half-day, or the remaining balance of it—being about 50 trees, such as they are. But the subsequent care and management is of as much importance as the planting. Meadow, particularly clover, is very bad for a young orchard; such hoed crops as potatoes and beans, and even Indian corn are very suitable. I prepare for corn by good manuring, ploughing, harrowing, &c., after which the land is marked out so that a hill is made where the marks cross, and an apple tree, always in the row, occupying the place of a hill of corn, so that in cultivating and hoeing each way the tree gets the same dressing as the corn. I pursued this course with a young orchard planted two years ago, and I am not aware of one of equal thrift and vigor within some miles.

Yet corn is not so good for trees of a larger growth, for it being such a hungry feeder, its strong roots penetrating the earth to a depth around the roots of the trees, draws away a large portion of the nourishment. Crops of wheat, rye, oats, or barley, should only be grown in an orchard at intervals of 4 or 5 years, and about as seldom to grass, (but not red clover at all,) such as herds grass, orchard grass, or white clover.

I cannot agree with some very excellent men, that apple trees may be planted 18 or 20 or 25 feet apart. My own experience and observation for 34 years, induces me to favour 35 or 40 feet, instead of a less distance. To support this view, facts and arguments might be adduced that would, in my humble opinion, convince the most sceptical. Yet, let every man be fully satisfied in his own ways.

Yours respectfully,

A. MORSE.

Pomona Farm, Smithville, April, 1864.

CORNISH MODE OF RAISING EARLY POTATOES.—Sprouting the seed is now universally practiced wherever early maturity is desired. This is done in the following manner. An airy light room or loft, with windows to be closed in severe weather, has tiers of shelves filling up all its available space. These are often, from lack of room, too close to each other, and a foot from shelf to shelf may be given as a good average distance. On these shelves the seed is carefully placed, each on its end; one sack weighing two cwt. will thus require about thirty square feet of superficial space. With a due supply of light and air, and the occasional removal of any tuber showing signs of disease, they may remain till planting time comes. The great object is to secure strong, healthy and well-coloured shoots, about two inches in length; the neglect of ventilation and a proper amount of light producing weak, colourless shoots, liable both to injury in removing them, and to decay when planted. The earliest crops are now invariably grown from sprouted seed, and they are drawn a good fortnight in advance of the time when autumnal planting was the rule.—*Journal of Horticulture.*

Collecting Seeds of Forest Trees.

To the Editor of THE CANADA FARMER :

SIR,—Having read with much pleasure the article on "Forest Management," in No. 1 of THE CANADA FARMER, which was handed to me by a friend, I would like to draw your attention to an item which may be for some of our bush-farmers a new source of industry, it is the collecting of the seeds of our forest trees. This would not be an article of trade for Canada, yet always will find a ready market in Germany.

Some parts of Prussia, once as thickly wooded as Canada, would have been devastated in the same manner as Canadian farmers are doing now, but it was, at the right time, hindered by a Royal rescript. The owners of estates, with forests on their property, have to seed down the same amount of acres as they have cut down. To facilitate the getting of the seeds, kilns are erected in those parts of the empire where the largest royal forests are. The most saleable of those seeds would be pine, tamarack, and maple. The pines should be separated—white, red and yellow pines.

Although not a merchant myself, I am willing to show to any person the way to the best market in Germany.

Do you know of any person who has any of the above mentioned seeds? Please give me their address.

WILLIAM MAYNER,

Architect and Provincial Land Surveyor.

Montreal, 24th April, 1864.

NOTE BY ED. C. F.—We do not know of any seedsman in Canada who keeps the seeds enquired for by our correspondent, but we believe Thorburn, of New York, always has them on hand.

☞ Clean saw-dust scattered among strawberry plants, will not only enrich the land, but will keep the fruit clean and free from grit. Tan-bark between the rows is beneficial, keeping the ground moist and finally enriching the soil.

J. H. T.

Brooklin, C. W.

MANAGEMENT OF GREENHOUSE.—The majority of greenhouse plants love abundance of light, a mild, moist air and a soil composed of about equal proportions of fine sand, leaf mold, peat, or turfy earth, and very old stable dung. The soil should not be sifted, but the ingredients must be well chopped and mixed together. Geraniums dislike manure, and do best in clean turfy loam, made light by an admixture of sand.

I should advise an amateur not to attempt the growth of too many sorts of plants, but to have a good stock of calceolarias, petunias, geraniums, pelargoniums, fuchsias, fairy roses, hydrangeas, verbenas, alonsoas and heliotropes, and, unless he has plenty of time and means, to abstain from the growth of cactuses, aloes, nepenthes, and heaths and epacrises, as they involve much trouble, and require a purer air than that of towns. Give roses, pelargonius, fuchsias and hydrangeas the richest soil, and scarlet geraniums the poorest; keep calceolarias always moist, and use bog-earth in the compost.

In the first instance, purchase some good stock plants of a respectable nursery-man. Prefer strong dwarf plants to those that have run up like Lombardy poplars in search of light. In September, when the plants are brought in, cut them down low, leaving only three or four short stems to each plant, and always cut back to a good eye. Re-pot the plants in good soil, and in pots as small as the size of the plants will allow; if the pots are the least too large for any of the herbaceous plants, they are apt to run away in leaf and produce but few flowers. Give them a good watering to settle the roots, and let them grow slowly, but healthily, during the winter. In watering, never use cold water as it comes from a cistern, but add a little warm sufficient to make it comfortable to the hand but not so warm that steam shall be visible from it. I have long been in the habit of adding a minute pinch of soda or potash to every can of water, and have seen its good effect in the healthy appearance of my plants.—*Town Garden.*

THE BEAN.—It is much with the bean as with other fruit—it wants cultivation and attendance. Like corn, it does not want hoeing, farther than to kill the weeds. A mellow soil is particularly its liking; and a little sand or gravel is grateful. It will then do well in poor soil, though better if a little rich. We

have known the heaviest crops raised from rich soils—corn-producing soil. They will even do well among corn. We have seen this done largely, and see it every year. But the bean will grow where corn won't; and it will give you a white, marketable berry. Your soil rich, rows close, and hilled, i. e., ground drawn up to them, and then wet weather supervening, your beans are pretty sure of getting dark-coloured. Free cultivation in mellowing the ground and keeping it clear of weeds; the rows with plenty of air circulating through—a little nearer together than corn, otherwise treated much like it—is what you want. As to harvesting beans, it is considered the most difficult job. Many beans have been lost by not being well secured. We have lost them ourselves. They should be pulled much as you gather grain and corn, before too ripe, when the leaves are yet green, and the berry is yet soft—not milky. This seems early, but it is not. It puts your beans out of the way of the frost; it gives them a chance to ripen and to dry; and they will be plump, white and shiny—a sound, ivory bean, that will rattle when you pour it into the measure. There is great difference in the price of beans. Such a bean as we have described will command from a quarter to a third more in market, and less trouble is required with it than to get a poor quality. With beans it is knowing how to do it, more than with most grains. The best seed should always be selected for planting. Equal in size and equal in ripening, are the points.—*Valley Farmer.*

Veterinary Department.

