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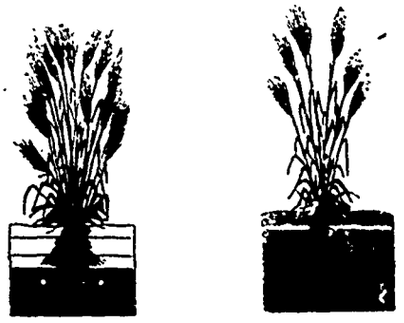
THE CANADA FARMER

VOL. I. No. 13.] TORONTO, UPPER CANADA, JULY 15, 1864. [POSTAGE FREE.

The Field.

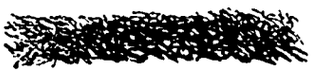


A Chapter on Draining.

THE present season has read the farmers of Canada a lesson about the importance of attention to drainage which they will not soon forget. Excessive rains in the early spring rendered all undrained lands difficult, if not impossible, of access until a very late date; and scarcely was the seed put into the soil before all the evils of long-continued drought began to show themselves. Now, drainage to a very great extent guards against the ill effects of both these extremes. By rendering the land porous, and providing the means of carrying off the surplus water, it keeps the soil in workable order when the weather is unusually wet; and on the other hand, the loose, open state of the ground, induced by draining, allows the moisture to find its way to the surface by capillary attraction when drought prevails. Beside these advantages, drained land is in a better condition for tillage, being more friable and more easily worked. It can not only be operated on immediately after heavy rain, but is fit for tillage earlier in the spring. The improved texture of the soil, and the loose, unbound state induced by drainage is eminently favourable to the growth of plants in another way. The roots of the growing crop have free scope to go in search of food, while they are able to penetrate deeper into the earth in search of moisture. Hence a more vigorous growth and greater ability to withstand drought. The above illustration will show very clearly the truth of these remarks. In the right hand figure is exhibited the condition of a plant on undrained and unsuitable soil, and in the left hand figure a plant of the same species is shown with its roots running down into the moisture below the drained level, and a strong growth above ground testifying to the favourable state of things beneath the surface.

Drainage may be secured either by opening ditches on the top of the land, or by constructing covered channels. Open drains are better than none, and are very useful in certain circumstances. But they are sadly in the way,—they are at best only a sort of make-shift device,—many fertilizing substances are washed into them and carried away from the soil,—weeds are apt to flourish along their banks,—and they consume a great deal of ground which might be used to advantage in the growth of crops. Underdraining is not liable to any of these objections, while it has other manifest advantages.

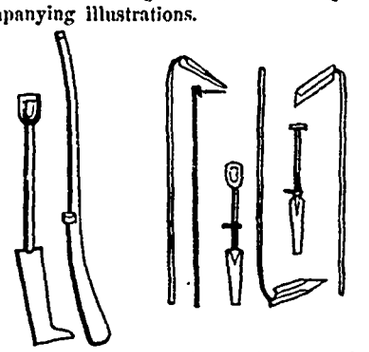
Drains are variously constructed, those made of stones or of tiles being of course very much the best. But the farmer who cannot afford to adopt the more expensive plans, need not on that account consent to leave his land undrained. With many labour is more plentiful than money, and not a few farmers who have effective helpers in the shape of stout healthy sons, might add immeasurably to the productiveness of their farms by constructing drains that will cost only time and toil, which may be given at seasons of the year when other pressing work is not on hand. Very useful drains may be made of brush or logs in the manner shown in the next cut. The brush drain



must be carefully formed, the sticks being laid as regularly as possible, with the larger ends down. Sods with the turf or grass-side down should be placed on the brush, and fitted together closely before the loose dirt is thrown in. Log drains are made by laying down two logs in the trench with a third upon them as represented in the annexed figure. The earth should be solidly pressed down over these drains. A cheap style of board drain has been described and recommended by one of our correspondents, Mr. Blesard, of Otonabee, on pages 82 and 163 of this journal, and need not be referred to more particularly here. In localities where stone and tiles cannot well be had, and lumber is cheap, these may no doubt be used to advantage.

Stone drains such as are represented in our next illustration are only to be recommended where there are a great many small stones on the surface of the land which it is desirable to get rid of, and which may thus be turned to good account. To lay a stone drain properly, a large trench must be dug, which involves great labour. The above cut exhibits the various modes of laying stone drains, so that no further explanation is needed.

Tile drains, where practicable, are greatly preferable to all others. They require less labour in forming the ditch or trench, which need only be about a foot wide at the top, and four inches wide at the bottom; while they carry off the water better, and last longer, than any other kind of drain. The ditch or trench is dug with a spade and hoes made for the purpose, and the entire *modus operandi* will be understood at a glance with the help of the accompanying illustrations.



The tile drain is not only better than any other, but under ordinary circumstances need not be very costly. The chief expense is the cost of the tiles, and some idea of this may be formed by referring to an item in the correspondence column of our present issue.

Drain tiles are made of various patterns. The pipe tile, (*a*) a simple round tube, is generally considered to be the best in shape. For the interior drains which feed the main drains, a bore two inches in diameter is a good size. The sole tiles (*b*) are not quite so good as the pipe tile, as it is sometimes difficult to lay a straight course with them from their becoming more or less warped in burning.

The distance apart at which drains should be laid must depend on the nature of the soil. In stiff land they ought not to be more than about twenty-five feet apart; while in more porous soil, they may be thirty, forty, or even fifty feet, as under. Their depth must depend somewhat on their distance from each other. The farther apart they are, the deeper they must be.

At the spaces above mentioned, they should be fully three feet deep. The fall should not be less than one inch to the rod. Much care should be taken to have a sufficient descent to ensure a regular flow. A well-constructed tile drain may be expected to continue in good working order for half a century, and it is unquestionably the best investment of labour and capital a farmer can make for the improvement of his estate.

Mr. Alderman Mechi on Hay-making.

"I LAY it down as a principle that good hay should be green. If the cut grass were immediately desiccated or dried artificially it would be green. It is the long exposure to the sun's rays that takes away its colour, and gives evidence of improper making. I lay it down as another sound theory that grass immediately after cutting should be either flying in the air by means of the machine, or be on the cock. As fast as the grass is cut it is immediately sent flying into the air; and we keep on at this all day until the approaching fall of dew, before which time it must be put on the cock, for the dew is almost as bad as rain. A lady's dress or veil in the summer evening will give evidence of this. Grass after cutting should never be allowed to lie on the swathe or rake row, or lie spread over the ground. The damp from the earth prevents its making, whereas on the cock it heats slightly and makes much quicker than even when exposed to the sun on the ground.

"I will give an instance of this. Two-thirds of a field of grass were put into large cocks, the other third left on the rake row. It was on a Saturday, the weather being brilliant from Saturday to Monday. On Monday we carted, and it was found that the cocked grass was much forwarder than the rake rowed, which had in consequence to remain out longer.

"It is easy to understand this, for in dry weather you will always find damp under any covering you put over the soil. I commend this question of tilting in the air, or putting on the cock, to our Scotch, Irish, and Lake country friends, whose mountains give them frequent rainfall, or a fine moist turnip atmosphere.

"It is easy to understand that scattering the separated blades of grass high and rapidly through the air is, in fact, like blowing a gale of wind through them, and the grass is thus quickly deprived of its moisture without losing its colour and quality by long exposure to the sun's rays If dried artificially it would get heat without sunshine, which is just the north country and Irish condition. I would impress upon our machine-makers to increase the rapidity of motion of their circular rakes, so as to give an ample throw or spread without causing the horse to walk fast or trot This is especially necessary with heavy crops, which I hope all my practical friends grow, and which I know they will be sure to have when they use town sewage for irrigation. A friend of mine who drives four-in-hand had such an immense crop of hay in his park, that he worked his tedding machine and his horses at full gallop, and thus got a splendid hay crop. The horses were ridden *en postillion*. In getting heavy crops of Italian rye-grass into hay, it is absolutely necessary to have rapid motion; and I need hardly say that this grass will bear cutting and carting earlier than meadow grass.

"Our mutual friend, Mr. Dickenson, got up a capital and extensive crop of hay during the miserably wet season of 1860 by the means I have suggested. If it rained, which was almost constantly, the hay was on the cock; an hour or two dry, the cocks were opened—several machines constantly going when the slightest opportunity presented itself.

"As to stacking, those who have a covering can choose their own time. I observe that all keen haymakers take care to have the carts heavily laden some time before unloading, for the bottom and middle of the stack, so that it should thus get a preliminary heating, as it is likely to have the greatest pressure and the most difficult escape of heat. I consider the drying in the air and the heating in the field-cock the two important matters—and I need hardly say if you have not a rick-cover it should be thatched immediately it is finished. It is easy to understand that hay when cocked in large cocks only occupies probably one tenth or less of the space of the field therefore if one inch rainfall takes place, it only gets one-tenth of the rain that it would have if spread over the field. The larger the cocks the less the injury from rain, but the cocks must be opened on every favourable occasion. We only want to get the moisture out of our grass, preserving its colour and qualities. There is no place where they understand making hay so well as near London. The size of their ricks, the care with which they are pulled, or plucked, so as to have a solid outside, and the neatness of thatching and cutting out, deserve imitation as well as admiration."

Grain Cutting.

As recently remarked concerning the hay-field, so of the harvest-field, many farmers are too tardy in getting into it. The mistake is made of waiting until the grain is ripe, whereas experiments have repeatedly proved that to do this is to incur much risk and loss. The proper time to cut grain crops is when the berry is just out of the milk, or as soon as it is hard enough to bear moderate pressure of the thumb nail without breaking. This is usually about ten days before maturity. If harvesting be delayed until the kernels are ripe, there is loss in the weight of the grain, and much waste by its shelling out upon the ground. Fields have sometimes borne a good crop with no other seeding than that received from what had been scattered during the previous harvest.

A recent number of an agricultural journal gives an account of an experiment made some years ago with a crop of 50 acres of wheat. The bulk of it was cut as here recommended, and weighed 62½ lbs. to the bushel. The remainder gathered when fully ripe, gave only 58 lbs. per bushel. On the whole amount of 1,200 bushels, there was a gain of 5,400 lbs. or about 90 bushels in bulk, and the quality of flour was superior. If to this be added, the waste and loss from shelling out, it will be seen, that ordinarily, far more than enough may be saved by early cutting, than will pay the entire harvest expenses.

Hoeing.

THE following judicious remarks by the Editor of the *New England Farmer*, are particularly opportune just now. They relate not only to hoeing in general, but to what is exceedingly apt to be neglected, the late hoeing of corn and other crops:—

Silent assent seems to be given to an old rule, that the crops must be hoed three times—whether they are weedy or not—and no more, though the ground be covered with weeds. Three times is enough, and the soil ought to know better than to throw up weeds after such a scarification—say some—we cannot afford to hoe any more. And so the crops are left to try their powers with the weeds, and generally come out second best.

A part of the object of hoeing, certainly, is to eradicate the weeds, but there is a principle involved in it far beyond the surface work. Still, the weeding is very important in the following results:

1. It removes the weeds, and prevents their taking properties from the soil that the plants need.

2. It prevents their seeding and extending their kind through an indefinite number of years.

3. The succeeding labour upon the crop will only be about half as much after the weeds are taken away.

There may be other advantages derived in taking away weeds, but these three are sufficient to move every judicious farmer to exterminate them as fast as they appear.

There are other, however, important reasons why crops should be hoed once or twice more than they usually are. In hoeing, we mean to include what generally precedes it, working the soil to some depth either with the plough or cultivator. These operations give some valuable results.

1. If the soil is too wet, they loosen it and let in the sun and air to dry it and make it more light and porous.

2. If too dry, loosening the soil admits the moist air, and renders it capable of receiving and retaining any drop of dew that falls upon it. When a slight rainfall comes, being light and open, it catches and holds every drop that falls, while on a hard surface it rapidly flows off.

3. Every drop of water that goes into the soil, carries a certain amount of heat with it. This is left in the soil, warms the tender roots and gives them a rapid growth.

4. Rain water is charged with ammonia and other properties, which the plant greatly needs. When the surface is in a suitable condition to receive what falls and pass it along down the subsoil, every rain is equal to a slight manuring of the plant, so that the farmer who hoes and cultivates thoroughly finds his crops dressed from the bounties of the skies, while neglected fields, of hard surfaces, find few blessings in the shower.

Two rules should always be observed in regard to hoeing, viz:—

1. Hoe whenever there are weeds, whether in June or October.

2. Hoe whenever the surface is compact and dry, whether in June or September.

Management of Mowing Machines.

THE farmer who possesses a good mowing machine, a pair of good horses, and understands how to drive and keep it in order, may almost set the elements at defiance. But there are many who purchase machines, who do not possess either the ability or the inclination to keep them in order, and to such, they are a hindrance rather than a help. A word to those who belong to this large class:—

First, then, it is your interest to understand the nature and wants of the mower, because, without this familiarity, it will soon become worse than useless. We know of machines in good repair, and almost as effective as when new, which we sold seven years ago. On the other hand, we have seen the best machines, in careless hands, rendered nearly useless in a single season. The cause of these strikingly different results is readily explained. In the case of the first machines, their purchasers were men, who, before using, made themselves familiar with all their details They ascertained where the friction was greatest and how to relieve it,—they comprehended the importance of sharp knives, and consequently understood fully the value of a good grindstone—a first-rate whet-stone, a suitable file, surplus blades to replace damaged ones, and abundance of rivets to replace worn out or broken ones. They knew the virtue of abundance of oil at the proper points—the removal of gummed grease from the journals, and rust from the parts which were brought in contact with the ground. Every nut was properly drawn *every day*, and suitable wrenches were always at hand for this important purpose. When the season was over, they did not permit the machine to lie in one of the fence corners of the field in which it was last used, until the succeeding summer; but carefully cleaned and housed it at once—applied a coat of paint to the wood work in leisure hours, removed the knives and oiled them, to prevent rusting, and scraped away the accumulation of gummed grease on the journals. These attentions were the cause and the long and effective use of the machine, the result. Take their opposites, and you have an explanation of the rapid destruction of the second machines.

In addition to the above, much depends upon the driver. There are those who do everything by main strength. They start, or attempt to start a mowing machine in heavy grass, as they would start in a horse race—with a blow and a shout for the horses. The sudden jerk, and the increased resistance consequent upon the knives being brought thus suddenly in contact with a heavy body of grass, causes a strain upon the frame, which not unfrequently deranges the whole machine, and unfits it for further use, until the damage is repaired. This sudden starting in heavy grass is especially to be condemned, where, as is now almost invariably the case, the frames are made of iron. The starting of a mowing machine should be gradual. Far better spend a minute in backing, so as to get the knives fairly into play, than follow the unwise plan alluded to. Nearly all of the machines in use may be backed as readily and easily as a cart, and if the horses could speak, they would tell their foolish driver, how much easier backing would be to them.

A word more and we have done. Buy only a well approved machine. Almost any of those in general use may be purchased with safety. In fitting up your tool box, (which, by the way, should always accompany the machine,) buy none but the very best tools. A tip-top monkey wrench—a good Washita whet-stone—a steel polled riveting hammer, a file of the first quality, and above all, oil of the best kind and enough of it. In the end, the best things are always the cheapest, and those necessary to the management of the mowing machine, are not exceptions to this well established rule.—*Culturist.*

CHEAP FIELD FENCE.—A good and sufficient field fence can be made with fifteen inches in width of boards, fifty rods of fence to the thousand feet of boards. Set the posts, and nail the first board nine inches from the ground; then make the spaces five, six, seven and ten inches: five boards three inches each is fifteen inches; now turn a furrow six inches deep toward the fence on each side. This brings the earth within three inches of the bottom board and adds six inches to the hight of the fence, measuring from the bottom of the furrow, and the ditch or bank makes it very unhandy for animals to get at the fence. This makes a fence four feet ten inches high. I have built several hundred yards of such fence. The first was built five years ago. It has proved perfectly safe and sufficient against cattle that were unruly. It is not racked by the wind, like a fence of wider boards. Fourteen-feet boards, with one post in the middle, takes a less number of posts, and makes as good fence as twelves. I have used white oak boards at about twelve dollars per thousand, and swamp oak split posts at four cents each.—*Cor. Genesee Farmer.*

Beet-Root Sugar.