Worms in Horses.

ANIMAL parasites are sometimes found in the intestinal canal of a horse in very large numbers; they often exist without producing any perceptible disturbance in the economy; yet, in some cases they unquestionably produce irritation, suffering, and ill health. The usual disease with which worms are connected is indigestion, known by fetid breath, tucked up belly, staring coat, loss of flesh, voracious appetite, and slimy stools. Worms—excepting bots—are supposed by some to be of spontaneous origin; but our opinion is, that they are the result of a perverted state of the parts in which they appear. The long, round worm is an inhabitant of the small intestines; and the pin, or thread worm, is generally found in the large intestines and rectum.

Treatment.—Various are the remedies used for the expulsion of worms. The chief are, wood ashes, poplar bark, sulphur, salt, castor oil, turpentine, calomel, tartar emetic, and aloes; either of which will sometimes bring away a quantity of worms. But the difficulty does not end here; the worms will generate so long as that morbid habit which gives rise to them exists; hence the course invariably pursued by the author is to change the morbid habit by alteratives and vermifuges combined. The following is a good example of the same:—

White mustard seed (whole); powdered mandrake sulphur; powdered wormseed (*chenopodium anthelminticum*); salt, ginger, and charcoal; of each two ounces. Poplar bark, one pound. Mix. Dose, one ounce, night and morning, in the food. Under the exhibition of this medicine, aided by proper dietary regulations, the animal will gradually improve in condition, and in the course of a short time the worms will disappear. Should the rectum abound in pin worms, an injection of salt will be indicated.

The following vermifuge is occasionally prescribed by the author, and it has, in some cases, brought away large quantities of worms:—

Castor oil, 12 ounces; oil of wormseed, 1 ounce; oil of tansy, 3 drachms.

To be given on an empty stomach, followed by mashes of fine feed or shorts, well seasoned with salt. To be repeated, if necessary, until the bowels respond.—*Dr. Dadd.*

Prevention better than Cure of Disease.

To keep animals in health, is more important than to cure sick ones, and for this purpose a few leading rules should be always observed, and which cannot be out of place here.

1. Always feed regularly, as to time and quantity. Many animals are made sick by starving at one time, and stuffing at another. Especially never over-feed.

2. The same rule must be observed with watering—and let the water be pure.

3. Never over-work animals—regular and moderate exercise will enable a working animal to do more the year through, by all odds, than any hurried driving at one time and resting and over-feeding at another, and be infinitely less liable to disease.

4. Allow a regular supply of salt—it is useful, but an observance of the preceding rules without salt, will be incomparably better than their infraction with it.

5. Never feed musty or bad food. If musty fodder must be used, pass it through a rapid cutter, and moisten, salt and meal it.

6. Avoid unwholesome or poisonous plants in pastures and in hay.

7. Guard all animals against cold rain, and snow falling on them, and against lying on cold, wet ground.

8. All changes of food must be gradual. If from hay to grass, let the grazing be but an hour the first day, two hours the next, three the next, &c. The same caution must be carefully observed in beginning to feed with roots, grain, &c.

9. Be careful that animals always have enough of exercise—and plenty of pure, fresh air. Stables must be well ventilated—animals often become sick from breathing foul air.

10. Lastly, and by no means least, let strict cleanliness be observed. All animals, even pigs, kept clean and carried, are found to maintain their flesh better, or fatten faster, than when dirty or neglected—and cleanliness is more important to health than for flesh.—*Ex.*

Entomology.

The Turnip Bug or Flea.

To the Editor of THE CANADA FARMER:

SIR,—In my last I spoke of a certain insect which affects to a great extent our root crops, namely, the "wire-worm." This insect I attempted to expose as affecting the "bulb" or "root." Now there is another insect, not very generally known by its proper name, which will destroy a whole crop of turnips or cabbages by its attacks upon the leaf. This pest is generally known as "Flea"—"Turnip Flea Beetle." Its scientific cognomen is "Haltica," there being two kinds, "Haltica Concinna" or "Brassy Beetle," and "Haltica Memorum" or "Striped Beetle." They are distinguishable by the marks on the "Elytra" or External Wings. The "Elytra" of the "Concinna" are marked by a dark, brassy colour, spotted slightly, the "Memorum" being of the same hue, but striped. They are one of the smallest species of beetle known, and yet do damage to an inconceivable extent. The "Haltica" feed chiefly on a tribe of plants known to the botanist as "Crucifera" or "Cross Plants." The turnip on first appearing above the ground throws forth two leaves, known as the Cotyledon leaves. These Cotyledons, as you may easily perceive, thus form the very lungs of the plant, and these our insect attacks. In March and April thousands of these insects come forth, and feed on the weeds of the species "Crucifera," such as Charlock, Mustard, Cresses and Rape. We may rank these weeds as the nursery of the Haltica. When the turnip first appears about the commencement of June, this insect forsakes the weed and attacks the plant, breaking the "Epidermis," or eating into the cells.

Now the reason why these insects are so little known is, that they are excessively difficult to find. Directly a shadow is thrown upon them, they leap from the plant and hide themselves in the ground. Go into your field now and examine your young turnip plants; get the sun in front of you, stoop down and scrutinize closely, you will see the little rascal quietly feeding on the tenderest of leaves, and eating dollars out of your pocket; pass your hand quietly over the plant so as to throw a shadow, and you will perceive this flea hop off and hide itself in the clods below.

Such is the insect; what is the remedy? It is simple. Be careful to sow no dirty seed. If you sow charlock weeds with your seeds, you will be forming a nursery in which to rear your enemy. If we consider that the seeds from one plant of charlock produce 4,000 to 5,000 such weeds, the importance of sowing clean seed must be clear to all.

AN OLD COUNTRY MAN.

Glanford, May 30th, 1864.

Toads.—Live toads form a regular article of commerce in the London market. They are generally imported from France, and sell from fifty cents to \$1.50 per dozen, according to their size and activity. They are purchased by market gardeners in the vicinity of the city, to protect their choice vegetables from slugs and insects, which they do very effectually.



The Apiary.

Advantages of Moveable Comb Hives.