Allusion has several times been made in this paper to experiments in progress in Illinois and other Western States, in the manufacture of sugar from beets. During the past season, two Germans by the name of Gennert, have been engaged at Chatsworth, Ill., in the cultivation of beets, and the erection of buildings, preparation of apparatus, etc., for sugar-making. The season was unfavourable for the roots the weather being very dry during the greater part of the time when the beets were expected to grow. But notwithstanding these difficulties a crop was obtained which is said to have been fully equal to the average of European crops. The roots were placed in underground pits in the fall, where they remained till about the first of March. They were then exhumed, and the process of extracting their juice commenced. One of the editors of the *Prairie Farmer*, who spent some time at the manufactory of Messrs. Gennert, has given an interesting account of the process pursued in working up the beets and producing sugar from the juice. The quantity of sugar yielded by a given weight of beets, was not accurately ascertained, though it is thought to have been fully six per cent., and had everything been in perfect order, it is estimated that from two to three per cent. more would have been obtained. The editor expresses himself in regard to the prospect, somewhat sanguinely, as follows:

"Enough was done to show the richness of the beet and that the extracting of the sugar is attended with no difficulties not easily surmounted, and established fully in our mind the enterprise to be a complete success, the future effect of which it seems to us, must be to make our broad and fertile prairies the great sugar-fields of the Continent, and Chicago the greatest sugar-market in the States, as it is already of grain. The whole experiment, so far, has shown that in one of the worst seasons, a crop of beets can be grown here, fully equal in amount to the best average of European crops, and with a favourable season we may expect a larger average yield. It has been shown that by proper pitting they can be kept with quite an indifferent covering through one of the hardest winters on record, coming out of the pits at this season of the year perfectly sound and crisp. It has shown by a careful analysis of the beets that they are as rich in saccharine matter as those of the old countries—giving 12½ per cent. of crystal-lizable cane sugar."—*Working Farmer.*

Harvesting Hops.

As soon as they show the seed fully formed and the pollen plentiful at the base of the leaves, and the seed begins to assume a grayish-blue color, hops are fit to harvest.

The picking is done by girls or women, attended by boys or men, who cut the vines about eighteen inches from the ground, and raise the poles, laying them in a convenient position over or near the boxes to receive the hops. The boys also collect the hops when picked, and carry them to the kiln. Many plans are used in picking. One great object is to jar and shake the hops as little as possible before they are laid on the kiln. This is best attained by using small boxes, four feet long, twenty inches high, and the same depth, and having handles at each end. Each picker then has her own box, and the boxes being numbered, careless picking may be detected, and the hops may be carried to the kiln without being handled or disturbed. A box of this size will hold hops that, when dried, will weigh about ten pounds. The pickers are paid by the box, and a good picker, under favourable circumstances, will fill two boxes a day. Few will do more, and only good pickers can do that. If many children are in the yard the average will not exceed one box per day per hand. The poles are stacked as fast as unloaded, and the boxes, as fast as filled, carried to the kiln.

The size of the kiln will depend on the number of hands employed. The hops should be dried as soon as possible. For a ten-acre yard, employing fifty pickers, a kiln twenty-five feet square is small—thirty feet would be better. The drying floor, made of slats, on which a hempen cloth made for the purpose is stretched, should be nine feet at least, (better twelve,) from the floor on which the stove stands, and a hopper-shaped casing should be made between, thus confining the heat, and leaving the stove room (outside the hopper) cool. The stove may be enclosed with brick walls, each wall ten inches or so from the sides of the stove, except at the stove door, and rising three and a half feet high. From each upper corner of this furnace chamber, a timber (like a rafter) may be set against the corner of the drying floor, and timbers between, which may be boarded over, and plastered over the boards. The stove-pipe, long enough, and turned enough, for economy of heat, should enter the chimney below the drying floor, inside the hopper (accessible by a trap door,) and the chimney be securely built against one side of the kiln. Such a kiln, twenty-five feet square, with a stove burning four-foot wood, using hemlock, will dry from twenty-five to forty boxes at a time in twelve hours. Of course the kiln is going night and day, but for convenience it is better to have, if possible, two kilns.

The kiln must be well ventilated. Cold air admitted under or near the stove and ample openings in the roof and sides above. These are to be left open, unless on the windward side, until most of the steam has passed off. The side openings above may then be closed, and when the hops, unturned and undisturbed, are so dry that the stems and leaves are crisp, (or break short,) they are dried enough and may be taken to the storage loft, where they lie spread until cool, and are then shoved into a heap to lie some days or weeks, before pressing. It should be noted that "clean picking" is of the highest importance. No leaves, or stems, or dead hops should go in. No one can prevent pickers putting in some, but constant watchfulness should be exercised and all careless pickers at once admonished, and if necessary, dismissed. The best crop of hops may bring an inferior price on account of careless picking.

The screw press is now in general use, to the exclusion of the old-fashioned lever and pulleys. Its construction is simple. There is a box with movable sides, (on hinges,) the size and shape of the bale. Into this the hops are tramped, and then they are compressed as tightly as possible by forcing down the movable top of the box with a powerful screw. A very heavy frame is required, and some little contrivances are needed which there is not time to describe here. The beginner had better copy the simplest and most effective press to which he can get access, and add such improvements as his mechanical talent may suggest. The tighter the hops are pressed, generally speaking, the better they will look, and the better they will keep. The bales, too, should be neat in appearance, with good straight lines and square corners.

The hops being then ready for market, the grower will find it a very difficult part of the business to dispose of them properly. The market is very uncertain, very changeable, and most of the dealers are as "uncertain" as the market. Every producer will have to learn for himself when and how to sell. When a fair price is offered at home it is generally best to take it. If not offered a fair price at home, the grower had best find some honest commission merchant, not specially a hop dealer, to whom to consign his crop. As a general rule more is lost, however, by holding too long, than by selling too soon—*Rural Annual.*

The Theory of Under-draining.

Bailey Denton, lately delivered a lecture before the Royal Agricultural College at Cirencester, England, in which he discussed the question of underdrainage in reference to the texture, composition and temperature of four classes of soils, denominated free, clay, peaty and mixed soils respectively. The water in land is furnished by rain and is called surface water, or from springs and called "effluent" water, or from pressure rising to the surface of free soils in the lower grounds when called "diffluent" water.

These different soils require, respectively, different modes of drainage. The art of draining clay soils which are retentive, varies from that of draining free soils which are not retentive. Free and peaty soils being naturally "percolative," are wet from position and require an outlet sufficient to turn stagnation into motion, in fact, to create sub-irrigation to benefit the roots of vegetation. The effect of moving water on irrigated meadows has been observed, and the benefit of moving water has been noted; and so it is with the underdrainage of free soils. Here the art of draining consists of so doing it as will attain this object. When drained, such soils possess the capabilities of soils naturally dry, and they are equally susceptible of absorption, the only difference being the depth of subterranean water level, which in high dry lands may be below the reach of atmospheric evaporation, while in the case of drained lands under consideration it is not so.

Clay soils are the contrary, though rendered capable of "percolation" by under-drainage, still hold their peculiar powers of retention and expansion which limit their absorption and cause them to resist, when not properly and deeply cultivated, the admission of the falling rain. The clays are the "conservatives" of the soil. They hold moisture and give it out gradually, except they be fully charged, when the excess is discharged. These soils cannot be aerated too much, as it is only by aeration that their retentive nature can be brought into subjection. In clay soils, the more perfectly the aeration action of the drains tells upon the mass of soil between them, the quicker and more uniform the passage of surplus water through it, and the only limit to the number of drains to produce this result, is the cost.

The true art of draining is not confined merely to ejecting surplus water, but extends to the complete areation of the soil drained. Draining does not alter the constituents of clay soils; it only changes their condition. There are persons, said Mr. Denton, who think that drained clay soils become as ductile as freer soils, but this is not so. They still retain their peculiar qualities; and when fitly treated are productive, but otherwise are stubborn.—*Boston Cultivator.*

Respect the Earth Worm.—Farmers are generally aware that the earth-worm luxuriates in a rich soil, but they are not disposed to give him any credit for contributing to its fertility. But the Creator is wiser than they, and He gives the farmer efficient helpers under ground, who do him good service, without pay in money, or even in thanks. One of the foreign quarterlies gives an account of the labor done by this busy engineer:—The ground is almost alive with the common earth-worm. Wherever mould is turned up, there these sappers and miners are turned up with it; they are, indeed, nature's ploughmen; they bore the stubborn soil in every direction, and render it pervious to air, rain, and the fibres of plants. Without these auxiliaries, "the farmer," says Gilbert White, "would find that his land would become cold, hard bound and sterile." The green mantle of vegetation which covers the earth is dependent upon the worms which burrow in the bowels of it. What conveys a more definite idea of the magnitude of their operations, they are perpetually replenishing the upper soil and covering with soft and fine material a crust which before was close and ungenial. They swallow a quantity of earth with their food, and having extracted the nutriment, they eject the remainder at the outlet of their holes. This refuse forms the worm-casts, which are the annoyance of the gardener, who might be reconciled to them if he was aware that the depositors save him a hundred times more labour than they cause. Mr. Charles Darwin has shown that in thirteen years a field of pasture was covered to a depth of three inches and a half with the mould discharged from their intestines; and in another case the layer that they had accumulated in eighty years was from twelve to fourteen inches thick. They therefore play a most important part in the economy of vegetation, and we see why they teem throughout the surface of the globe.

Returns from Flax-Growing.—The profits of flax culture are large, and will steadily grow larger as means are perfected for manufacturing it into a greater variety of fabrics. The experience of two of our most successful flax growers shows the following results:—Average produce of flax per acre, viz.: Fibre, 600 lbs., at 12 cents, $72; seed 20 bushels, at $1 25½, $22 50—whole product, $94 50. Average cost of crop, viz.: Rent and taxes, $6; operations on the soil, $7 50; seed for sowing, $2 50; sowing, 50 cents; manure, top-dressing, $3 50; harvesting and cleansing, $30—the whole cost of crop, $50; profit of the crop per acre, $44 50. *Second Example.*—Average produce of flax per acre, viz.: Fibre, 400 lbs., at 12 cents, $50; seed, 16 bushels, at $1 25, $20—whole value of product, $70. Average cost per acre, viz.: Rent and taxes, $4; operations on soil, $6 50; seed for sowing, $1 87½; sowing, 50 cents; harvesting, etc., $20—whole cost of crop, $32 87½; whole profit, $37 12½. Considering that the poorest land is usually selected for the growing of flax, the above examples show a very gratifying result in the way of profit. But we notice in the *Irish Farmer's Gazette*, that the remuneration obtained from an acre of land averages more than double this in the South of Ireland. At a meeting held in Clogheen in January last, Mr. Edmondson, a tenant farmer, stated that he had "scutched six stone of fibre from off one acre. The return I have had is equal to £34 9s. to the acre. The cultivation, management, seed, rent, and all expenses I set down from £10 to £12, and I shall clear over £20 per acre on land that would yield nothing else profitably. The field where the flax was grown was producing merely heath, and in many places the clay was only three or four inches deep. Underneath it was black bog mould. Flax requires no manure in preparing the ground; but it requires careful cultivation and a thorough cleansing of the ground."—*Working Farmer.*

Sheep Husbandry.

South Downs.

This well-known breed may be said to have originated in the south-east angle of England, where there is a peculiar development of the chalk formation, which assumes somewhat the appearance of a horse shoe, its northern branch (or Northdowns) running through Kent from West to East; while a similar belt of elevated land is found in Sussex, called the South Downs. The intervening valley, geologically designated the Wealden, consists of low undulations of limestone, sands, and clays of varied density, and possessing a strikingly distinct agricultural character from the surrounding dry and elevated chalk. It is upon the cretaceous group of rocks, occupying spaces of greater or lesser width through several of the southern and eastern counties of England as far north as Yorkshire, the Down sheep is found in the largest number and in the greatest perfection, although of late the breed has been more or less scattered over other districts of England, and even Scotland and Ireland. Mr. Watson, of Keillor, has a splendid flock of Downs, and he has been very successful also in crosses with the Leicester tup. Not only the carcase, but the wool also is said to be much improved by this cross, which appears to be a most judicious one. In the Wicklow Mountains, the Downs have been extensively introduced, and either as pure or mixed with the native breeds. The results have proved highly advantageous. South Down ewes have likewise been crossed in the West of England with Cotswolds with much success; but both Leicester and Cotswold tups, with Down ewes, make fine sheep, and the fleeces of either cross produce a valuable combing wool, the tup giving the length, and the ewe the fine texture. This cross also comes to maturity at an early age, reaching great weights, and selling for nearly a penny per lb. more than pure Leicesters or Cotswolds for the shambles.

The native breed of the South Down hills was of the smaller kinds of sheep, with light fore-quarters, narrow chests, long necks, and long (though not coarse) limbs. The wool was short, fine, and curling, although not equalling in delicacy and softness that of the white-faced hornless breed of the western counties, nor even that of the black-faced varieties of the older forests and commons. Both sexes were destitute of horns, at least up to the times of which we have any records; but it is probable that the older race was possessed of horns like other varieties inhabiting the same kind of country. The faces and limbs were covered with black hair, and a tendency existed in the entire fleece to assume the same colour. The modern South Down is destitute of horns in both sexes, has the face and legs of a dusky grey, and the body closely covered with short and curling wool. While the general form of the older breed has been preserved, the too-great lightness of the fore-quarters has been corrected, the chest has been widened, the back and loins have become broader, and the ribs more curved; and the trunk has been rendered more symmetrical and compact; while the body has become larger in proportion to the limbs. The animals are docile in their temper, prolific, and good nurses, and well suited for the purpose of folding, a practice which can never become so general and beneficial in this as it is in the old country, where the eating of turnips by sheep in the fields during winter forms the best preparation for barley or other grain in spring.

The South Down in Britain ranks as a fine or short-woolled sheep, but in strictness, it is a medium or middle-woolled, forming a sort of connecting link between the Merino of Spain, Germany, Australia, &c., and the long and coarse wools of the Cotswolds, Leicesters, &c. The improvement of the Downs commenced about a century ago, but astonishing strides have been made, particularly during the last thirty years. "Among the individuals most distinguished as the improvers of this breed was the late John Ellman, who began his most important experiments about the year 1780, when he acquired possession of the farm of Glynde, near Lewis, in the county of Sussex. He remained on this farm for more than fifty years, during which period he directed his attention in an especial degree to the improvement of the native sheep of the Downs. He pursued his system of progressive change with judgment, perseverance, and zeal; and he must be regarded as one of the most skilful and successful breeders whom this country has produced." Mr. Ellman, unlike his contemporary, Bakewell, freely communicated the details of his practice to the public. Nor did he confine himself rigidly to the blood of his own flock, but sought for the best specimens wherever they were to be found, with a view to combine in the highest practicable degree hardiness of constitution, aptitude to fatten, and early maturity, length and fineness of wool, and beauty of symmetry. Mr Ellman closed a long, useful and honourable life in 1832, having entered his eightieth year. It may be useful and interesting to our readers to have presented to them the characteristic points of the improved South Down in the words of this eminent breeder:—

"The head small and hornless; the face speckled or grey, and neither too long nor too short. The lips thin, and the space between the eyes and the nose narrow. The under jaw, or chap, fine and thin; the ears tolerably wide, and well covered with wool, and the forehead also, and the whole space between the ears well protected by it, as a defence against the fly.