To the Editor of THE CANADA FARMER:

SIR,—There are many, especially in Canada, who look upon every attempt to improve upon the old box or straw hive as useless, hence they consider every patent hive a "humbug." Doubtless many, if not all, the patent hives which have been offered for sale in Canada, until quite lately, were worthless, or nearly so; but it by no means follows that all patent hives are "humbugs"—that no improvements can be made upon the plain box or straw hive, and that we must still resort to the "old-fashioned," cruel and unnecessary practice of killing the bees to obtain their honey. No person is prepared to judge of the merits of a hive until he understands the nature and habits of the bee. It is ignorance in this respect that causes persons to buy such patent hives as are described by "B." in THE CANADA FARMER of May 2nd, page 120. Those patent hives, called "dividing hives," in which a partition is used, with a hole through the partition, are worthless, for the same reasons as those described by "B." In one side of the hive they will build nearly all brood comb; when that is full they will pass through the partition and build all store, or coarse comb, the same as they would build in a box. When cold weather comes on the bees will crowd into the part containing brood comb, and where the queen is, of course, and if they get out of honey there, as they are pretty sure to do, they will starve, with plenty of honey in the adjoining side, as it is so cold they cannot move through into their store-house, which is full of frost and ice from the breath of the bees, and they will as soon enter fire as frosty comb. Bee-keepers who have used the plain box-hive, with drawer on the top, will have experienced the same difficulty—whole colonies perishing with a drawer full of honey. Now, all these difficulties; and many, if not all others, are overcome with a properly constructed moveable-comb hive. All moveable-comb hives, however, are not properly constructed, but such as are, possess many advantages over any other hive now in use, some of which I will mention. The comb is not attached to the body of the hive, but hangs in moveable comb-frames, which allow the bees to pass over the whole surface of the comb, that is, between the comb and hive, on every side, giving more ready access to every part of the comb to deposit their honey. In winter it allows the congealing breath of the bees to pass down the walls of the hive without coming in contact with the comb. The combs are thus preserved, to a great extent, from frost and ice. Again, the comb may be removed at any time for the purpose of destroying the moths; removing old and dark comb; obtaining honey from the body of the hive; giving to a colony or taking from a colony; and queen cells containing nymph queens, as may be desired; also, by means of the moveable-comb frames, the apiarian is enabled to divide his colonies, to make artificial swarms successfully, and save the care and loss (by swarms escaping to the woods) attending natural swarming. Still further, the boxes for surplus honey being of the same temperature as the body of the hive, the bees will work earlier in the morning, and more readily than in close or common hives; and the bees, having quite as easy access to the boxes as to the base of the hive, will deposit far more surplus honey than in common hives; also, the bees at work in the boxes are not separated from the mass, as in other hives. The difficulty which your correspondent, "B." finds, is entirely removed, as the apiarian need not allow the bees to work in the boxes until they have amply supplied the body of the hive with honey for winter use, which may easily be known by examining the hive. Moreover, with a properly constructed movable-comb hive, millers may be kept out by shutting the bottom-board at night. Drones may be shut out and destroyed, thus saving a large amount of honey, and the bees shut in whenever the hives are to be moved. In fact, the apiarian has perfect control of the bees, and the difficulties heretofore experienced are entirely removed.

J. H. THOMAS.

Brooklin, C. W.

A Method of Hiving Bees.

TAKE a smooth dish with a handle and carefully lift a portion of the bees from the thickest part of the cluster, and turn them down in front of the hive—let this be done again and again until a quart or two of the bees have been removed—by this time they will commence to call the others to their new domicile by humming in and out, and making a continuous buzzing sound with their wings. If the bees are then so scattered that the operator can do nothing more by dipping, and those at the hive continually buzzing, he may take a handful of grass, or a bunch of leafy twigs, and strike them lightly, until they are all driven from the spot of clustering. They will then make a few circles in the air, and alight at the call of the others in front of the hive. If the queen is with them, they will soon all go up, become quiet, and may be removed to the stand.

If an Apiary is near large and high trees, the bee-master will often have considerable difficulty in hiving his swarms; yet if the spot upon which they have clustered can be reached by a ladder, the bees may be hived, although upon a large limb, or even upon an elevated portion of the body of the tree. In such cases the hive may be brought near the cluster by elevating it upon a table or stand. The swarm should then be saturated with the sugar-water in such a manner as to moisten the greater part of the bees; this will not only render them good natured, but it will increase their weight and prevent them from being able to fly until the fluid has been evaporated or swallowed by the bees; then let the operator take a light box and dipper, ascend the ladder a second time, and dip off the greater part of the bees and put them into the box, which he should hold with one hand during the operation of dipping with the other. When the greater part are in, he may come down quickly and empty it in front of the hive. The remainder of the bees upon the tree may then be disturbed with the bunch of grass as before directed, when they will soon leave and join their fellows at the hive.—*Colonial Farmer.*

Robbing Hives.

ONE source of trouble and loss to inexperienced bee-keepers, is the robbing of hives. On the principle that "might makes right" the stronger colonies attack the weaker ones, deprive them of the means of subsistence, and blast the hopes of the apiarian. These depredations are usually committed on warm sunny spring days, prior to the growth of flowers. They may be effectually prevented by very simple, precautionary measures. The weak families should be sought out, and the passage into their hives made so small that only one or two bees can enter at once; this enables the rightful occupants of the hive to defend themselves against intruders and marauders. The invasion of a hive is proved in early stages by the fighting of the bees at and around the entrance. In such a case, the only remedy is to close up the hive until evening, then open it and allow the robbers to go home. Next morning, before the bees have gone out, close up the entrance to the robbed hive, giving air by putting a thin strip of wood under one side. Next day the passage must be opened so that one or two bees can pass at once, and the attacked colony will be able to maintain a successful defence.

Artificial Swarming and the Moths.

To the Editor of THE CANADA FARMER.

SIR,—Those intending to practice artificial swarming the present season, should establish their nucleus for rearing young queens for the forced swarms, and others that may become queenless during the summer, if they have not already done so. I am of opinion that the common honey-bee of the country can be improved in size, industry, and temper. Take from the best hive in the apiary a frame with comb brood bees, and be sure that there are eggs in the workers' cells to breed queens. As soon as the young queens are about twelve days old, they should be used; for when the first leaves her cell, she will immediately destroy all the others. As soon as the queens are all used from the first comb, return it to the hive after shaking the bees from it, and supply the nucleus with a fresh comb as before described. Queens one year old seem the best to breed from.

A word about the honey moth. I have come to the conclusion that the female moth will deposit her eggs in any vacant comb in any hive she can enter. There they remain until the queen bee deposits her eggs in the same cell, and the nurse bees hatch the egg of the moth and bee at the same time. When the brood is sealed, the moth devours the young bees.

DIOGENES.



Poultry Yard.

The Hen Question—Is Poultry Profitable?

This following from the Springfield (Massachusetts) *Republican*, will have some interest:—

"We have been highly interested, of late, in the success of a young German family near us in the poultry line, and are permitted to draw from their six months' account book. On the 1st of January, 1863, Lewis Ritter, of West Springfield, had fifty-two hens, chiefly black Spanish, and five common ducks, inventoried all told at \$22.50. They were kept in a warm octagonal poultry-house and yard near the junction of the Connecticut and Agawam Rivers. In the month of January they laid 307 eggs, which sold, at 28 cents a dozen, for \$7.16. They ate that month three bushels of corn, worth \$3.16; one bushel of buckwheat, worth 80c.; fifty pounds of meat, worth 89c.; 64 pounds of meat, worth \$1.23; refuse onions, worth 30 cents, and red peppers worth 12 cents; total, \$6.54. The profits of that month were 62 cents. Only about ten of the fowls laid, or the profits would have been much greater. They were capable of five times that yield. In February they were similarly fed (except that the buckwheat and meat were increased, and the corn and meal decreased) at a total cost of \$6.21, and they yielded 492 eggs, which sold at about 25 cents a dozen, for \$10.80. The profit this month was \$4.66. In March they laid 434 dozen eggs, which brought \$8.80, besides 26 which were used for setting. They consumed \$6.70 worth of feed, and yielded a profit of \$2.15. In April their keeping cost \$7.16, and they laid 654 dozen eggs, which brought \$16.25, yielding a profit of \$8.09. The price of eggs ranged from 22 to 36 cents, according as they were sought for setting. In May they were charged for feed \$8.61, and credited with 51 dozen eggs, at \$10.20—profit \$2.16. In June they ate \$7.10 worth, and yielded 42 dozen eggs at \$10.43—profit \$3.33. Total profit for six months, \$21.96. The least profit was in January, and the greatest in April.

From the same source we learn that pullets hatched in March often commence laying in September, that fowls commonly decrease in their laying properties after their second year, and that eggs of maturest hens are surest to hatch. The estimate for the yield of a good laying hen the first year is 150 eggs, the second year 100 eggs, and the third, 50 eggs. Continued laying debilitates a fowl, hence good layers are often poor setters, and the worse fateners. Polands and black Spanish fowls stand highest as layers, game fowls as setters, and Dorkings, among the English, are prominent for the table. For all purposes combined, probably the Brahmas or Dominiques are best. The Brahmas, doubtless, are the best of all the Asiatic varieties, and their large size, yellow skin, juicy flesh, and winter-laying, make them very desirable."

Speaking of the laying qualities of pullets, reminds us that we knew a brood of chickens to be hatched on the 28th of October, 1829, up in the cold region of Vermont. They thrived and did well. In that icy climate, hens were not expected to and did not commence laying till about the 1st of March. One of the three chickens spoken of was a pullet, and it was an egg laid by her that furnished us the first fruit of our hunting hens' nests that season. She was not much, if any, over four months of age.

GAPES IN CHICKENS.—A writer in the *Rural New Yorker* says that he has found by accident, that dough raised with milk rising is a sure and safe remedy for gapes in chickens, fed while fermenting, but while still sweet. He has tried it for six years, but says that where he seasons the feed of his chickens with salt, as for cooking, they never have the gapes.

THE BRAHMA FOWLS.—A farmer in Massachusetts who has had experience in keeping poultry of different breeds, and upon a somewhat extensive scale, has decided in favour of the Brahmas. He says, "they surpass in laying qualities, and for the market, any breed of fowls he has ever kept." This opinion also corresponds with that of many parties in this city and elsewhere who have given them a fair trial. —*Maine Farmer.*

THE DE SORA POULTRY HUMBUG.—The *Country Gentleman* claims to have demonstrated that the great French poultry establishment, whose fowl and eggs were said to be produced by the million, is a fiction. Doubtful of the truth of the big stories in circulation about the monster establishment, our contemporary prevailed on a gentleman about to proceed to Paris to investigate the matter. This gentleman writes from Havre, under date of April 14, 1864, as follows: "As to M. de Sora and his chicken establishment—at the *Halles*, the great market of Paris, I inquired of several large dealers in eggs and fowls, and none of them had ever heard of him, or any establishment of the kind conducted on the scale his was said to be. At the *Camploir National d'escompte*, where, had he any paper out, or did he any banking business whatever, they would have known him, they could give me no information. Two of the large hotel-keepers of Paris also knew nothing of him. I wrote to one of the largest dealers in game and *volailles* in the Palais Royal—he had never heard of either M. de Sora, his chickens, his capons, or his eggs. I searched the *Almanach Bottin*, which contains the name, one might say, of every individual of any note doing business in France—that of de Sora was not to be found. After all this, I think you can safely put him and his establishment down as existing only in the imagination of some *farceur*, who from time to time amuses himself by gulling the public with the statistics of this great affair, which no one else has ever either seen, or even heard of, except through him in the journals."

DOMINIQUE FOWLS.—This variety is, very justly, becoming popular where best known, especially for hardiness. We find the following description of them in a very valuable article upon poultry, in the late report of the Department of Agriculture:

"The *Dominique* is the best fowl of common stock that we have, and is the only fowl in the country that has enough distinct characteristics to entitle it to a name. These fowls are full medium size, being but little less in weight than the Dorking, have full breasts, rounded full bodies, double or single combs, and yellow legs. Their main plumage has a light grey ground colour, while each feather is barred crosswise with a darker shade. They are frequently known by the name, "hawk coloured fowls." They are hardy easily raised, retain their peculiarities with great tenacity, have yellow skins, a colour preferred by many for a market fowl; and taking these fowls all in all, they are one of the best varieties in common use."

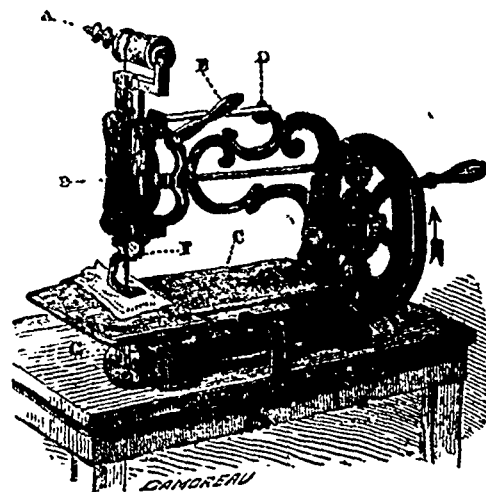
The flesh is good and they are fine layers. They roost high and hence are not in the way like the lazy Asiatic fowls.

The Black Spanish are most beautiful fowls, but a winter like the past is very disastrous to them. Undoubtedly, with extra care in winter, they are the best layers in the world; but we would not recommend them for the general fowl of the farm by the side of the *Dominique*. The Spanish for a village or city are first.

To substantiate our estimate of these fowls we will state that Mr. Wentworth, who has experimented with almost every kind of known fowl, has abandoned all others, and is now starting with the *Dominique*. We know of none of them for sale in the West.—*Prairie Farmer.*

TURKEYS.—Turkeys may be made profitable where they can have the range of a piece of road way or pasture and meadow. Three hens and a gobbler are better than a great number. The black and bronze varieties are esteemed the hardest and best. They will mate about February or March. Take the first litter of eggs and set under common hens; the turkey hens will soon lay again; now let them have all the eggs they will cover, and sit. When the young are hatched, you should so divide those hatched by the common fowls as to be taken care of by the turkeys; confine the young chicks in a small pen, made of a few boards, on a well covered grass plot, and change the pen every few days. They should also have shelter in case of storm. Feed bread crumbs and hard boiled eggs chopped fine. Avoid corn meal, unless first baked and soaked in milk. Young turkeys are very tender, while the grown bird is very hardy. In pasture or meadow we think them very useful, because they feed on and destroy innumerable insects.

The Household.



Raymond's Improved Family Sewing Machine.