"The eye full and bright, but not prominent. The orbits of the eye—the eye-cap, or bone—not too projecting, that it may not form a fatal obstacle in lambing

PREMIUM SOUTH DOWN WETHERS.

"The neck of a medium length, thin towards the head, but enlarging towards the shoulders, where it should be broad and high, and straight in its course above and below. The breast should be wide, deep, and projecting forwards between the fore legs, indicating a good constitution, and a disposition to thrive. Corresponding with this, the shoulders should be on a level with the back, and not too wide above; they should bow outward from the top to the breast, indicating a springing rib beneath, and having room for it.

"The ribs coming out horizontally from the spine, and extending far backward, and the last rib projecting more than the others; the back flat from the shoulders to the setting on of the tail; the loin broad and flat; the rump long and broad, and the tail set on high, and nearly on a level with the spine. The hips wide; the space between them and the last rib on either side as narrow as possible, and the ribs, generally, presenting a circular form like a barrel. The belly as straight as the back.

"The legs neither too long nor too short. The fore legs straight from the breast to the foot; not bending inward at the knee, and standing far apart both before and behind; the hocks having a direction rather

outward, and the twist, or the meeting of the thighs behind being particularly full; the bones fine, yet having no appearance of weakness, and of a speckled or dark colour. The belly well defended with wool, and the wool coming down behind and before on the knee, and to the hock;—the wool short, close, curled and fine, and free from spiry projecting fibres."

Among the foremost recent improvers of this popular and beautiful breed of sheep may be mentioned the late Duke of Richmond, Mr. Rigden, of Lewis, and the late Mr. Jonas Webb, of Babraham, Cambridgeshire, whose world-renowned flock, a year or two ago, was dispersed over many countries of the globe. Several first rate specimens of this celebrated breeder have been imported into Canada and the neighbouring States by Messrs. Stone, of Guelph, Thorne and Rotch of New York, Alexander, of Kentucky, Taylor, of New Jersey, and others. Mr. Thorne furnished Dr. Randall, the author of that excellent treatise "*The Practical Shepherd*," with some interesting details respecting his own flock:

"My flock of Southdowns consists of something over two hundred head, exclusive of lambs. They are descended from fourteen different importations, principally from the flock of the late Jonas Webb. Those not of his breeding were prize pens at the Show of the Royal Agricultural Society of England, and bred by Henry Lugar, of Hengrave, near Bury St. Edmunds. The rams used have all been selected with great care from the celebrated Babraham flock. 'Archbishop' is the one which is now being principally used. He was the first prize yearling at the Royal Show at Canterbury in 1860, and was chosen by myself from Mr. Webb's folds as the best ram he then had. His price there was $1,250. He was imported in December, 1860." We had the pleasure of seeing this ram at the Canterbury Exhibition. Such an animal is but rarely seen, even in England, and the expressed opinion of the most competent judges was that Mr. Webb had carried the breeding of Southdowns to almost absolute perfection. Already the introduction of such blood into Canada and the United States has been attended by the happiest results. Mr. Thorne further observes:—

"With regard to the wool producing qualities of the Southdown, the one year that I kept an accurate account, the ewe flock, including among the number sheep eight and nine years old, all having suckled lambs, gave 6 lbs. 5½ ounces; the yearling ewes 8 lbs. 12 ounces; the yearling rams from 8 to 12 lbs. This was unwashed wool, though as you are aware their wool is not of a greasy character, and should not be shrunk at the most over one-fourth by the buyer.

"You may remember to have seen some notices of the sales of Jonas Webb's South Downs. The first sale, in 1861, included all the flock, except lambs, and numbered 200 rams and 770 ewes. They brought £10,926. The balance were sold in 1862, and numbered 148 rams and 289 ewes. Amount of sale, £5,720. Total two years' sales, more than $80,000." The reader will find other interesting facts relative to this and other breeds of sheep in the valuable publication before mentioned.

The accompanying illustration of a group of SOUTHDOWN WETHERS, is taken from a spirited engraving in a recent number of *The Farmer's Magazine*, (English), and will afford the reader a correct idea of the characteristic points of the most approved modern type of this truly beautiful breed of sheep. These wethers obtained the first premium of £20, with the Silver Medal, in the old class, at the last Christmas Show of the Smithfield Club. They are the property and breeding of the Duke of Richmond, of Goodwood, Sussex, a place that has long been celebrated for its annual races, and the improvement of Southdown sheep. *The Farmer's Magazine* observes:—"This is some very satisfactory proof that the Goodwood flock has lost nothing of its excellence since the President of the Club died; and, indeed, we believe both the present Duke and Duchess of Richmond take as much interest in the Southdowns as ever did the lamented nobleman, whose pride it was to bring them to so much excellence. The old battle, however, of Goodwood against Howe, cannot be renewed for some time to come, as Mr. Rigden has to serve out his term as steward of the Club."

We may state for the encouragement of unsuccessful competitors, that the late Duke of Richmond competed for several years against Lord Walsingham, Jonas Webb, Mr. Rigden, and others, without succeeding in obtaining a first premium. We heard His Grace say publicly on several occasions, that he was determined to persevere till he had gained the object of his ambition; an event that was ultimately realized, and the Goodwood flock occupied a first position, which it still maintains under its present noble owner. We had the honour of a personal acquaintance with the late Duke, whose devotion to rural pursuits was most exemplary, and his memory will be long and fondly cherished by all who had the pleasure of knowing him, whether as a farmer, a landlord, a soldier, or a statesman.

New Disease among Lambing Ewes.

To the Editor of THE CANADA FARMER:

SIR,—I have experienced a good deal of annoyance, during the last three years, from a new disorder among my ewes after lambing. It is an affection of the udder, and consists of small blotches or pimples, containing humour, underneath which are hard, inflamed lumps, of about the size of a white bean. In some cases it forms a raw sore, at the root of the teat, which is very difficult to heal while the lamb continues to suck, sometimes the nipple is very much inflamed, and if neglected, the whole bag becomes inflamed and it terminates fatally. I am unable to assign any cause for it. It is not very general in the flock. Two years ago I had about 20 ewes affected, last year about 10, and this year only 4 yet.

I have found the following recipe, which I got from a Yorkshire shepherd, useful, especially in the early stages of the disorder, but when a wound is formed it is not very satisfactory—one oz. oil of vitroil, and one oz. alum, dissolved in a pint and a half of soft water, used as a wash. If any of your readers are acquainted with this troublesome ailment, and can recommend a preventative or a better cure than this, I would be glad to hear from them through THE CANADA FARMER. JOHN SNELL.

Edmonton, April 6, 1864.

NOTE BY ED. C. F.—The above communication was by mistake laid aside with some deferred papers, or it would have received an earlier insertion.

Curability of Grub in the Head.

To the Editor of THE CANADA FARMER:

SIR,—Your number of yesterday contains a quotation from the *Country Gentleman*, in which it is said in speaking of grubs in the heads of sheep—"When the grub is fairly located in the head I doubt if there is any remedy." Now, Sir, my experience goes to prove a contrary conclusion.

The following is my treatment: Mix two ounces of Scotch snuff in one quart of good whiskey; heat it to blood-heat; inject a small syringe full up each nostril; repeat this in a few days after, if not cured the first time, and a complete cure will be effected.

Before I commenced this treatment I lost many sheep from this disease, but since, I have lost none; and many of those who were dying with grubs "fairly located" in the head, are now fat enough for the butcher. Yours truly,

MARK DYER.

Gore of London, July 3, 1864.

THE COMING WOOL CLIP.—The *Ohio Farmer* is "led to believe, by inquiry among the sheep men of this State, that the wool clip of this year, in Ohio, will exceed that of the last by at least one-fourth; and the same may perhaps be predicted of the clip elsewhere in the West."

SHEEP KILLED BY DOGS.—By a return just issued, it appears that the number of sheep killed by dogs in Ireland in 1863 was no fewer than 7324. It is, however, suggested in the return that some of the animals may have been killed by mountain foxes and badgers, and a few in the county of Donegal by evil-disposed persons.

SHEEP SHEARING EXTRAORDINARY.—On Monday last we witnessed a feat in sheep shearing at Killoughram, County Wexford, rarely if ever equalled. At five o'clock in the morning two active young shepherds, named Tom Leary and Hugh Dunne, commenced to shear a flock of ewes, the property of Messrs. Purdon, of Dublin, and by nine o'clock (breakfast time) each man had his two dozen sheep shorn in excellent style, turning off an average of nearly 8 lbs. of wool to each sheep. They continued at this rapid rate until three o'clock, when the rain, which was much wanted, put a stop to the exciting scene.

REMEDY FOR STRETCHES IN SHEEP.—I have been keeping sheep for about 25 years—have lost some valuable sheep with that disease, but I have never lost one since administering the following remedy: Take two pods of red pepper (or three if small), put them in a pint basin, pour on boiling water, set it on the stove, steep until you get the strength of the peppers; when sufficiently cool, set your sheep up before you, raise the nose up, put a funnel in its mouth and pour in the tea. I have never had occasion to feed the second dose. The scours in sheep may be cured by a simple remedy. To one quart of salt add one pint of flour and two tablespoonfuls of pulverized rosin. It depends upon the number of sheep the amount required. Feed salt mixed in that proportion and I think you will soon stop it.—R. K. MUNN, *in Ohio Farmer.*

The Breeder and Grazier.

Prize Essay on the Rearing of Calves.

Concluded from page 182.

QUANTITY OF MILK NEEDED BY A CALF.

As regards the quantity of milk which is needful to keep a moderately bred Short-horn calf in a thriving condition, we have found the following allowance to come pretty near the mark, although the appetite of calves varies both in individuals and at different times with the same animal:—

1st week with the dam; or 4 quarts per day, at two meals.

2nd to 4th week, 5 to 6 quarts per day, at two meals.

4th to 6th " 6 to 7 " " "

and the quantity need not during the ensuing six weeks (after which it is weaned), exceed a couple of gallons per day. This implies that the calf is fed upon new milk only, and that no other feeding *liquids* are employed.

OTHER FOOD.

But, in addition to the above, the calf will, towards the fourth week, begin to eat a little green hay; and, in a week or two later, some sliced roots, or meal, or finely crushed cake, mixed with hay-chaff; and, if really good, creditable beasts are wanted—such as will realize £25 a-head from the butcher when turned two-and-a-half years old—a little cake or meal in their early days will be found a desirable investment. In fact, we doubt not but one pound of cake per day to the calf will make as much flesh as triple the quantity of cake at any period of after life. As regards meal, if that is given with the chaff, we prefer oatmeal, or barley-meal, or wheaten flour, but not the meal of beans or peas. Others may see it differently, but we believe beans to be too heating for any class of young stock. For roots, the best we know of is the carrot, grated and mixed with the chaff, or sliced thin with a knife and given alone. It is also, of all roots, the one which we find them most fond of, and which they will most readily take to. As soon as they can eat them freely, an immediate reduction in the supply of milk may be made. In most articles it holds good in the end that "the best is the cheapest." So with the rearing of calves; the best class of food, or that above referred to, is found to give the greatest ultimate satisfaction.

THE PRACTICAL QUESTION.

But practically the question often is, how to rear good calves with comparatively little new milk, a condition which circumstances often render almost imperative; for where dairy produce, in any other form, is the chief object, the calves stand in a secondary position, and are treated accordingly. But let us ask whether you cannot rear good stock under such circumstances also? We believe that this may be, and often is done. We manage to turn out from 25 to 30 calves annually—such as will pass muster anywhere—and never use at any one time more than six gallons of new milk daily. For this purpose, as well as to obtain a regular supply of milk for other purposes, the calves are allowed to come at different periods, extending from October to May. Hence the calf-house previously described has generally a succession of occupants throughout the season; and as one lot are ready to be removed, and placed loose in a small hovel, with yard attached, others fill their places.

HOW IT IS DONE.

We begin with new milk from the pail, which is continued for a fortnight after leaving the cow. Then skim-milk—boiled, and allowed to cool to the natural warmth—is substituted to the extent of one-third of the allowance. In another week the new milk is reduced to half, and at the same time, *not before*, boiled linseed is added to the mess.* As soon as they take freely to this food, the new milk may be replaced with that from the dairy, and the calf is encouraged to indulge in a few sliced carrots and the other dry foods named. Among the multitude of substitutes

* Five pounds of linseed will make about seven gallons of gruel and suffice for five good sized calves; considerable allowance must, however, be made for differences of quality in the linseed—that from India not being gelatinous enough, and therefore boiling hard, instead of "coming down kindly."

for milk that have at different times been recommended, we have found nothing better than those previously referred to.* It is true we have omitted any allusion to the "Irish moss," which calves seem to relish well, though it does not prove of a fattening nature. For the lot of calves named, a couple hundredweight of this article is found a desirable addition, and lasts throughout the season.

CONDITIONS OF SUCCESS.

In rearing calves after this fashion, success greatly depends on attention to a few minute details. Not that a list of rations should be given for different sizes, ages, &c., but the attention, care, skill, and labour needed thus to make good calves, are far greater than when either suckling from the cow or feeding with a liberal supply of new milk from the pail, is the system adopted. For instance, even in the matter of giving their food, a wide difference will be seen in the appearance of two calves, the one fed by a careful, painstaking hand, the other allowed to gulp down its milk without time for admixture with the saliva. This is a very important matter, and one on which success or failure very frequently depends. The nearer the process of feeding is approximated to the slow but beneficial act of sucking the better. Those calves which are in the habit of drinking much too fast are generally detected by a glance at their "paunchy" condition. We have treated such customers successfully by putting on a small leather nose-bag at meal times, the bottom being perforated with a couple of holes, each 3-16th of an inch in diameter. Again, care must be taken to have the calf well bedded at least twice daily, wheat straw shortened being the best litter for the purpose; attention to this point will tend as much as anything to keep the animal in good health. No vermin must be allowed to obtain a lodgment; how often is it the case that the entire well-doing of a calf is retarded from the presence of lice on the head or neck, the top of the shoulder, or towards the rump! If in a continual state of irritation, its thriving can scarcely be looked for. We are not aware that the appearance of these parasites is attributed to any peculiarity in management, calves in good condition, calves in the highest condition, as well as those of contrary character, are alike subject to them. A dressing of sour buttermilk, well brushed into the skin, is called for without delay, or the usual application of *staveacre*, soda, and soft soap, if the former is ineffectual. Castration is generally performed when the calf is from three to six weeks old. The former of these ages we consider preferable; it is at all times a safe practice to fast them at the time for the preceding meal.

TURNING OUT TO GRASS.