THERE is no branch of industry in which invention has done more to help the toiling millions than by the application of machinery to the purpose of sewing. The great saving in time and cost which is gained to the tailor, shoemaker, dressmaker, &c., by the use of a sewing machine, has made it an indispensable necessity to them, if they would carry on business profitably. The leading machines are so favourably known, and have earned such an established reputation, that they are confidently bought by the parties above named, at a heavy outlay, with the certainty that they will quickly repay their cost. These machines, however, are all, more or less, complicated, and require a great deal of time to be spent in learning successfully to use them. In the workshop and manufactory they have proved a great help; but many families who have felt able to purchase one of the expensive articles, have found, to their great disappointment, such unlooked for difficulties in working it, that they have set it aside in despair as useless. The wants of the family are not met by the machine purchased, simply because it is not easily adapted to the great variety of work to be done, it requiring a skillful workman to put it in proper order for each class of goods to be sewed.

The machine represented above was designed and brought out expressly to overcome this difficulty. The aim has been to produce a machine so simple that any one can change it from the coarsest to the finest work, and use it successfully on every class of family sewing, and at the same time to make it at so small a cost, as to be within the means of every-body.

These objects, it is believed, have been accomplished. This machine has been in use and on trial for several years. It has from time to time been improved, so that it has now reached a high standard of excellence. Taking all things into account, it is undoubtedly the best machine made for family use. Its cheapness, combined with its efficiency, makes it the sewing machine for the million. After some months' trial of it, it is only justice to say that it has far exceeded our expectations, and proved itself a most effective machine for all ordinary purposes. We understand it is having a large and increasing sale, and have little doubt that when better known it will take its place as a welcome member of many of the households of Canada.

This machine is manufactured at Guelph by Mr. Charles Raymond, the inventor, and sold at \$12. It is also for sale by Mr. A. Christie, local agent, King Street, Toronto, and by Mr. John Hewlett, travelling agent, Gerrard Street, Toronto. Further information may be had on application either to the manufacturer or agents.

RICE SOUP.—Boil one gill of rice in a pint of water till soft; then add a pint of milk, a teaspoonful of sugar, and simmer gently five minutes.

BLISTERED HANDS AND FEET.—The speediest remedy is to light a tallow candle and let the melted tallow drop in cold water; then mix the tallow with strong spirits, and rub it thoroughly into the palms or soles; this is both a preventive and curative.

VOLATILE SOAP, FOR REMOVING PAINT, GREASE-SPOTS, &c.—Four table-spoonfuls of spirits of hartshorn, four table-spoonfuls of alcohol, and a table-spoonful of salt. Shake the whole well together in a bottle, and apply with a sponge or brush.

REMEDY FOR EARACHE.—M. Duval says he has found relief in severe earache, other means failing, from a mixture of equal parts of chloroform and laudanum, a little being introduced on a piece of cotton. The first effect is a sensation of cold, then numbness, followed by a scarcely perceptible pain and refreshing sleep.—*Brit. Med. Journal.*

JELLY OF CODLIVER OIL.—M. Dufourmantle proposes the following recipe for preparing a jelly of this disagreeable medicine. Take of codliver oil, 30 grammes, isinglass, 2 grammes, water, a sufficient quantity to dissolve the isinglass. When the latter is dissolved, add the oil gradually, stirring constantly, aromatizing it at the same time with anise or other oil, four drops. A large table-spoonful of this jelly is a dose.—*Jour. de Pharm.*

SPLIT PEAS AND BARLEY SOUP.—Take three pints of split peas, half a pint of pearl barley, half a pound of stale bread, and one turnip, sliced. Wash the peas and barley, and steep them in fresh water at least twelve hours; place them over the fire; add the bread, turnip, and half a table-spoonful of sugar; boil till all are quite soft; rub them through a fine colander, adding gradually a quart of boiling water; return the soup into the pan, and boil ten minutes.

POISON.—If a person swallows poison deliberately or by chance, instead of breaking out into multitudes and incoherent exclamations, despatch some one for the doctor. Meantime, run to the kitchen, get half a glass of water in anything that is handy, put into it a teaspoonful of salt, and as much ground mustard; stir it an instant, catch a firm hold of the person's nose; the mouth will soon fly open—then down with the mixture, and in a second or two up will come the poison.

REMEDY FOR CANCER.—Take a quantity of red oak bark, burnt to ashes; to this add water; boil to the consistency of molasses; apply to the part affected; leave on for an hour; afterwards cover the plaster with tar; remove in a few days, and if protuberances appear in the wound, apply the plaster and tar alternately until they all disappear, after which apply any healing salve. This remedy effected a cure in the case of a gentleman in Missouri. The cancer was on his nose, and after being treated by the ablest surgeons, and suffering painful operations with the knife, etc., was cured with the above preparation.—*Working Farmer.*

PICKLED PORK EQUAL TO FRESH.—A lady contributor at Perry, Ill., sends the following direction:—"Let the meat cool thoroughly; cut into pieces four to six inches wide; weigh them, and pack as tight as possible in the barrel, salting very lightly. Cover the meat with brine as strong as possible, and mix with it one table-spoonful of saltpetre for every hundred pounds of meat and return it to the barrel. Let it stand one month, then take out the meat; let it drain twelve hours. Put the brine in an iron kettle, add one quart of molasses or two pounds of sugar, and boil until perfectly clear. When it is cold, return the meat to the barrel, and pour on the brine. Weigh it down, and keep it covered close, and you will have the sweetest meat that you ever tasted."

NEWFOUNDLAND HOUSEWIVES.—While cutting bread and butter for me, my hostess complained of the difficulty of keeping the bread thawed; "and yet" she said, "I put the loaf in the bed, and wrap it up close as soon as ever the boys turn out." Alas! for a weak stomach. However, it was that food or none for me then, and I had to overcome all qualms. Little did I expect that in my own house any such mode was used. One night, however, near the same time, my brother, who had lately come from England, wanted supper in my absence. The two servants were gone to bed, and upon searching the pantry for himself he found no bread. In the morning plenty was on the table, and he asked how it was that none was to be found the night before. The girl's reply was, "Oh! sir, we always wrap up the bread and place it in the foot of our bed at night."—*Morden's Life and Work in Newfoundland.*

Miscellaneous.

Tile Works.

To the Editor of THE CANADA FARMER :

Sir,—In your issue of March 15th, my attention was arrested by a motion brought forward in the House of Assembly, by the Hon. Mr. Brown, with regard to the adoption of measures for the advancement of agriculture in the Province. I have heretofore felt surprised to see so much cold indifference manifested by our legislators toward the development of the agricultural resources of the country. But better late than never. While I feel that the warmest thanks of the agricultural community are due to the Hon. Mr. Brown, for the mode of action pursued, I would beg leave to disagree with the proposal to appropriate a sum of money for the importation of choice stock commendable as the question might be at a future period of time. My opinion is, were this appropriation to be devoted to aid in the construction of tile works, whereby the farmers could be enabled to obtain tile at a cheap rate, it would meet a more urgent present want. Were those commissioners (practical men I deem they will be) to visit the several counties in their appointed jurisdictions, and therein establish tile works in the most eligible localities, it would be an enterprise of the greatest utility to the farmer. One great advantage draining affords to the farmer, is the early opportunity of seed deposit. In proof of this I would state, that I know of many farmers on this 13th of May, who have not yet sown but a very limited amount, owing to the damp, flooded condition of the land. Were such land once thoroughly drained, seed could be deposited at least three weeks earlier, and by the early start thus obtained, the fatal ravages of the midge, would, in a great measure, be obviated. Besides giving a more bountiful return, early sowing secures for each cereal variety a greater degree of maturity.