As Spring advances, the supply of roots to the calves will necessarily be greater, according to their increasing age and ability to masticate. But it is noways desirable or economical to send them out to grass very early in the season. Last year we saw on many farms along the line of the Central and North Eastern Railways in Scotland, lots of puny half starved calves crouching on the lee-side of the fences while the Grampians yet retained a full share of their wintry mantle, and the streams running seawards were flooded with the melting snow. This was in the early part of May, and we cannot profess to have fallen in love with the practice, though probably the unexampled scarcity of food in the North had something to do with it. Better far to spend a few pounds in artificial food, than to push the young stock out into the fields prematurely. And you will do well to *begin* by giving them only a few hours a-field during the day, bringing them in again at night to their pound of cake, with a bit of (hay) chaff for the older ones, and the mess of skim-milk and linseed gruel for the young stock. If arrangements can be made for summer grazing the calves in a park, such as is usually found about a nobleman's place, they will do far better there than anywhere else. What with shelter, food, and water,—the former alike from the biting blast, the scorching sun, and the tormenting flies; the latter not only to drink of, but to splash about in the running stream,—we say there is more in these old-fashioned matters, than you may care to recognize. As Mr. Bowie, of Forfarshire, a noted breeder of polled cattle, remarked when he happened to see his young stock last summer, "That," said he "is the life of them," pointing at the same time to the burn or brook which ran along the bottom of the field, and in which the calves were standing, and swishing their tails, under a broiling sunshine. Among calves reared in the manner we have named, blood-striking or quarter-ill, is hardly known. We have only had one case out of 150 calves so treated, and that was attended by special circumstances, which readily accounted for the illness as exceptional. Not that we should advocate the putting them into a park which is so filled with taken-in stock as to cause a risk of semi-starvation. Better in such a case to keep them at home, and graze them on a piece of old turf, or second year's "seeds," or something of the kind. But there are certainly many parks (or enclosures adjacent to them) where an arrangement of the kind could be readily made; and, even if not pretty close at hand, the facility of railway communication partially nullifies a distance of 20 or 30 miles. Many of the West of Scotland farmers send their young stock, for summer keep, across the Clyde, to the green-topped hills beyond, wisely reckoning that their own grazings pay better in the shape of milk, butter, or cheese, for the teeming population near at hand. But, from a "penny wise and pound foolish" sort of policy, which forbids their bestowing more than the smallest modicum of care, attention, or expense upon their stock until they are of an age to enter the dairy—the summer seems to do but little for them.* Kept thus, calves ought not to cost their owner much trouble or expense during the first summer of their existence; i. e., when they have fairly said good-bye to the pail or the feeding-trough. In October, however, they must not be forgotten, but according to the mildness or severity of the season, either have their range prolonged or be brought to the homestead. Receiving yard shelter at night, and a dry feed into the bargain, they may roam in any convenient pasture during the day. In another month the horns may be branded with an inch brand, and the number entered in private herd-book. Every farmer who rears stock, of even the most moderate quality, ought to keep such a list. You have then, among other advantages, the opportunity of seeing which cow's calves are, or are not, worth keeping in the ensuing season. You know the exact age, the sire and dam, and other particulars, which are as important to the owner as the entries of Mr Stafford are to the higher breeders of pure stock.

* A gentleman on the borders of Leicestershire, who has been in the habit of rearing largely, economically, and well, writes us that "he has tried many *substitutes* for milk, such as hay tea, oil cake gruel, Irish moss, oatmeal, &c. but has come to the conclusion after considerable experience, that nothing is so suitable as milk." Another gentleman, who is one of the most successful managers we know of, gives it as his experience, that "the best substitute is linseed and wheat ground to meal, (2 bushels of linseed to 1 bushel of wheat), boiled to gruel of moderate thickness, and then mixed with an equal quantity of skimmed milk."

* The summer grazing (six months) of a two year old heifer is charged 32s. 6d., one year old, 21s. 4d., and calves in proportion.

More about Mules.

Mr. W. HENRY, of Rockton, Ill., sends us the following article on mules, for which he has our thanks. He is largely engaged in mule breeding, and says if the Provincial Agricultural Association will give prizes for jacks, jennys, mule colts of various ages, and matched pairs, he will come over and show his stock:—

"Mules have many advantages over the horse; they cost one-third less for feed and other expenses. They are not subject to many of the diseases of the horse, have much greater power of endurance, live to greater age, without depreciation in value. We now have a mule at our place sixty years of age, and perfectly active.

"The charge of stubbornness so often made against the mule, is entirely due to the fact that he is generally more roughly used than the horse, and has a capacity to know it. When mules are as well cared for as horses, they are equally kind. They will stand greater degrees of heat and cold than the horse, and are more intelligent, that is, capable of being more readily taught. The mule has one fault; if he is left in the stable six weeks without use, he requires to be broken again. His memory is not equal to that of the horse, although his immediate intelligence is greater. He may be sustained on coarser food, with less expense for harness, shoeing, etc. No one ever asks the age of a mule, for they seem to be equally valuable at any age. Dickens tells us, 'that sailors with white top boots, and dead mules, are never seen.'

"The ordinary cost of a fine mule is much greater than that of a good farm horse, but this is soon compensated for in the difference of cost of the keep. It is difficult to understand why mules, so intelligent in comprehending new kinds of service, should be so deficient in some other respects; for if a mule be bedded with the commonest salt hay, and his manger filled with good oats, underlaid with a half peck of thistles, he will probably eat the thistles first, his bedding next, and the oats afterwards, unless intermediately he should take a notion to feed on his crib or the side planking of his stall.

"A mule may be taught to drag a carrot-weeder, No. 0. lifting sub-soil plough, or a horse hoe, through rows of every width. At a late visit of a committee of the American Institute to our place, the mule *Kitty*, sixty years old, carried a sub-soil lifter through rows of celery plants, planted twelve inches apart, which, by their growth, had reduced the space to eight inches, without treading on a single plant; she moved her feet parallel with the ground beneath the plants and close to the surface of the ground, placing each in front of the other without difficulty. The mode of drilling a mule to perform this operation, is by placing two joists, twelve feet long and four inches diameter, on the ground at three feet apart, early in spring, driving the mule through these joists, without reins and by the word, twenty or thirty times; then turn over one joist toward the other, thus bringing them four inches nearer together, and the mule through again twenty times, practicing the short turning by word; then move the joist four inches again, and so on until they are quite near together. If the animal should tread on one of these joists, it will turn inward and trip it up. When the mule is again on its feet it will tremble with fear; then place the joist one inch wider apart than the width of either of its feet, and the mule should be then walked through between the joist, thirty, forty, or fifty times. this it will do by placing the right and left feet alternately before each other, and occupying but one line of space. If kept actively employed thereafter, it will be found capable of duplicating this action between row crops, carrying either the No. 0. sub-soil lifter, the carrot-weeder, or the horse-hoe, and doing the work of forty or fifty men with hoes, spades, or forks, and in a manner every way superior both as to depth, exactness of action, and quality of result."

Horse-breeding in Ireland.

I HAVE read with much interest the result of the inquiries instituted by the Agricultural Society upon the breeding of horses. The replies are pretty much the same from all quarters: all complaining of the scarcity of weight-carrying horses with good blood and of good sizes. I think the first deficiency arises in a great measure from the fact that every good-looking colt that goes into a fair is immediately snapped up, and generally taken out of the country: and as soon as a weight-carrying hunter is heard of, some of the first-class dealers (who have agents in all districts) come and tempt him away by a long figure; consequently, good ones seem scarce, while the wretched under-bred animals are a drug in the market, and meet our eye everywhere. The poorer class of farmers have to some extent given up breeding, because they have not found it pay; the simple reason being that they have preferred giving mares to the cheapest nondescript animals in the neighbourhood, to paying a little more and going to the best available horse they can get. Naturally, the result is a wretched colt, that they plough at two years, and then sell to a shipper at from £8 to £18. Then they find it does not pay. No wonder! The general run of farmers keep one brood mare, which they work on the farms, and there are plenty of horses bred still, but of the kind I have just described. The ruination of the country is the quantity of quarter-bred stallions, not even fit to produce a respectable animal to draw a bathing machine. These are to be found in all directions, at prices varying from five shillings to fifteen, and are largely patronised by the small farmers, who know as much about a horse as a gorilla! The first step to improve the race of horses would be to establish good sires, and hunt these brutes out of the country. I think any gentleman in a district, or large farmer who went to the expense of establishing a real *first-rate* sire, at from £1 to £2, would find it pay, and it would be the duty of any man who took an interest in the matter to support him as much as possible. "North Countryman's" suggestion of travelling a horse would hardly succeed, unless he had a great name, and stood for some time at different places, so as to let the farmers know of him. Then I think it would be an excellent plan. The best suggestion that I can make in the present state of affairs is, for all gentlemen in the country to use their influence with their tenants and the farmers in their district (and they are generally very willing to listen to advice), to send their good mares to the best available thorough-bred horse; or if they have a bad mare, or cannot afford the expense, to send her to the best heavy cart stallion, and breed a good working horse, which would be far better than the indescribable class of animals now so rife. Let landlords and resident gentlemen do all in their power to put down the wretched brutes of stallions which are now in every district, without blood, bone, or any recommendation; and by using their efforts to encourage good sires, they will eventually get them into the country. Farmers are now beginning to see the right road, and will soon perceive where their own interests lie. I have endeavoured to point out a practical remedy, and one that is within every one's power, and landlords and tenants will soon reap the benefit, if they use their efforts in this cause, and will discern that good colts will pay well, and that it is the worst economy to employ bad sires.—VIDEO, *in Bell's Life.*

"W. R. Carter" on Pig-Feeding.

A couple of racy letters have reached us with the above heading. The first is from Mr. J. T. Davies, of the Ontario Packing House, Hamilton, and is as follows:—

To the Editor of THE CANADA FARMER:

SIR,—The 1st June number of THE CANADA FARMER contains a communication from Mr. W. R. Carter on pig feeding, in which he treats with levity the opinions advanced by Mr. Samuel Nash in a previous number of your paper on the same subject. Mr. Carter's general knowledge of pig-feeding and pork-packing may, for all I know, be very extensive, but judging from the views advanced by each, it appears to me Mr Nash is a better judge of the requirements of the English bacon trade. He has had some 24 years' experience at it in Ireland and America. Mr. Carter informs your readers that green Indian corn and beech nuts will not poison a pig, and though this piece of information may, perhaps, be important to the uninformed, I think it a hint judicious farmers will be slow to put in practice. Mr. Carter cannot but be aware that beech nut-fed pork is an unmerchantable article, and subsequent feeding on grain by no means effectually removes the bad effects of previous feeding on beech nuts. I may here state that I have packed in Hamilton, during the past 19 months, 47,000 hogs, all for the English market. I set down these figures not by way of a boast, but merely to show that I am greatly interested; and I seriously assure Mr. Carter, and those of his opinion, that no price would tempt me to buy beech-nut-fed pork. Mr. Nash is correct in stating that Irish singed flitches, manufactured from pigs fed on boiled potatoes, with or without coarse meal or bran, 9 to 12 months old, 220 lbs. live weight, command in the English market the highest price. The same weights are required by me. I much prefer, and will pay a higher price for hogs alive than I will do if killed and dressed. The experience of the past season has convinced me of the necessity of buying hogs alive instead of dead.

The second letter is from Mr. Samuel Nash, pork packer, Hamilton, to whom we are indebted for having started this lively discussion on what is ordinarily a rather dull subject:—

To the Editor of THE CANADA FARMER:

SIR,—A genius, who writes over the signature of "W. R. Carter," informs us through THE CANADA FARMER, of June 1, that "accident placed in his hands No. 7 of your paper," in which he read what he pleases to call "the amusing letter of Samuel Nash." It seems your readers are indebted to a lucky "accident" for the treat afforded them by his communication, which, though obscure and unpractical in some respects, is certainly enlivened with a dash of wit and humour. According to his own account, Mr. Carter has had a very "extensive acquaintance with pigs," and been a close observer of all their habits, even to their "winks of satisfaction" while feeding. Such being the case, I wonder the more that a very simple fact should have escaped his minute and comprehensive mind. It is generally understood that a well-bred pig, kept even on Mr. Carter's favourite medley of "Swedes" "bean stalks," "beech nuts," &c., for 8 months, and then finished off with barley-meal and milk till 18 months o.d, must weigh much over (often double) 200 to 250lbs. alive, the weight required for the English market. I would not, as a pork packer, raise any objection to that gentleman's plan of feeding pigs on "oatmeal balls wetted with milk and rolled hard between the hands;" indeed, if he could persuade our Canadian farmers to take that much trouble, our success in the pork trade would be certain. He says I am wrong in placing barley-meal and milk second to peas on the list of pig-feed. My reason for doing so is, that dry peas or pea-meal makes the firmest pork. The pork trade of Canada possesses much interest for me, and I am very desirous that the best and most practical information may be brought to bear upon the subject, but I fear "W. R. Carter" has not contributed very largely to our enlightenment.

SAML. NASH.

Hamilton, 11th June, 1864.

HORSES PULLING AT THE HALTER. Many remedies have been proposed for curing this bad habit, but a simple and effective one is, to discard the common halter, and get a broad strong leather strap to buckle around the neck for a few inches below the ears. A horse may pull at this, but will soon give it up.

The Dairy.

Cheese-Making in Barre, Mass.

THE town of Barre, Worcester county, has more milch cows, and makes more cheese than any other town in the State. A gentleman of that town, writing to the *N. E. Farmer*, says:

The milch cows which you find on first class dairy farms in Barre are generally Grade Durhams, and afford a striking illustration of the truth of the statement made in Mr. Flint's valuable work on Milch Cows, that no animal, of any other breed, can so rapidly transform the stock of any section around him as the improved Short Horn bull. By selecting the best native cows in their herds and putting them to thorough-bred bulls—a practice which has been customary here for some years—they have secured a class of cows peculiarly adapted to the special objects sought here in this vicinity, which are the production of cheese and beef.

Now let us see what this stock will do. Barre is the banner town of the State for cheese, producing 600,000 pounds per annum. I have made inquiry of many in regard to the average yield per cow in well selected herds, and am satisfied that first class dairies produce five hundred pounds of cheese per annum for each cow, although the average yield is perhaps not over four hundred pounds. Some claim to have made an average of six hundred pounds each from a dairy of eleven cows. At an average price of twelve cents per pound for the cheese, these cows would secure their owners an income of seventy-two dollars each.

Good pastures are as essential to a good dairy as good cows, and that the farmers of this section have these no one can entertain a doubt, who, upon a June morning, has been permitted to look upon the broad fields of white clover in full bloom which stretch far away upon the Barre hills like a sheet of newly fallen snow. Most of these have never been disturbed by the plough, but have sometimes been dressed with plaster and other inexpensive fertilizers.

There is one practice of the Barre farmers which I think is deserving of notice, and is worthy of imitation. They milk their cows *at regular hours*. At six o'clock in the evening they are driven from their pastures and relieved of their milk, and milked again at about six in the morning, thus dividing the day into periods of equal length. All other work is so arranged as not to disturb the appointed hours for milking, which is considered an important operation and deserving a good degree of attention.

But in order to produce a superior article of cheese, there must be skill and attention exercised by the dairy-women. That these are not wanting here is abundantly proved by the tidy appearance of their dairy rooms, and the perfect neatness with which every utensil is kept, as well as by the shining rows of golden cheeses which are arranged upon either side.—*Country Gentleman.*

Fine Cows.

A WRITER in the *Valley Farmer* states that his brother, in Danube, N. Y., has two cows, *native* breed, which he kept on a five acre pasture, together with "several calves, a heifer or two, and a horse." The family of the owner of the cows consisted of three persons; he had a common share of company, and yet he sold, for several years in succession, $100 worth of butter a year, at an average of 21 cents a pound. Besides this, all the butter and milk the family needed was used, and 400 pounds of pork made! He lays this success mainly to the treatment which the cows received. In the winter their stables were kept warm and clean. Running water and salt they could constantly get, but had no grain. Their pasture was rendered sufficiently dry by ditching, and produced abundantly of timothy red top and clover, so that some of each kind seeded. It was lightly top dressed with plaster and ashes. Did not feed short in the fall.

There is scarcely any product of the farm in which there is such diversity of result as in the product of milch cows. In this case, with only "good cows, not much more," the writer says they produced more than a *hundred dollars* each, while the average, we believe, is but a trifle, if any beyond *thirty* dollars to a cow! From the tenor of the whole article—which we have read with interest—we have no doubt that this unusual success was secured, mainly, by the treatment which the cows and *the land upon which they were fed* received, and not through any superior excellence of the cows.

Since the introduction of pure blood animals from abroad, what are called native cows have gradually fallen into disrepute, and yet we believe a hundred natives, or grades,—as probably most of them are now,—may be found to-day, that will produce as much as a hundred pure blood cows of any breed.

Since preparing the above, we have found the following in the *Country Gentleman:*

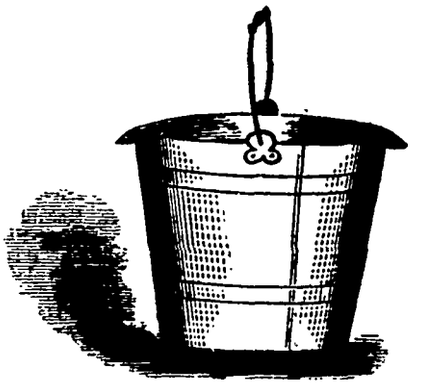
TWO EXTRA MILKERS.—*Messrs. Editors:*—The cows noticed in the *Country Gentleman* of the 26th Nov., as having produced large quantities of milk, must "clear the track," in order that I may "trot out" two *Dutch heifers* imported and now owned by myself.

These heifers were imported in the autumn of 1861, and were four years old last spring. One of them dropped a heifer calf on the 2d day of last April, that weighed at birth 92 pounds, and during the month of June following, a record of the cow's milk was carefully kept, showing a result of 170¼ pounds for the month, or an average of 56.81 pounds per day. The first six days in June she gave an average of 59.04 pounds per day, and on four respective days during the month she gave 60.50 pounds per day.

The other heifer dropped a bull calf on the 26th day of last August, that weighed at birth 110 pounds, and a record of this cow's milk was kept from the 3d to the 9th day of September inclusive, showing a yield of 338¾ pounds, or an average of 48.39 pounds per day The calf of this cow was weaned when two days old, and fed upon a portion of the mother's milk until he was eighty days old, when his weight was found to be 350 pounds, a gain of 240 pounds in eighty days, or just three pounds per day. And this without an ounce of grain of any kind.

W. W. CHENERY.

Highland Stock Farm, Belmont, Mass.



A Convenient Milk Pail.

The above cut will give our readers an idea of a very simple device, to which the following extract from the *American Agriculturist* refers:—

"Any thing which adds to the safety of the milk pails over all the land, and to the convenience of milkers, is very valuable, and the simple contrivance we here present, the invention of a subscriber to the *American Agriculturist*, Peter Mulvany, of Calhoun County, Michigan, seems to be of this kind. Mr. Mulvany writes: "While getting a milk pail of heavy tin marked at the tinsmith's the other day, it occurred to me that it would be held more easily between the knees if it had two pieces of tin soldered on, one on each side between the pail ears, as in the sketch. I find it to be a decided improvement. The pieces need not be large, say 1½ inch in width, and half-moon shaped, to fit the curve of the pail, and so as to slope downwards a little." It strikes us as decidedly practical, and so to speak, *handy*. The pail being supported upon the knees instead of being held up by them, is brought conveniently near the teats, and is much quicker in hand, if the cow steps or kicks. It would be interesting to know approximately the quantity of milk spilt every year, or even on any one day in the milk season, by the upsetting of the pails, by cows putting their feet into the pails, tipping them partly over, or causing splashing and loss of milk, while the operation of milking is going on, which accidents this contrivance is calculated to diminish. At the same time it affords relief to the muscles of the legs of the milkers."

Correspondence.

NON-ARRIVAL OF TREES.—To "Charles Gillis."—We are unable to tell you why you did not get your trees. Had you sent your order as you intended, you would have received every attention. All the nurserymen who advertise in THE CANADA FARMER, keep first class establishments.

FILBERTS.—A lady, writing from Meaford, inquires why the Canadian farmers do not plant filberts in their orchards, as is done on the Medway in England. She thinks it would be delightful to go nutting in one's orchard, and that the children could be trusted with the harvesting of them. Have any of our readers any experience with the growing of filberts in Canada?

ERRATUM.—"W. S.," of Woburn, sends us the following correction. "In the article on "Legislative Encouragement to Farm Improvements," in our number of 15th June, a misprint of one short word occurs, in line 22, top of the third column, page 169, which confuses the meaning. The words "absolute fee simple of the townships," should read "absolute fee simple to the townships."

SEEDS OF FOREST TREES.—For the information of our correspondent whose letter on this subject appeared in our last issue, we may mention that Meehan and Wandell, of the Germantown Nurseries, Pennsylvania, advertise silver or soft maple seed (*Acer Dasycarpum*), at $6 per bushel, including cost of packing. They state that this seed is now about ripe, and that to insure germination it must be sown forthwith.

LAYERING GRAPE VINES.—"D. W. E." is informed that there is no trouble in making the grape vine root from layers. It is only necessary to have the layer buried sufficiently deep to keep constantly moist. For minute detail of the several modes of propagating grape vines, we must refer him to the "Grape Culturist," a book recently published in New York, by Andrew S. Fuller, in which the whole subject is fully explained.

DEATH OF A PEAR TREE.—To "B. R. S." It is not very easy to say what is the cause of the death of your pear tree. It is possible that the roots are suffering from excessive moisture. Perhaps you gave it too much liquid manure. Pear trees will not live long in a cold, wet soil, nor will they bear over stimulating with strong fertilizers. We are disposed to attribute its death to one or both of these causes, and not to any insects.

LARGE GALLOWAY YEARLINGS.—The following note from Mr. John Snell, of Edmonton, ought to have appeared sometime since:

"With regard to the weight of Mr. McNeil's Galloway calf, given in No. 6, of THE CANADA FARMER, page 86, I think you need not be doubtful. It is quite likely that the figures were "right side up." I showed a Galloway bull, at the county of Peel spring fair a year ago, 15 months old, which weighed 1160 lbs."

WHEAT MEAL CAKES.—A correspondent in West Nissouri sends us the following: "Those who cannot make good fermented or loaf brown bread, may find a good substitute in wheat meal cakes, made as follows:—Wet the meal (Graham flour) with water, into a rather soft dough, then roll it into very thin biscuits, and bake in a range oven, stove, or before the fire. They should be made fresh every day, and may be eaten as soon as cooked, whereas fermented bread should never be eaten till one day old."

BROWN OR GRAHAM BREAD.—"A lover of Brown bread," says: "The very best that I ever ate, was made from the following recipe:—Three-fourths rye flour, one-fourth corn meal, 1 pint yeast, 1 tablespoonful of baking soda, and a little salt, wet with sweetened water, as stiff as it can be stirred with a spoon. Bake from one hour to an hour and a half, according to the size of the loaf. By following this recipe, 'a subscriber at Clinton,' will have as good brown bread as any one can wish to eat."

EXTIRPATING CANADA THISTLES.—"Anti-Canada Thistle" sends us the following recipe for getting rid of this troublesome weed:—"Manure the patch well with good manure in the fall before ploughing. In the spring following, the thistles will be very rank; the stalks will be long and hollow: cut them just before blossoming, in a wet time, and the water will run down to the roots and rot them. By this means three-fourths of the thistles will be destroyed. In about ten days plough the patch, in a dry time, repeat two or three times during the summer, and you will not be troubled with any more thistles to hurt. The ranker you get the thistles, before cutting, the better."

Another Correspondent writes, "I notice in a late No. of the C. FARMER, an article over the signature of "L." in reference to Mr. Stirton's bill now before Parliament for the destruction of Canada Thistles, and cannot but think his reasons for recommending delay in bringing the bill into operation very unsatisfactory.

It is my opinion the matter has been delayed already too long. All must be convinced that the longer it is delayed the more difficulty will be found in carrying it out. An evil cannot be checked too soon. Have not farmers who strive to rid their land of noxious weeds been annoyed long enough with this greatest of all pests? "L." seems to question the expediency of such a law, but I have no doubt it will be approved of by nine-tenths of the practical farmers in the country. I would, with "L.," recommend meetings of the Agricultural Societies, for the purpose of organization to assist him in sustaining those charged with carrying out the law.

THE MIDGE DESTROYED BY FIRE.—"M.," of Glanford, writes: "Is it generally known that a fire, near a field infested with midge, will destroy them? I was shown an oil lamp yesterday, which had been burning a few hours near an open window, a short distance from a wheat field, the glass chimney of which contained thousands of the dead insects; and Mr. Jacob Smuck, of this township, informs me that last week, he built a large fire by the side of a field badly infested with midge, which seems to have completly destroyed them, as he has not seen a single one since that time."

"HYDRAULIC STUMPING MACHINE."—On this subject "W. S.," of Woburn, writes:—"A correspondent, in No 10 of THE CANADA FARMER, is quite facetious on the idea of a hydraulic stumping machine. He assumes that the working of the pumps, would be a very serious matter, so serious, indeed, that the idea would be impracticable. I reply, that any one who has ever seen, or who knows any thing about a hydraulic press, will bear testimony that, at any rate *this* objection is not tenable. A hydraulic power equal to many hundreds of tons, can be exercised by a child! In any properly constructed machine, this would be about the *last* objection that could be urged."

HOW TO CAUSE A EWE TO OWN A LAMB WHETHER HER OWN OR NOT.—"A Boy that reads THE CANADA FARMER," sends us another method, as follows: "Put a leather strap round the ewe's neck, to which attach a small rope, and tie her in a small apartment in your sheep house, separate from the rest of the sheep. Induce the lamb to suck, holding the ewe still at the same time. Repeat frequently the first day or two, and in from three to eight days she will own it. The time depends on the obduracy of the ewe. Last spring our lambs came during that cold snap we had, about the middle of March, a number of them died in spite of all the care we took of them; but every ewe that lost her lamb or lambs, we gave her another, from one that had twins."

AN INTENDING FLAX MANUFACTURER.—Mr. James Spence, of Frye Village, Andover, Mass., U.S., writes us to say that he wishes to settle in some good locality in Canada, where he can commence the manufacture of flax, with the prospect of doing a good business. He thinks of starting scutching, heckling, spining twisting, and weaving machinery, and desires to know of an idle water power, in a suitable locality, to sell or rent. Mr. Spence has had many years' experience in this business, in the old country and in the U. S. Desirous of encouraging such settlers to make their way to Canada, we thus give publicity to his wishes, in the hope that parties who know of a good opening for flax manufacture, will address our correspondent as above. Meantime, our advice to Mr. Spence is to come, and select a locality for himself. He will, we think, have no difficulty in finding one to meet his views, for the flax trade in Canada is capable of indefinite expansion.

EVERGREENS.—In reply to an admirer of evergreens, we will say that the autumn is the worst possible time to plant them, and so far as our experience extends, themiddle of May is the very best season that can be chosen. The reasons for this opinion are based upon actual experiment; our theory is that the frosty winds sweeping through the foliage, dry up the juice of the autumn planted tree, and the dry hot sun of July and August, has the same effect upon the summer planted evergreen, while the roots, as yet are drawing but slightly upon the moisture of the soil. We have not thought that spruce was very particular about the nature of the soil, though doubtless the nearer it approaches to that in which it is indigenous, the more likely it will be to grow vigorously.

GUENON ON MILCH COWS.—"L.," of Hay, says:—"Some four or five years ago, I came across a small volume, entitled, "A Treatise on Milch Cows, whereby the quantity and quality of milk, which any cow will give, may be accurately known by external signs"—by Francis Guenon, a Frenchman. I made myself sufficiently acquainted with the details of Guenon's system, to enable me to make a few observations, and I have come to the conclusion that there is some truth in it.

ANS.—We have read the book, and, like our correspondent, think "there is some truth" in the theory, but have not tested it sufficiently to speak with confidence.

COST OF TILE FOR DRAINS.—In reply to two or three correspondents, who have sent enquiries on this subject, we may state that the following are the prices asked by Mr. Thomas Nightingale, of the Yorkville Tile and Brick Works:—

	At the Yard.	On board the Cars.
For 1½-inch bore.	$4 50	$5 50
" 2 "	6 00	7 00
" 3 "	10 00	12 00
" 4 "	16 00	18 00
" 6 "	50 00	56 00
	Per foot.	Per foot.
" 9 "	$0 15	$0 17

These prices are for 1,000 pieces—each piece is 13 inches long. The 9-inch are sold by the foot, and are mostly used for chimney flues.

TRUSTWORTHY CROP REPORTS.—On this subject, "Simplex" says:—"Far from the least interesting of your contents is, to the mind of many, the report of farming prospects throughout the Province. Newspapers are so misinformed by commercial travellers, and even by their own reporters and editors, that the published paragraphs as to the state of crops have little trustworthy about them. It is one thing to look over the fences, or out of the railway cars, and see the June grass waving in the wind, and a most cheering sight it is to the weary editor, who no sooner reaches Toronto, than he tells the *Globe* or the *Leader* "they have splendid grass crops in Eastern Canada." It is another thing for the farmer to walk through his meadows and find that they are scarcely worth mowing, although they look so luxuriant from the roadside—that the timothy is shooting out when only a few inches high—and then he consults with an old neighbour, who says:—'If rain *does* come, it is too late for the hay crop. After timothy and clover have blossomed, no rain will make a short plant a long one; and so with grain; but rain may make heavy ears instead of light ones.'"

ESTIMATING GRAIN IN THE BIN.—"Douglas," of Bromley, sends us another method of doing this, which he states as follows:—"Multiply the length, breadth, and depth of the grain in inches together, and divide the product by 2150, the quotient will be the number of bushels in the heap, bin, or granary—but the grain must be level and of a straight four-sided figure, either square or oblong. The divisor, 2150, is the number of inches in the Winchester bushel, disregarding the fractions, and will give the quantity with sufficient correctness for an estimate:

Feet. Inches.

Operation:—Length, 12 8 = 152 inches.
Breadth, 8 4 = 100 "

15200

Depth. 2 6 = 30 "

2150) 456000 (212 bushels.
4300

2600
2150

4500
4300

200 remainder.

FISH AND SEA-WEED FOR MANURE.—"P. Murison," of New Carlisle, writes:—"I would like to know something with respect to the application of fish as a manure. We have a small fish called Caplin, which coming in in the spring, is applied as a top dressing, to all sorts of crops, with wonderful results, (in its raw state,) also a great quantity of sea-weed, which I allow to rot before using; in the spring the sea-weed is filled with herring and caplin spawn, and soon rots and makes a very good top dressing for hay land.

We have thousands of loads of sea-weed, during the season. Cod heads make a good manure also, around cabages and other root crops. We have marsh mud, both salt and fresh water sea-weed, caplin, cod heads, stable manure, and lime. Would those make a good compost, and which would be the best mode of applying them?

Ans.—Our correspondent is certainly to be congratulated on the abundance of material he has within reach for enriching his farm. The sea-weed may be applied as a top dressing, without waiting for it to rot. By so doing its fertilizing effects will be greater. Sea-weed is also a capital ingredient in the compost heap. From the fact that it rots quickly, it helps to hasten the same process in the other manurial ingredients. Fish and fish offal, answer a good purpose, composted with three or four times their bulk of ordinary soil. Marsh mud, sea-weed, stable manure, and lime make an excellent compost. When ready for use, these preparations may be applied either as a top dressing, or in the ordinary way, by ploughing under.