Draining would open up a vast mine of wealth, now locked in torpid inutility. It would produce a mighty increase of profit to the farmer, while an immense amount of revenue would ultimately flow into the coffers of the State from such improvement.

It appears to me unwise to import choice breeds of stock from the luxuriant, highly-cultivated fields of France and England, to graze on the very innutritious herbage of Canadian marshes. The pasturage afforded from such undrained lands would tend much, in my opinion, toward the deterioration of the best breed of animals that could be imported. I would, therefore, first recommend the preliminary process of underdraining, and that once thoroughly consummated, choice foreign breeds of stock could be introduced, and more amply supplied with the various kinds of food suited to their requirements.

JAMES TORRANCE.

6th Con., Goderich, May 23rd, 1864.

Drain Tiles Below Hedges, &c.

To the Editor of THE CANADA FARMER :

Sir,—I see in No. 9 of the CANADA FARMER that "G. Y.," of Ormstown, C. E., wishes to know if drain tiles laid immediately below a hedge or row of trees will choke up with roots. My experience, so far, is that they will. I have seen the tiles taken up after a few years, and a rope of roots from two to three yards long, which effectually stopped the water.

Can any of your numerous correspondents inform me the best time to transplant evergreen trees from their native wilds or soil, such as pine, cedar, balsam and spruce?

ROBERT E. SHAW.

Cedarsville,
Near Richmondhill, May 23, 1864.

Owts. instead of Tons.

To the Editor of THE CANADA FARMER :

Sir,—In reading in No. 5 of THE CANADA FARMER, an article taken from Experiments in Manuring the Turnip by the Chémico-Agricultural Society of Ulster, I perceive there is a mistake in the weights given as there you have the weights marked *owts.* instead of *tons.* The greatest weights obtained is only marked 33 *owts.* 1 *qr.*, which would be considered a complete failure in the old country.

Toronto, March 28, 1864.

A SUBSCRIBER.

Measuring Grain in the Bin or Heap.

To the Editor of THE CANADA FARMER :

Sir,—Led by the suggestion of your "Subscriber," in the last issue of your very valuable paper, I venture to offer for insertion the following

RULES FOR MEASURING GRAIN :

Let it be borne in mind that the *Standard Imperial Bushel of Great Britain* contains 2218.192 cubic inches; and that to apply these rules the dimensions must be taken in inches.

Now, making a little allowance for inaccuracy of measurements, we have

First.—To measure grain in a bin. Multiply the length, breadth, depth and 10 continually together, and dividing the product 2218.2, the quotient will be the number of bushels.

Second.—To measure grain in heaps. Multiply the *str.* of the perpendicular and slant height, their difference and the perpendicular height continually together, and the product by .00048, when it is heaped in the middle of the barn floor,—by .00024, when it is heaped against the side of the barn,—and by .00012 when it is heaped in the corner of the barn, and in each case the last product will be the answer in bushels.

NOTE.—The 2nd statement may be demonstrated thus:—Let a = the slant height and b the perpendicular height. Then $a^2 - b^2$ = square of radius of base of heap, and $(a^2 - b^2) 3.141592$ = area of base of heap $(a^2 - b^2) 3.141592 \times \frac{b}{3}$ = solid contents of heap which, being divided by 2218.192 and reduced, = $(a^2 - b^2) b .00048$, which, in turn, since $a^2 - b^2 = (a + b)(a - b)$, becomes $(a + b)(a - b) b .00048$.—

Q. E. D.

Danville, C. E., May 21, 1864.

The Thistle Bill—Measuring Wheat in the Bin, &c.

To the Editor of THE CANADA FARMER :

Sir,—The kind encouragement you give to farmers to write for your columns, coupled with the really useful, and interesting mass of information, which has already been sent by correspondents, have set my fingers an itching to pen down a few thoughts.

A correspondent in last FARMER, hopes that Mr. Stirton's "Thistle Bill" will not become law—he thinks that it will cause litigation, and be productive of expense and mischief generally, through the country. Of course, to some extent this will be the case, but the disease is bad, and requires strong medicine. With some slight modifications, the bill is the very thing we need, in this part of the country, and I hope it will become law.

Another correspondent wants to know, how to find out the number of bushels of wheat in a bin of a given size.

Ans.—Find out the number of cubic inches of wheat in the bin, then divide by 2030, and that will give the number of bushels.

I want information from some of your "apiarian" correspondents. Wishing to get myself into a stock of Bees, I purchased, a few weeks ago, an old fashioned straw hive, set on a box some 10 inches deep, with a hole 5 inches in diameter in the top. On examination after bringing home, I found comb projecting downwards through the hole 5 or 6 inches. I wanted the bees to swarm this season, and thinking they would not do so while they had so much room, I cut the box away: was I right or wrong?

L.

Co. Huron, Township of Hay, May 10, 1864.

"Rules of Measurement Enquired for."

To the Editor of THE CANADA FARMER :

Sir,—I beg to state that hay in the bay, taking pure timothy as a standard, $4\frac{1}{2}$ lbs. to the cubic foot, will give the contents of the bay, under ordinary circumstances of pressure of grain over it. All new land hay weighs heavier than old. The length, breadth, and depth, of wheat in a granary being given, how do you calculate the number of bushels? A bushel contains 2150.4 cubic inches, and a cubic foot is 1728 cubic inches, it follows that a bushel contains $1\frac{1}{4}$ cubic feet nearly. To answer your question, (say a bin is 8 ft. long, 4 ft. wide, 5 ft. high,) $8 \times 4 \times 5 = 160$, then $160 \div 5 = 32$, $160 - 32 = 128$ bushels = capacity of bin.

Campbellford, May 10, 1864.

A SUBSCRIBER.

Weather and Crop Items.

Our Hay correspondent, "L.," writes us at date of June 7, 1864, as follows:—

"When I wrote to you last, the 10th of May, the prospects of the farmers in this locality were gloomy indeed, but a few days brought a change. The weather dried up after the 18th, and we have had fine growing weather since. Most of us had to sow when the ground was too wet, it has now got very hard, and a genial rain would be very welcome. I had occasion to travel through a portion of this township, on the last day of May, and found a good many farmers still sowing grain. The braird of spring crops looks very well where not sown too early. From all accounts, a larger quantity than usual of barley has been sown. The fall wheat is rallying fast, and bids fair to be an average crop after all. I saw some fields of it, the other day, in the shot blade. Upon the whole, the prospect brightens, and it is pleasant to see the farmer smile again, and hear his hearty salutation of—" Good day, sir! fine growing weather!"

Our correspondent adds:—

P. S. "June 9th. I open this letter before the mail leaves, to inform you, that we have had a heavy frost this morning. Our early potatoes, and garden vegetables, that were up, are badly punished, and I am afraid that it will have hurt the fall wheat, wherever it is well forward."