Heaves in Horses.—"G. C.," Dereham, enquires what are the best means of treating or curing horses that have the heaves.

We have also a communication from "Kirkhill," Lochiel, on the same subject.

Broken-wind or heaves in horses, in confirmed cases, is incurable. Many specifics are recommended, but without any permanent advantage. The horse, however, may be rendered serviceable by proper attention to the feeding, by giving him good and nutritious food in small quantities and often, damping his hay, and when at work giving only a moderate allowance of water; at night, however, allowing plenty of water. An occasional dose of laxative medicine is also useful, as horses affected with heaves are often troubled with indigestion. Large doses of sedative medicines, as opium and Belladonna, have the effect of alleviating the symptoms for a short time, but the effects are not lasting.

Murrain and Tympanitis.—"J. E. A.," of Port Dover, writes on this subject, and describes two kinds of murrain, viz: the dry and the bloody murrain, and recommends the following as a cure for both kinds:—"Take what used to be called a sixpenny plug of good chewing tobacco, pull it in pieces, and steep in about a gallon of water. When the strength is sufficiently out, drench well. If this does not give speedy relief, repeat the dose, for it is a sure cure, as it has been known to cure when the animal had to be held up to give it the medicine."

[Our correspondent forgets to give an account of the symptoms attendant on the malady supposed to be murrain. However, we have no faith in the treatment he recommends, and we attribute the "sure cure" he mentions to nature and not to the nauseating effects of tobacco.—Ed. C. F.]

"J. E. A.," also recommends strong white lye as a never-failing remedy for tympanitis in cattle, and mentions that nine cases out of ten have proved fatal when he has tried puncturing.

[In a previous number we gave the nature of the disease known as tympanitis or hoven in cattle, and we then recommended, as we do still, puncturing in such cases, when medicines are not likely to act. We have never witnessed any bad effects from the operation when properly performed; and we are of opinion our correspondent's want of success in puncturing in tympanitis must arise from the manner it has been done. We do not approve of his never-failing remedy, and would advise a more rational course of treatment of the disease of cattle than he seems accustomed to adopt.—Ed. C. F.]

Flax Brake, &c.—"Mair, Inglis & Co.," of Guelph, write as follows: "We notice in your paper of the 1st inst., a letter from Mr. J. A. Donaldson, on flax culture, in which he says: 'The want of a simple brake to prepare the flax for scutching, is much felt, it being now necessary to send to New York, or some other part of the States, pay duty and transportation, &c., which should be avoided if possible.' We are happy to state, for the information of those of your readers interested in flax dressing, that we are manufacturing the flax brake, tow picker, duster, scutching machine, and seed roller. One of our brakes can be seen at work, in Mr. James Hennoberry's mill, at Elora, who will cheerfully show its working advantages to any person wishing to purchase. Mr. Hennoberry is an experienced flax dresser, and says it is superior to any he has seen working in the States."

Mr. Hennebery himself writes in reference to the brake referred to, as follows:—"I have a brake got up by Mair, Inglis & Co., Guelph, Wellington County, C. W., that is ahead of any I have seen yet, and I have seen and worked the New York brakes. This brake of mine is capable of breaking five tons of flax straw in ten hours fit for the ruffer or buffer, which ever you may call it. This is built on a simple plan—not much gearing in fact. I had been very anxious for something of the kind, and I just went down and gave in my plan and they got it up complete. I have had a good deal of experience, in the flax business for the last nine or ten years, from the sowing of the seed until the heckling of the fibre, and I do not hesitate to say that this brake is ahead of any I have seen or worked, and I would not take twice what it cost if I could not get another like it. Parties desirous of seeing it work can have an opportunity any day they call at my flax mill, one mile from Elora, as I have reserved some flax straw for the purpose. Mair, Inglis & Co. can furnish all machinery for flax mills—such as seed rollers, knife shafts, brakes, tow picker, duster, &c. These last named articles are designed for making coarse tow into paper stock. I have no interest in writing thus; but it is only just to say they got up these articles for me to the utmost satisfaction, and I deem it my duty to let the public know through your valuable paper that we have such enterprising mechanics amongst us.

The Canada Farmer.

TORONTO, UPPER CANADA, JULY 15, 1864.

Provincial Mowing Machine Match.

Pursuant to advertisement, a public trial of mowing and reaping machines took place on Wednesday, July 6th, on the farm of James Logie, Esq., lot No. 17, 1st Concession, West Flamboro', about a mile from the Dundas station of the Great Western Railway. Considerable interest attached to this trial from its connexion with the approaching Provincial Exhibition. The prizes to be then distributed in the reaper and mower classes, will be awarded according to the reports of the judges at the recent mowing match, and a forthcoming trial of reapers which will be held on the same farm, so soon as the wheat is ready to cut. On our arrival at the appointed spot, about 9 a.m., we found a goodly number of persons already assembled, and the ground soon assumed a lively appearance. Under the efficient superintendence of Mr. W. A. Cooley, of Ancaster, a field of clover had been staked out in half acre lots, and other preparations made for the competition. Ten o'clock was the hour appointed for operations to begin, but owing to various delays it was high noon before all was ready for a start. By this time several hundreds of persons had assembled, chiefly from the immediate vicinity, though we were informed that some had come from a considerable distance to witness the competition. We observed on the ground James Johnson, Esq., President of the Provincial Agricultural Association; R. L. Denison, Esq., Professor Buckland, Hugh C. Thomson, Esq., Secretary of the Board of Agriculture; J. Fleming, Esq., Walter Riddell, Esq., of Cobourg; M. C. Lutz, Esq., Galt, &c., &c.

Twenty-two machines had been previously entered for competition. Of this number only sixteen put in an appearance. We present a tabular list of these machines which will show, at a glance, the several makers' names, the character of the machine, the width of the cut made by each, and the draft, as indicated by the dynamometer. Two classes of machines were put to trial, single mowers and combined reapers and mowers:—

I.—SINGLE MOWING MACHINE—7 ENTRIES, 4 ON THE GROUND.

MAKER'S NAME.	NAME OF MACHINE.	WIDTH OF CUT.	DRAFT
1. J. Watson, Ayr,	(Ayr Combined).....	48 inches.	187 lbs.
2. Billington and Forsyth, Dundas,	(Hubbard Mower).....	47 do.	162 do.
3. Jos. Hall, Oshawa,	(Ohio Junior.)	53 do.	126 do.
4. James Scott & Co., Dundas	(Wood's Mower).	47 do.	235 do.

II.—COMBINED REAPERS AND MOWERS—13 ENTRIES, 12 ON THE GROUND.

MAKER'S NAME.	NAME OF MACHINE.	WIDTH OF CUT.	DRAFT
1. Benjamin Bell, St. George,	(St. George Combined).....	56 inches.	212 lbs.
2. J. Watson, Ayr,	(Ayr Combined.)	58 do.	276 do.
3. J. Bingham, Burford,	(Young Canadian.).....	56 do.	276 do.
4. Billington & Forsyth, Dundas,	(Billington & Forsyth's.).....	61½ do.	287 do.
5. Billington & Forsyth, Dundas,	(Ball's Ohio.).....	52 do.	145 do.
6. J. Lawrence, &c., Palermo,	(Ball's Ohio.).....	56 do.	219 do.
7. I. & P. Sawyer, Hamilton,	(Ball's Ohio.).....	60 do.	280 do.
8. Jos. H. P., Oshawa,	(Ball's Ohio.).....	60 do.	240 do.
9. Do do.	(Cayuga Chief.)..	62½ do.	199 do.
10. Palmer & Groat, Grimsby,	(Ball's Ohio.) ...	57 do.	226 do.
11. James Scott & Co., Dundas,	(Excelsior.).....	52½ do.	275 do.
12. Mills & Melvin, Guelph,	(Buckeye.) altered..	56 do.	246 do.

While there was a difference in the quality of the work done, all proved themselves more or less effective mowers, nothing like failure or even inefficiency attaching to any of them. It will be seen that the draft varies considerably. The figures referring to this must, however, be looked upon as very indefinite. So many circumstances modify the draft of a machine or vehicle that, without a more exact method of judging than was found to be practicable on this occasion, it will not do to be very positive in drawing conclusions. "Ohio Junior," among the singles, and "Ball's Ohio," and "Cayuga Chief," among the combined machines, carried off the palm for lightness of draft, most unquestionably. Of course, there are other matters which require to be taken into account, such for example as durability when exposed to wear and tear, and the like. In the case of combined machines, their action as reapers must be tested before any final decision can be formed.

The award of the judges is not to be made known until the Provincial Exhibition, and it is needless to try to anticipate it. Suffice it to say that scythe mowing in Canada is evidently well-nigh obsolete, that a large number of mowing machines capable of doing good execution, are now being manufactured, and that most assuredly no man will waste his money who buys any one of the machines that were on exhibition at the recent match. It is very plain, however, that Ball's Ohio, both as a single and combined machine is a favourite both with makers and purchasers, six out of the sixteen machines exhibited, being of that pattern. If we were obliged to give an opinion on the merits of the several machines simply as mowers, we should be somewhat puzzled which of the following four to place first, viz:—Ohio Junior, two Ball's Ohio Combined, Nos. respectively 7 and 8, and Cayuga Chief. But as we have said, all were good, and we congratulate the farmers of Canada on the opportunity they have of selecting from so excellent an assortment of well-made machines.

We must not omit to mention that the following gentlemen acted as judges, viz:—Walter Riddell, Esq., of Cobourg; M. C. Lutz, Esq., of Galt; and John Renton, Esq., of Glanford. We have only to add that the weather proved propitious though somewhat sultry, that everything passed off pleasantly, and without accident, and that all separated anticipating with much interest a similar meeting in about a couple of weeks, when the capabilities of the machines as reapers are to be put to the test.

Provincial Trial of Reapers.—The Reaping Machine Match for the Provincial Exhibition prizes, will take place on the farm of J. Logie, Esq., near Dundas, on Wednesday next, the 20th inst., at 10 a. m. See advertisement.

Testing Reapers and Mowers.

In order to arrive at a fair estimate of the comparative merits of these machines, the greatest care is needed, and we are not sure that matches are always conducted under circumstances most favourable to a thoroughly impartial judgment In the first place, it seems to us that more time is required to test these machines than is ordinarily, or can perhaps very conveniently be given to it. When a number of machines are put in operation at once, it is quite impossible for judges, even though they were Argus-eyed, to inspect each and all of them, and decide on their respective qualities. Properly speaking, each machine should do its half acre or acre of work by itself, the entire of judges and spectators being occupied with its performance for the time being. Then, secondly, it seems very needful that the ground cut over by the several machines should be raked clean after the work is done, so that a judgment may be formed of the closeness and evenness of the mowing, and the manner in which the machine operates upon uneven places in the land.

Again, in testing the draft of the machines, it is very necessary that there should be uniformity in the speed, manner of driving, and in the nature of the land operated upon. Variation of speed affects the draft very considerably. A skilful driver can ease his machine greatly. And of course if one piece of land be smooth and even, the draft will be less upon it than upon another piece which is rough and uneven We do not see how this important item can be correctly got at unless the same team, driven by the same person, is employed on all the machines.

Finally, the materials used, the style of workmanship and the finish of a machine are points that should not be overlooked It is a matter of no little importance, for instance, whether the cutter-bar be of wood cast iron, wrought iron, or steel; and so of other parts of these important implements which might be mentioned.

We have adverted to these particulars with a view to awakening thought as to the best mode of making the trials under consideration decisive and satisfactory. It should be the object of all concerned whether makers or users of the implements in question, to test each candidate for public favour as thoroughly as possible, and a true verdict give according to the evidence.

MIDGE PROOF WHEAT.—A gentleman from the neighbourhood of Ancaster, stated to us the other day, that he sent for and sowed some wheat advertised as midge proof and that thus far though all his other grain is more or less affected this has wholly escaped. We shall be glad to know if it continues unhurt. A species of wheat really *midge proof* would be indeed an agricultural boon.

SINCE the above brief paragraph was put in type, Mr. James Johnston, of Norval, has called at our office, and left two samples of wheat, the one "Soule" and the other "midge proof." These samples are from adjacent fields, on the farm of D Stewart, Esq of Stewarttown The Soule is literally swarming with midge, while the other is perfectly free from the scourge. Mr. Johnston, states that Mr. Stewart offers a dollar reward, for every midge found in the "midge proof" wheat, and that thinking he could not make money faster, he spent considerable time in careful examination, but without success Mr. Stewart imported this wheat from the Genesee Valley at $1 50 per bushel. He will preserve all he raises to supply his brother farmers with seed An additional recommendation of this wheat, and what may help to account for its freedom from the midge, is its early maturity The Soule wheat was three inches high before the midge proof was sown the former is yet in the milk while the latter is fit to cut. There is, we should say three weeks difference in the ripening of the two samples We understand that some so-called midge proof wheat, does not sustain this character but in this instance the contrast is very palpable, and the freedom from midge perfect.

Meeting of the Board of Agriculture.

A PUBLIC TRIAL of the Mowing Machines entered for competition at the Provincial Exhibition of this autumn having been appointed to take place on Wednesday, 9th instant, on the farm of James Logie, Esq., near Dundas, some members and officers of the Board were present to conduct the same and a regular meeting of the Board took place at Hamilton on the following (Thursday) morning, at which some business connected with the approaching exhibition, the ploughing match, &c., was attended to. The following vote of thanks was passed:

"*Resolved*,—That the thanks of the Council of the Agricultural Association are due and are hereby tendered to James Logie, Esq., of West Flamboro', for the valuable assistance he afforded the Council by placing his farm at their disposal for a trial of mowing machines on the 6th July, 1861, as well as for his kindness and hospitality on the occasion to the gentlemen conducting the same."

Several reports and communications were submitted to the Board, amongst which was a report from Mr B Walker, of St. Thomas, in reference to the lectures he had delivered at different places, and the result of his observations in regard to the cultivation of flax

Weather and Crop Items.

—— " writes from Hay, July 6th, 1861. "We have been fated in this section of the country, this season, to experience in rather a remarkable manner, the extremes to which this Canadian climate is liable In the early part of June we were congratulating ourselves upon the two weeks of fine growing weather which we had: viewing it as the harbinger of showers, and genial warmth that would more than compensate for the wet and backward spring. But we were to suffer the other extreme of drought, for with the exception of a slight shower scarcely sufficient to lay the dust, I may say we had no rain from the 18th of May till the first day of July, and, moreover, the drought was of the most parching kind. Stifling hot days followed by chilly nights, so chilly, that it occasionally froze and even formed ice. I might stop with the above description of the weather, and say nothing about the crops, for it will not be hard for your readers to imagine how they look. Since the splendid rain which we had last Friday afternoon, the fields have lost the yellow sickly hue, and are getting green again. Spring wheat is heading out five and six inches long, and is certain to be a light crop. The same remark applies to barley. I see some tolerably good patches of clover hay, but the timothy meadows are done for, the frost killed the half of it, so that it will never shoot. Peas look wonderfully well: they must be a hardy cereal to come through such a campaign and keep up so good an appearance. I hope to be able in my next, to tell you all about the fall wheat. In the meantime, all I can say is, if it has escaped uninjured, from the late frosts, it will be about the best crop we will have in these parts this season.

"I have been watching closely for weevil or midge fly, but I have seen none. I am in hopes that they are either frozen out, or drowned, or burned up, and that we will have no more of them. The pasture fields and the roads are vieing with each other; which is the barest is hard to determine, but it has commenced to rain again to-day, and there is hope yet for the hungry cattle."

"A New Beginne," writes from Aldborough, July 5th 1861: "I take great pleasure in reading the weather and crop items. They have one fault,—that is, there are not half enough of them. I wish some one up in Trafalgar would volunteer to be a representative of that township.—[So do we.—Ed. C. F.]—The last month, up to the 23rd, has been very dry. On the 23rd and 29th we had nice refreshing showers. The spring crops are very much injured with the drought. The fall wheat was very much injured last winter by the frost We see now and then a good field, but such are very rare A great many farmers are complaining that the midge is taking what is left. I have examined several fields, they are certainly worse than I ever saw them The hay crop is almost nothing, except on new ground, and even there, in some cases, it is only about half a crop.

"S. S. S." writes from Orchardville, under date of July 1, 1861:—"I have been travelling this week through the townships of Sydenham, St. Vincent, Derby, Holland, Glenelge, and Egremont, County of Grey, and find that the crops are thriving rather poorly. It is very dry, there having been no rain since the crops were put in, although I hear there have been several refreshing showers at Mount Forest only eight miles from here. Fall wheat looks promising but spring crops begin to show that yellowish colour about the roots so ominous to the farmer. Two weeks ago we had a very heavy frost, five nights in succession. It appeared to be the heaviest near the shore of the bay in Sydenham and St. Vincent. I saw whole fields of potatoes cut to the earth. Many farmers ploughed up their potato ground and planted again. I cannot find any barley here. Farmers have the mania for 'wheat, wheat.' I think the coarse grains at present would remunerate them far better than wheat."

"A H" of Hossierville, County Lambton, writes at date of July 7, 1861: "Since I last wrote you, which was on the 27th of May, we have experienced a very severe drought, with great heat, the thermometer standing often as high as 95° and 100° in the shade. Between the sixth and fifteenth of June, we had four or five frosty mornings, which injured the timothy meadows very much, as well as young fruit. The fall wheat is worse this year with the midge than it has been for six years The general opinion is that it will not pay the threshing. Farmers are beginning to cut their hay, but it is scarcely half a crop, and all the spring crops are very short, having had no rain from the 1st of June until the 28th, when it fell about half an inch Again, on the 1st of July, and on the 6th, about the same quantity fell."

ANOTHER correspondent says:—"Having business which caused me to travel over a large portion of the wheat-growing country of Upper Canada—say from east of Toronto north to Holland Landing, Collingwood, Owen Sound, Walkertown, Durham, Fergus, Elora, Guelph, also on all the leading roads through Esquesing, Chinguacousy, Trafalgar, Nelson and Toronto Township, taking particular notice of all the fall wheat as I passed, stopping my horse hundreds of times to look for and thereby satisfy myself about the midge I am sorry to say that the whole face of the country is alike perfectly swarmed with the midge, some sections much worse than others, but all bad enough. Spring crops also are nearly all a failure. I noticed barley heading out from four to six inches high."

ON the afternoon of Sunday last, says the *Simcoe Standard*: a severe storm of wind, hail and rain intermixed, passing from west to east, swept over a strip of the country, a short distance south of Simcoe, breaking down fences, destroying trees, and in some instances blowing off roofs of houses. A portion of the spire of the Woodhouse Wesleyan Methodist Church was blown down. Mr. C. Brown, tavern-keeper, has nearly half of his large barn unroofed, and we understand Mr. Holms Mathews had a small frame house blown over. In Port Dover an open shed was lifted out of its site and thrown into the street, and the hail broke numerous panes of glass in the village.

"J. H. J.," of Maidstone, writes at date of June 28, 1861: "The wheat in all this section has been winter killed very badly, and what is worse, the weevil is very prevalent, in what is left. Along Sandwich St. hay will be very light, for want of rain, corn looks well, but wants rain, we have had no rain since corn was planted. Last week was very hot, but this morning it is very cold, but no signs of rain."

☞ A gentleman who has recently visited the township of Wawanosh, near Goderich, has shown us a very fine sample of fall wheat, and states that there is no midge in that section of the country.

☞ A handful of green wheat was brought into our office the other day, very badly affected with midge. It was from the farm of Mr. Vanostrand, Yonge Street.

DEATH OF S PETERS, Esq.—We regret to notice the death, somewhat suddenly, on the 8th inst., of Samuel Peters, Esq, of Grosvenor Lodge, near London, C.W. He was one of the pioneers of W stern Canada, and for many years paid much attention very successfully to the breeding of superior stock. He was a thorough agriculturist, and took great interest in whatever tended to develope the resources and increase the wealth of the country.

The Apiary.

Improved Method of Bee-keeping, versus "Old-fashioned Bee Management."

To the Editor of THE CANADA FARMER:

SIR,—Having noticed a letter in your journal from a correspondent in Hamilton, condemning all hives of a modern plan, I beg to offer a few remarks thereon. The views expressed are, in my opinion, more prejudicial than beneficial to practical bee-keeping. I have kept bees in this place for upwards of ten years, and tried several patent hives, plain boxes of various sizes, and complicated hives with drawers and other useless appendages. I have taken bees out of the woods in their natural or primeval hives, and I have also tried the moveable comb observing bee hive, which I find superior to all the others. I have used the last named hive four years, and I am doing away with all the rest as fast as possible. A common hive becomes useless in four or five years, because the comb gets filled with cocoons spun by the larvæ and never removed by the bees, consequently the bees cannot thrive for want of proper brood comb, and not from the want of change of queens. In the new hive the combs can be changed as often as it is necessary without injuring the bees, also, the queens can be changed if any accident happens to the old queen, by taking some brood comb out of another hive and giving it to the queenless hive. In the old-fashioned hive this cannot be accomplished. In the new hive, it is optional with the owner to have the bees swarming or not. In the old, swarming is the only way which will answer, and every intelligent bee-keeper knows that swarming is often vexatious and unprofitable. Some of the best swarms will have their own way, and away they will go fast enough. Others will not swarm at all, but cluster outside the hive for months in the best of the honey season, lying idle. Others, again, will swarm too often, and become so weak that the honey season is over before they get filled with bees, only to die in the winter. These irregularities in swarming can be prevented in the new hive simply by having the chance to examine each comb by itself and the whole interior of the hive. When a hive swarms a first time, the old queen accompanies the swarm, and leaves the old hive without a queen, until the young queens, which are left in the royal cells, become matured, which usually takes 16 or 17 days. As soon as they come out and are able to fly, the second, third, fourth, and sometimes the fifth swarm, comes off in a few days in succession, until the old hive is almost without bees, except crowds of drones. Consequently the best of the honey season is over before the hive gets filled with bees, and then they often die in winter. The small swarms are not of much use; there is one good hive in the fall among all these swarms, viz.: the first; and if that is killed to get their honey, all the others run the risk of dying in winter. I have seen this happen more than once. How many have run out of bees altogether by taking this plan? I don't condemn all swarming, but once is sufficient in a season; additional swarming should be prevented. Now, I would like to know how it could be prevented in the old hives? In the new hive I can very easily tell how to act. After the first swarm has gone out remove your comb and destroy all the royal cells or young queens, except one, replace them again, and there will be no more swarming that season. You may safely remove all the surplus honey out of any of the new hives, because there is always enough in the bee chamber to winter any swarm if they are only allowed to swarm once. I generally get from thirty to forty pounds of pure virgin honey from one of my hives that does not swarm in a season, and in very good seasons I have taken that amount of honey and a good swarm also from one hive, and still had enough left. I hope I may never see the practice of killing bees recommended again. It is an invention of the dark ages. If each bee-keeper will give the moveable comb hive a fair trial, I am confident they will not be disappointed. They should be kept in a cool place in summer, and in a warm, dry and dark place in winter.

DR. GEORGE DUNCAN.

Embro, June 7th, 1864.

Characteristics of Italian Bees.

To the Editor of THE CANADA FARMER:

SIR, Agreeably to your request, in last number of THE CANADA FARMER, regarding Italian bees, I would state that the result of my experience with them is, their disposition to labour far exceeds that of the common bee, they commence work earlier in the morning, and work later in the evening, and on a cool day, when the common kind are not to be seen they are at work. It seems they prefer a Northern clime, for in their native country it is said they are only found in the North, while the common bees are found in the South. The queens are larger and more prolific than common ones, and are inclined to swarm oftener and earlier The Italian bee differs from the common one, in being larger, and of a light crome yellow colour, with light brimstone coloured wings and two orange girths immediately behind the wings. Working bees as well as drones are thus marked, the girths upon the drones are scolloped, and they attain an astonishing size. The queens are marked a good deal like the workers, but much brighter, and on account of their size and colour, are very easily found in a swarm. The bees are almost transparent when the sun shines on them, and when bred in comb of their own building, are larger than when bred in comb of common bees, as their own cells are larger. I have proved beyond a doubt to my mind, that they will gather from one-third to one-half more honey than common bees. It is said of them that they will gather twice as much, but I only give them credit for superiority over the common ones, in so far as I have proved from practical observation. They seem to gain the most on common bees, in the latter part of the season. It is said they can gather honey from red clover: I have not paid attention to this quality in them, and therefore, cannot speak of it from my own knowledge. Some of my neighbours have told me they have seen them gathering honey from it; if so, this will account in a great measure, for their gathering more honey than common bees.

They are extremely amiable, as unprovoked they never sting. There is one trait in their character, which I do not admire much, although it proves their superiority, and that is their propensity for stealing; if there is a hive of common bees near, that are weak they are almost sure to be robbed, and on the other hand, common bees find it useless attempting to rob Italians, as they can repel three to one. My experience with them is, they are superior in every way to common bees.

I will be able, if all is well, to have quite a number of queens to sell next summer, and may have a few this fall. I ask four dollars each, and will guarantee their purity, and safe arrival as far as they can be carried by express. All orders will be filled as fast as possible. H. HOLDEN.

Mirickville, C. W.

HIVING SWARMS.—It is found very advantageous, when having natural swarms of bees, to sprinkle the cluster well with sugar-water, four or five minutes before shaking it down. I invariably do this when the cluster is accessible, or can be reached by means of a ladder. I pour the sugar-water into a tin basin, and use a common wisp or hand-brush for a sprinkler. This unexpected shower of sweets is an acceptable treat to the bees, mollifying their temper, and rendering them exceedingly tractable during the subsequent operations. If sufficient time is allowed, after the sprinkling, for them to gorge themselves, few will be disposed to fly or sting.

Sprinkling with sugar-water may also be resorted to when the swarm issues before the bee-keeper has a hive in readiness for it. This will keep the swarm from rising or decamping; and by repeating it at intervals, time may be gained to make the necessary arrangements for its accommodation.—*Culturist.*

SECOND SWARM QUEENS.—*Queens* of second swarms of bees appear to be less prolific than others during the first season, merely because their colonies are generally comparatively small. Introduce a liberal supply of brood in ceiled cells, so that the population will speedily increase, and the queen will soon show that she has been incited to corresponding productiveness, and is fully qualified to assume and discharge the task which surrounding circumstances seem then to impose on her. Such a queen, so situated, being young and vigorous, will sometimes surpass an older one in fertility, even in her first summer.—*Ib.*

ANT RIDDANCE.—We have made a very important and cheap discovery to keep ants from bees. Several years since, the little red ants were very numerous in our cupboard, and we put stone coal against the end of the house opposite the cupboard, and it banished them all. We concluded it was the effect of the copperas in the coal. This spring the black ant began to annoy our beef, and we procured copperas out of the coal bank and put it around the bench legs, cleaned all the ants off the bench, and there has not been one about the hives or bench since.

Veterinary Department.

How to Groom a Horse.

To the Editor of THE CANADA FARMER:

SIR,—Allow me to give briefly what I consider, from my own experience, to be one of the best methods of grooming, or rather cleaning, the horse. The horse, to be groomed, should be taken out of his stall to some remote part of the stable, having his head tied well up to a ring, fixed for the purpose, to prevent him from biting, turning his head around from side to side, and that uneasiness of stepping about, which he always exhibits, more or less, when tied with a long rein. This done, the groom should at once proceed to curry him. This should be done by commencing at the head of the horse, and rubbing the comb, slightly pressed, back and forth over him, and working gradually towards the tail, effectually loosening all the dirt which may be attached to the hair. Care should be taken that no part under the flank or about the legs be omitted. On the other side, proceed in the same manner. The next thing is the brushing, which should be done by commencing, as before, at the head, and draw the brush, not more than twice or three times, over the horse to once across the comb, that it may be kept clean, and thereby rendered more effectual. If the legs of the horse are muddy, they should be cleanly washed with water (bran-water made lukewarm is preferable) and Castile soap; then rub them with the hands until they are thoroughly dried. When there is not time for this, to rub the legs with a wisp of straw might in some measure answer instead, but is not productive of so effective and salutary a result. Indeed, no other part of the horse requires so much attention as the legs. Lastly, take a dry woollen cloth, and rub him all lightly and carefully over with it, which will put a sort of gloss on his coat, and add very materially to his appearance. It is not necessary, nor indeed expedient, every time the horse is groomed to comb his mane and tail—for as this cuts the hairs, it would soon destroy both; but they should, instead, be well brushed and combed—say once or twice in every week. I am convinced from trial that a horse thus groomed will look, feel and thrive enough better to repay his owner well for the time and pains he has thus bestowed upon him.

Markham. G. W. B.

Murrain in Cattle.

To the Editor of THE CANADA FARMER:

SIR,—In your May number I noticed an enquiry from one signing himself "William," regarding the treatment of Murrain, as also your remarks on the subject. The disease has not been known in the neighborhood for a number of years, but when her the symptoms were similar to what they appear to be in Brooke. Generally the cattle were affected suddenly, and were liable to the disease at all seasons of the year. In some cases they passed blood with their urine, in others with their fœces, and in very bad cases in both ways together; the latter happening often when the animal was inclined to scour. My father lost thirteen head of cattle from this disease. Epsom salts and the other remedies you recommend for the Red-water were all tried in vain Death generally put an end to all experiment within the twenty-four hours—long before we had time to notice all the symptoms given for Red-water, which is evidently not the disease alluded to by "William. The only remedy we found was Tanner's oil, and, after we commenced its use we never had an animal die from the disease. We gave the patient a black bottle full (about a pint), night and morning, for the first day or two, and then diminished the dose as the animal improved. When we had whey we gave it as a drench and thought it did good. H. WHITE.

South Dumfries, June 1, 1864.

Mushrooms.

The usual method of growing these, is to prepare a heap of fresh horse dung, during the month of August, under cover where the rains cannot reach it, and after it has fermented for ten or twelve days, turn it all over and allow it to become equally and thoroughly fermented. In the beginning of September, the bed should be made under cover, in order to protect from rains and frosts, and made upon the surface of the ground where it will be dry. Make the bed about four feet wide at the bottom, and of such a length as is desired. Place the coarsest of the dung at the bottom, to the depth of five inches, beat it down with the fork, and then shake on another layer, gradually narrowing in each layer, and beating it with the fork until it is formed into a ridge like the roof of a house, sloping at both sides and ends. The great art in preparing the bed, is to so beat it down firmly as it is made, that it shall settle down evenly, and when settled stand fully three and a half feet high. When finished it should be covered neatly with long straw to prevent it from drying, and left for ten or twelve days, or until the heat has become temperate, which may be ascertained by thrusting a pointed stick into the heap occasionally and feeling when withdrawn. When the temperature has become moderate the straw can be taken off, and the bed covered with light rich earth, to the depth of one inch. The spawn may now be planted all over the bed six inches apart each way, deep enough to touch the surface of the dung. Loose spawn may then be shaken over the entire bed, and the whole covered with another coating of rich light earth, an inch and a half deep, and this covered with straw enough to keep the bed moist. The great point now to be observed, is to keep the bed from excess of cold and wet, and to preserve a uniform degree of warmth and moisture. From 55 to 60 degrees is thought to be the proper temperature for the mushroom house. If this be properly maintained the mushrooms will make their appearance in from four to five weeks. They should be sought for under the straw and gathered white, and of moderate size, and care be taken to pull out the stems from the bottom, for if they are broken or cut off the part that is left will become putrid and full of maggots, and so infect the growing plants.