"C. G." writes from Manvers, June 6, 1864: "There has been a great breadth of fall and spring wheat sown in this township. A great deal of the fall wheat has been killed, but the spring crops of all sorts, so far, look first rate."

The *Sarnia Canadian* says: "The spring crops in this locality are beginning to show a healthy appearance. Spring Wheat, Peas and Oats look well for the time they have been in the ground, and farmers are expecting a good crop of grass. The fall wheat is admitted to be a failure. Much of it has been ploughed up, and what remains is not very promising in appearance. There is a prospect for a good crop of fruit. We are glad to see that many of our farmers in the country are giving more attention to this branch of industry than formerly. We had the pleasure of a flying visit through the north part of Plympton, last week, and of noticing the signs of industry and prosperity. Sheep were being sheared, and the crop of wool was fully equal to the expectations of the owners. The spring work was nearly completed. Much attention has been given to orchards and fruit gardens, and the result is very satisfactory in present appearances. Captain Hyde, Messrs. Rawlings, Haggarty, Symington, and others can look with pleasure on the result of their efforts in the horticultural department. We hope many of their neighbours will visit some of these orchards and gardens when the fruit ripens, and be induced to follow their example."

The *Waterloo Chronicle* says.— The weather for the last few weeks has been very dry and for the most part singularly cold. On Monday night a heavy frost committed great ravages in the gardens, proving especially destructive to beans, cucumbers, melons and corn. Grape vines were also very severely dealt with. The crops for the most part do not present a very flattering prospect, and if the present dry and cold weather be much prolonged the yield will prove very much below an average. The Fall Wheat fields look very spotted, though a fine field may be met with now and then. In a trip of upwards of thirty miles through Waterloo and Wentworth counties, we have, however, found the good fields the exception instead of the rule. A gentleman who travelled through Toronto Township informs us that in that section wheat will prove a complete failure. People are however apt to take gloomy views, especially in hard times, so that the result may prove more favourable than the anticipations that are now entertained would promise."

JUNE MONTHLY CATTLE FAIR AT GUELPH.—At the monthly Cattle Fair to-day there was a good attendance of buyers. The number of cattle on the grounds was not so large as at previous fairs, and good cattle were in demand. A few of the cattle offered were good ones, but the larger portion were mitch cows and second-class cattle. Prices were a shade below those of the last fair, and may be quoted at from \$3 25 to \$4 per cwt., live weight.—*Guelph Advertiser, June 1st.*

Farmer's Song.

[For the Canada Farmer.]

In a pure healthy spot with a farm of his own,
Secluded from tumult and strife;
The farmer more blest than a king on his throne,
Enjoys all the comforts of life.

When the sweet smiling Spring sheds its perfumes around,
And music is poured from each tree,
With his well-guided plough he furrows his ground,
And feels independent and free.

When Summer to fruit the sweet blossoms transforms,
And his harvest-fields wave in the breeze,
His heart with glad hope and expectancy warms,
And rests in contentment and ease.

When bountiful Autumn her treasures bestows,
And his crops are all gathered and stored,
His soul to the Giver with gratitude glows,
And plenty presides at his board.

When Winter howls dimly over the earth,
And want tells its tale at his door,
Serenely he sits by his bright, blazing hearth,
And dispenses relief to the poor.

Then let idle ambition her baubles pursue,
True wisdom looks down with disdain;
The home of the farmer has charms ever new,
There health, peace and competence reign.

A. T.

Markets.

Toronto Markets.

"CANADA FARMER" Office, June 13, 1864.

Flour dull and lower. Superfine, nominal at \$3 50 to \$3 75 per barrel. Extra \$4 40 to \$4 60. Fancy, none in market, Superior \$4 75 to \$5 10; Bag Flour \$4 00 per 200 lbs.
Fall Wheat, weaker, 80c to 85c for common to extra per bushel.
Spring Wheat 75c to 78c per bushel.
Barley nominal at 50c per bushel.
Oats in good supply at 35c to 38c per bushel, for common to good, 40c to 41c for good to extra, occasionally a load brings 42c to 49c.
Peas 45c to 50c per bushel for common to good; 52c to 65c for good to extra.
Hay \$3 00 to \$11 00 per ton. Straw \$5 to \$7 per ton.
Hides (green) at 5c per lb., tanned, 8c to 6 1/2c per lb.
Calf-skins at 8c to 10c per lb. Sheep-skins at \$1 90 to \$2, the latter for extra. Wool, 44c to 45c per lb.
Coal \$1 25 to \$9 per ton. Wood \$4 25 to \$4 60 per cord.
Provisions—Hams 10c to 11 1/2c per lb. wholesale. Fitch Bacon 7 1/2c to 9c per lb. wholesale, 8 1/2c to 10c retail. Cheese, wholesale 11c to 11 1/2c per lb., retail 14c per lb.
Beef—Inferior \$5 to \$5 50 per cwt.; extra, \$6 to \$6 50 per cwt. wholesale; 7c to 9c per lb. for ordinary; 10c to 12 1/2c for superior, retail.
Calves scarce at \$4 50 to \$6, upwards.
Sheep, clipped, \$3 to \$4 50. Lambs \$2 to \$3 00 each.
Butter—Fresh, wholesale, at 15c to 16c per lb., retail 18c to 20c per lb. Tub butter, dairy packed, 18c to 15c according to quality, wholesale, retail, 15c to 17c.
Eggs—10c per dozen, wholesale, retail 10c to 12c per doz.
Salt—\$1 25 to \$1 50 per barrel. Water Lime—\$1 60 per barrel.
Potatoes—25c to 40c per bushel, wholesale, 45c to 55c per bushel, retail.
Apples—Common to good, \$1 50 to \$2 25 per barrel, extra \$3 per barrel.
Coal Oil—30c to 37c for Canada; 40c to 58c for Pennsylvania.

London Markets.—June 11th.—Fall Wheat at 80c to 87 1/2c for extra. Spring Wheat at 70c to 74c. Oats at 38c to 40c. Peas at 48c to 50c. Hay at \$7 to \$9 per ton. Wool at 46c to 47 1/2c per lb. Butter at 10c to 11c per lb. by the basket.—*Free Press.*

Montreal Wholesale Cattle Market.—Beef—Market brisk, extra \$7 to \$7 50, 1st quality, \$6 75 to \$7, 2nd do, \$6 25 to \$6 50; 3d do, \$5 to \$6. Ordinary (bulls, cows, and refusal of lots), \$4 to \$4 75. No yearlings, two-year olds, \$20 to \$25 and \$28.
Milk Cows, good, \$30, \$35 to 40. Sheep—Prices have a downward tendency, extra, \$8 to \$10, good do, \$4 50, \$5 to \$6. Sheep and Lambs, by the lot, \$4 to \$5. Spring Lambs in good demand at \$2 50 to \$4. Calves dull; price ranges from \$2 to \$3, up to \$7, according to weight and quality. Hogs—Fair supply; live weight, \$5 50 to \$6. Dressed Hogs, \$8. Hides brisk at \$6 per 100 lbs. Clipped Sheepskins, 40c to 50c, with wool, \$2 to \$2 50. Lambs Pelts, 40c to 50c.—*Herald, 13th.*

Albany Markets.—June 10.—Wheat—White Michigan at \$2 00; Canada Club sold at \$1 60. Corn steady; Western mixed sold at \$1 54. Oats, State at 90c to 91c; Canada at 89c to 90c.—*Statesman.*

Detroit Markets.—June 9.—Trade has been quite active during the past week under the stimulus of the advance in gold. The produce market is firm and prices are advancing. No. 1 white wheat is very firm at \$1 78. Corn is firmer and in greater demand. Flour closes firm, with considerable inquiry on the part of buyers. Superior has sold in lots at \$8 25, and high extra at \$8 00. The latter was a choice quality. Oats nominal at 75c. Transactions are light, and the inquiry is rather limited. Barley is dull and prices are decidedly down. Wo quote at \$2 40 to \$2 50 per hundred, with downward tendency. The barley season is passed, and a further decline in prices may be anticipated. Salt—We note an advance. Saginaw is quoted at \$2 50; Onondaga \$2 50; dairy with bags \$5 30, five cents extra for cartage.—*Detroit Free Press.*

Oswego Markets.—June 9.—Flour—Unchanged, with a fair demand at the following quotations, from No. 1 spring \$7 50 to \$7 75; from winter red at \$8 00; from white at \$8 50 to \$8 75 and XX from prime white at \$9 25 to \$9 50. Wheat continues quiet, but in consequence of limited supplies transactions are unimportant, white Canadian at \$1 85. Oats quiet with a slight downward tendency, Canadian at 80c. Peas, fair demand for shipment at \$1 20 to \$1 22, but holders ask \$1 25. Salt—Selling at \$2 37 per bbl (280 lbs.) for fine; solar (coarse screened) \$2 42, do unscreened \$2 37; solar dairy \$2 95 per bbl; factory filled dairy \$3 07 per bbl; bags (14 lbs.) 18 1/2c.—*Advertiser.*

Chicago Markets.—June 9.—The advance of Gold this morning caused an increased speculative and shipping demand for general produce, and the leading markets were more active and firmer. There was a good inquiry for Flour, and we note an advance in prices of 5c to 10c per bbl., with sales at \$8 50 to \$8 60 for medium white winter extras, \$7 75 for good red winter extras, \$6 25 to \$7 25 for spring extras, and \$5 65 for spring super. Wheat was buoyant and active—the market closing firm at \$1 35 for No. 1, and \$1 30 for No. 2. Oats opened dull but closing firm at 70c for No. 1. Barley was quiet at \$1 28 to \$1 30 for No. 2, at which range of quotations we note light sales. The Provision market was quiet and neglected. Mess Pork is in but limited request at \$30. In Beef Cattle the market has been unusually dull and inactive, with a decline on the current rates of the market on Saturday last of \$1 per 100 lbs. on shipping grades, and of \$1 25 to \$1 60 on coarse oxen and thin steers; sales at \$5 to \$8, mostly at \$6 to \$7 per 100 lbs. The demand for Hogs has been less active, and we note a decline of 5c to 10c on extra grades, and of 10c to 15c on medium to prime qualities, on yesterday's quotations; sales at \$7 to \$8, principally at \$7 to \$8 00 per 100 lbs.—*Tribune.*

New York Markets.—June 13.—Receipts 19,712 barrels; market quiet and without decided change; sales 9,000 barrels at \$7 60 to \$7 75 for superfine State; \$7 95 to \$8 for extra State, \$8 05 to \$8 10 for choice do., \$7 60 to \$7 75 for superfine Western; \$8 20 to \$8 25 for common to medium extra Western; \$8 35 to \$8 50 for common to good shipping brands extra round hoop Ohio. Canada Flour quiet and steady, sales 400 barrels; at \$8 to \$9 10 for common; \$8 15 to \$9 35 for good to choice extra. Rye Flour steady at \$5 75 to \$7. Wheat—Receipts 132,476 bushels; market firm and fair export demand; sales 126,000 bushels at \$1 78 to \$1 80 for Chicago spring; \$1 75 to \$1 81 for Milwaukee Club; \$1 82 to \$1 83 for amber Milwaukee; \$1 85 to \$1 90 for winter red Western; \$1 91 to \$1 92 for amber Michigan. Rye quiet \$1 70. Barley quiet and steady. Corn—Receipts 96,782 bushels; market dull and declining; sales 13,000 bushels; at \$1 52 to \$1 55 for new mixed Western. Oats quiet at 90c for Canada and State; 91c for Western. Pork firmer. Beef firm.

Advertisements.

NOTICE.

AGRICULTURAL ASSOCIATION.

NOTICE is hereby given that at the next Annual Meeting of the Agricultural Association, the Council will propose the Amending of Clause 15 of the By-Laws so as to give a fixed number of Single Admission Tickets to Members instead of Season Tickets.

(By Order of) HUGH C. THOMSON, Sec. B'd of Ag.

Board of Agriculture Office, Toronto, June 1, 1864. 10-23

CARD OF THANKS.

MARKHAM, 30th April, 1864.
To the EDITOR of the CANADA FARMER.—I have taken the liberty, through your valuable paper, to thank the Directors of the AGRICULTURAL MUTUAL ASSURANCE ASSOCIATION of CANADA for the prompt and satisfactory payment of my claim, for the destruction of my extensive barns, stables and contents, amounting to eighteen hundred and fifty dollars. I am glad to say I had no trouble in getting my money, and I shall feel it my duty to recommend it to all farmers in Canada, in preference to any other Company.

GEORGE MILLER.

I beg to inform the farmers of York and Ontario Counties that I still continue to hold an office at Markham Village for the above Company. This Company has always avoided Shops, Stores, Taverns, and risks of that sort. It has become the largest institution of the kind that ever existed in Canada. It has nearly 24,000 Policies in force, and it is, moreover, by far the cheapest.—It never coot members more than 25 cents each year on the hundred dollars. During the last four years, no Company in this country can say as much.

A. WILLIAMS, Agent Agric'l M. F. Assurance Association of Canada. May 16, 1864. 9-1f

LANDS FOR SALE.

TWENTY THOUSAND ACRES OF LAND, both wild and improved, and at all prices, for sale in various townships through out Upper Canada, cheap and on easy terms. For lists and particulars, apply to the proprietor, T. D. LEDYARD, Barrister, &c., South west cor. of King and Yonge-sts., Toronto. Toronto, March 15, 1864. 6-1f

THRESHING MACHINES.

I OFFER FOR SALE, on reasonable terms, NINE of the best THRESHING MACHINES ever made in Canada. They will be sold singly or together, and at prices lower than similar Machines have hitherto brought. Apply immediately to J. G. HARPER, London, C. W.

THE CANADA FARMER is printed and published on the 1st and 15th of each month, by GEORGE BROWN, Proprietor, at his Office, No. 25 King Street West, Toronto, U. C. where all communications for the paper must be addressed.

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GEORGE BROWN, Proprietor and Publisher