Rural Cemeteries.

We have received the following note from a correspondent:—

"Will you please let me know what flowers are generally put around a grave, and what trees? Why is it that the graveyards here are left so untidy, some of them full of logs and stumps, while the graveyards in and around Edinburgh, Scotland, are like a garden, full of nice gravel walks and flowers. Should we not have flowers and trees in that hallowed spot? Would it not be a good thing for everyone to give a day in the graveyard they bury in, laying out walks and adorning it? An answer to the above will oblige me and several others."

The repulsive appearance of too many of our burying grounds is an evil incident to a new country like ours. When the homes of the living are left so untidy, we may not expect much care of the resting places of the dead. The battle has been one for existence. The wilderness had to be subdued, and so stern was the strife, that no thought could be given to home adornment. With lack of opportunity for gratification came at length the loss of desire, and a generation has grown up among stumps and logs and weeds, upon whose accustomed eyes they make but feeble impression. Some little time must pass to give opportunity for the cultivation of that love of the beautiful so inherent in our natures; but we are making rapid strides, and it will not be very long before our rural burying grounds will vie with those of any people in tasteful adornment. The suggestion that each give a day to the purpose of making walks and planting trees is certainly practicable, and merits attention. Perhaps the appointment of a small committee, who should lay out the walks beforehand and designate the places where the trees should be planted, would facilitate the operations. Almost any tree that flourishes in the particular locality may be planted with good effect. There is no need of straining after the productions of foreign climes. Canada can furnish from her own soil trees of great beauty trees that have had their birth and training amid her frosts and snows. What more graceful than our drooping elms, more stately than our hard maples, or more beautiful than our white-bark birches? In our pines, spruces, and hemlocks, we have a wealth of evergreens that can be set in due proportion with the deciduous trees, so as to give richness and permanence to the whole. To these may be added a few drooping trees, such as the Weeping Mountain Ash, Kilmarnock, and New American Weeping Willows, and the cut-leaved Weeping Birch, all of which will probably prove hardy throughout Canada.

In the planting of flowers and flowering shrubs, we notice in our cemeteries a great variety, greater than seems to us to be in keeping with the place or its true associations. Flowers of gaudy hues, flowering in scarlet or flashing in gold, may be attractive adornments of home, but more modest colours seem to us to be most in harmony with the dwellings of the dead. We would plant largely of such shrubs and plants as bear pure white flowers, and if we admitted any others they should be of the most modest tints. The plum-leaved Spirea the Mock Orange, Deutzia Scabra, Deutzia Gracilis, White Lilac and Mountain Ash leaved Spirea are some of our hardiest white flowering shrubs, to which might be added a few white flowering herbaceous plants, as the Double White Daisy, Feverfew, White Campanula, Spirea Filipendula, Lily of the Valley, and the like. We'll these tastefully planted and properly cared for, our rural cemeteries will soon become what they ought to be, pleasant spots where we sow in hope that the seed we bury in sorrow shall come forth at the last in beauty and vigor immortal.

How to Keep Apples.

To the Editor of The Canada Farmer:

Sir,—The following remarks, though out of season, may yet be referred to, under the above heading, in the yearly index, by any person who may feel desirous to secure the best price and highest excellence for winter kept fruit: And as the farmers of Canada are becoming deeply interested in the subject of fruit growing, on account of its being a most profitable investment, and a surer return for money and labour expended than they derive from four-fifths of any single production of their farms, it follows that this must become a question of much importance to them. My plan is as follows:—To have a cellar under the north-west side of a house, if possible, or at least across the north end from east to west, with eighteen inch thick walls laid in mortar, eight feet high, with ventilating glass windows in either end, with brick floor, the whole to be plastered in good, fresh water-lime, floor, sides, and in between the ceiling joists, and rubbed smooth with a towel.

Such a construction could be built of any required dimensions in any dry piece of ground, and roofed over, so as to secure the same advantages as might be obtained under the dwelling house. This would make a substantial and cheap room, and if well under ground, quite secure against any Canadian winter. I have one such, and the apples kept therein until late spring are admitted by my friends to be as fresh as fall gathered apples. There must be a tier of shelves so erected one above another through the centre of this cellar, and supported by pieces of scantling let into the joists, with cross-bars to lay the shelving on one above another, eight inches apart. This gives room to extend the arm between the shelves, which ought in no case to be more than five feet wide. Apples can be placed on these with their stems up. Many bushels can be stored in a small space. Rats and mice cannot work here through cement. Decayed apples do not affect others; they can easily be looked over, and bad ones removed.

Apples are not to be placed here until great fear of frost touching them in upper rooms. In the meantime the ventilating windows of the cellar are to be left open, and only closed up when the apples are placed on their shelves, and then not to be opened again until all the fruit is removed. With a decent attention to picking and handling, the lover of good fruit may enjoy in this way the best flavour of the apple until late spring.

Yours respectfully,

Hamilton, Feb., 1864. W. H. M.

The Fruit Crop in the County of Lincoln.

We are now able to speak advisedly of the prospects of the fruit crop in this county. The past winter has been one of unusual severity, not so much on account of the degree of cold as registered by the Thermometer, but because the cold was accompanied by a fierce wind, which put both animal and vegetable life to the severest test. The peach crop is destroyed; in many places the trees have suffered severely and some are killed outright. A few trees in forward localities will bear a little fruit. The cherry tree will bear a small crop, the Heart and Bigarreau varieties, not more than quarter of the usual quantity, and Dukes and Morellas, about half. There will also be a deficiency in the pears, for although there was apparently an abundance of bloom, the fruit has not set well, and very few, if any, trees will need much thinning, while some are very sparsely covered. There is promise of a good supply of apples; on most trees the fruit is setting quite full enough. Strawberries that were not well protected, have suffered severely, and the crop will probably be light. The Isabella grape vines suffered much, and as they have been the main dependence, the loss will be severely felt. Many vines have been killed to the ground, and others to within two feet of the ground. The Ontario and Adirondac vines, in the grounds of Mr. Beadle, are either quite killed or barely survive, and those in the gardens of other gentlemen, are in a similar condition, unless laid down or protected. The Concord and Delaware have hardly suffered at all, but the Rebecca is nearly killed. Currants and Houghton seedling gooseberries will be very abundant; English gooseberries are generally covered with mildew. The New Rochelle blackberry has suffered considerably, and the yield of fruit will be materially lessened.

Answer to Queries about Grape Culture.

To the Editor of The Canada Farmer:

Sir,—I am pleased to find that there now appears to be some spirit of inquiry abroad on the important subject of grape growing, and I have pleasure in answering the enquiries of your correspondent "H.," of St Andrews, C.E. I shall be glad to find, that the matter of which he is in doubt, is at last made clear to his apprehension.

Let me assure your correspondent, that there is no occult process "outside" to secure "rotation;" the whole matter is very simple. H. seems to have fallen into the strange mistake, of supposing that the cane after it produces fruit, dies like the raspberry or the blackberry. Nothing can be more beside the truth. The principle of annually cutting down, is by no means because that portion is either dead or *eyeless*, but because it is necessary to concentrate the whole strength of the vine on the smallest portion of wood, in order to obtain the best quality and the largest quantity of fruit it is capable of producing. H must also bear in mind, that the single stem system supposes fruit to be obtained every *second* or *alternate* year. But it does not follow that fruit may not be had *every year*. If H. concludes to plant, say twenty vines, it is very easy to have ten bearing fruit and ten growing new wood.

"His difficulty," H. says, "is with the old wood that has borne fruit, what to do with it." He must, simply, at the end of the season, when the leaves fall, cut it away to within two or three inches of the ground, taking care to leave two or three eyes. By a little attention he will soon understand what eyes are, and where they are to be found. The laterals or branches, of this new stem, are to be kept within one or two joints, and the height not allowed to exceed six or eight feet, which is in any case sufficient for a trellis—it produces fruit the following year—and of course wood the next succeeding, and so on. There is never any difficulty in getting the eyes to grow, and as a general rule, your correspondent will do well always to select the strongest bud, and that as near as possible to the ground. W. S.

Woburn.

Raising Cabbages and Tomatoes.

The whole family of the brassica is capable of great development. See what splendid varieties of the cabbage and turnip have been brought into use by careful cultivation, to say nothing of the cauliflower, the most delicious of them all. Perhaps some, who, like myself, practice gardening on a small scale, would like to know how to cultivate this esculent. For twenty-five years I have failed but once to raise a supply for my family. There are two methods I have practiced for starting them, one to plant them in a hill, and the other to start them in a rich spot, or in a hot-bed, and then transplant. Each method has its advantages. When I transplant, which I am as likely to do on a summer day as on any other, I pour a little water round the plant and immediately lay over it a leaf of burdock, rhubarb or grape, and let it wilt down over the plant and remain there two or three days. I then remove them, hoe, and place a platform of newspaper around the plant, which may be readily done by tearing up pieces eight inches square, tearing a slit in one side to the centre and placing a little earth on the edges. This will keep off the cutworms. If a plant turns to a lead colour, pull it up and supply its place with another. In this way I never fail of cabbages, if I don't let the cows get in and eat them up!

To train the tomato, knock a flour barrel to pieces, take one of the hoops and two of the staves, sharpen one end of them, and nail the other end to the opposite sides of the hoops, set it over the plant and drive it into the ground. The vines will hang over the edge of the hoop, free from the ground. Set the staves in the next hill at right angles with those in the first, and let the hoops just come together and tie them with a string in such a way as to support each other. Thus, at a trifling expense of time and money, you may effectually train all your tomatoes. These may be little matters, but they will insure great cabbages and tomatoes.—N. T. T.—*New England Farmer.*

On Planting and Pruning.

To the Editor of THE CANADA FARMER:

SIR,—There has been a good deal said on planting and pruning fruit trees, in THE CANADA FARMER, and I think some quite wide of the mark. I will give you my views, from several years experience in a small way: 1st, I object to deep planting; I see no reason why a tree should be set deeper in transplanting—in fact the reverse—they should not be set as deep as when in the nursery. My plan is to set the tree not so deep (for it will naturally get deep enough,) by some three or four inches, as when in the nursery. I raise the earth around the tree, then use a little straw and manure with a little earth thrown over it. Then I take lime stone, about half a wheelbarrow full, and place on the ground for 2 or 3 feet around the tree. I have in this way moved trees in mid-summer and they have done first rate. I would not be afraid to warrant every tree (if in good order,) planted in this way; stone used in this way protects the trees against drought and the gases, &c. 2nd. I have no objection to close planting in the garden, providing you do not set them so close that they exclude the light and sun. If you do, you prevent the trees from spreading their branches, and they grow tall, spindling, and you cannot expect a good bearer or first-class fruit. 3rd. pruning should be done at the season the new growth is forming on the out side of the tree, just before it is formed into a woody substance. Use a little grafting wax, and the place will heal over and not injure the trees. Prune while the tree is small. 4th. Shortening in trees of vigorous growth in July, is beneficial in strengthening and fruiting.

D. SHOFF.

McGillivray, May 3, 1864.

☞ THE FRUIT GROWERS' ASSOCIATION of Upper Canada holds its next regular meeting in the Agricultural Hall, Toronto, on Wednesday, the 20th day of July, 1864, and we hope there will be a large attendance of gentlemen who are desirous of promoting the raising of fruit in this Province. We are too much behind in this matter. There is surely no need of our paying an annual tax of upwards of a quarter of a million of dollars to our neighbours for fruit that we might as well grow ourselves.

Entomology.

An Entomological Ramble.

It is a curious fact that those living in the country, although they have greater opportunities than others of becoming familiar with the Insect inhabitants of the fields, are commonly found to be almost wholly ignorant of their beauties, their peculiarities, and their useful or injurious qualities. Always in the open air, they would, if they studied their own interests, seek to become acquainted with the living denizens of their farms, so as to discriminate between those which injured their crops and those which were not merely harmless, but of positive utility to the agriculturist. Much has of late years been done by the scientific entomologist to investigate and describe popularly those insects and their habits, which, in one or other of their conditions, are, or may be, injurious to the farmer, and in many cases valuable hints are given, with a view to aid him in keeping such pests somewhat in check. I need only refer to the magnificent work on "Farm Insects of England," by John Curtis; and, on this continent, to the admirable work on "Insects Injurious to Vegetation," by Dr. F. W. Harris. To the Canadian this work is particularly valuable, as it refers more especially to the habits of the insect pests of this country. Without at present entering more at large on these matters, I proceed to give a short account of the doings of the members of the Entomological Society of Canada during an excursion made on the 15th of last month to what are known in Toronto as the Humber Plains, or, rather, that portion of them near the Humber Bay, some three or four miles from Toronto. Agreeably to previous arrangement, the members assembled at 9:30, A.M., at the western terminus of the Street Railway, wisely reserving their walking energies for the legitimate objects of the day. While waiting for some of the party, those first on the ground examined the damp margins of a half dried-up pond hard by, and were rewarded by a large number of beetles, chiefly belonging to the family *Bembidiadæ*, which, though embracing insects of small size, yet exhibits some of singular beauty in the markings of the wing-cases, or *elytra*, as they are entomologically named. Proceeding westward, the tediousness of the dusty road was beguiled by sundry sallies of entomological wit and fun, which speedily brought the walkers to a partially cleared wood, on the lake side of the road, which, being of a promising appearance, invited a visit. But few insect rarities were, however, met with; some specimens of an oval brown beetle, one of the *Chrysomelidæ*, unknown to any of those present, were shaken from a fir tree. From a similar locality, also, was obtained a singularly ornamented moth, belonging to the *genus Phlogophora*, but of what species was uncertain. The upper wings are beautifully variegated with rich, deep green, brown and yellow; while the under wings, as is usually the case, are of a palish, variegated brown. It measures about two inches across the wings. When at rest, the wings are folded so as to display the upper pair to great advantage. Later in the day a second specimen was procured from a Scotch fir by beating. Various other insects of (to the public) a less inviting appearance, were captured; and the addition of any new or rare species was hailed with pleasure by the less fortunate collectors, each hoping to be a successful captor in his own turn. Getting upon the track of the Great Western Railway, several captures were made; various species of tiger beetle, or *Cicindela*, were secured, sporting in the dry sand. Several butterflies also invited a selection from their numbers. One or two species of *Hesperia*, or skipper, so called from the dancing or skipping nature of its flight. Also, some small coppers and blues, so named from their respective colours. A fine specimen was taken, and several others seen, of that magnificent butterfly, the yellow swallow-tail, *Papilio Turnus*, measuring some four inches from tip to tip. It exhibits a wonderfully-fine appearance when flying. The caterpiller feeds on the various varieties of plum tree. On examining some *fungi*, on dead wood, several specimens were taken of an oval beetle, *diaperis hydni*, prettily variegated with reddish-brown and black. It lives on and eats its way into the substance of the *fungus*. Leaving the railway, soon after it crosses the high road, we struck inland on the first road pointing in that direction. Some specimens of a *Donacia*, a small bronzy beetle frequenting rushes, were taken; also several species of Dragon-flies, or *Libellulæ*, which were numerous near the railway. Higher up the road, and indeed also in the open parts of the *bush*, was taken *the* insect of the day, an extremely pretty and rare-looking butterfly, *Polyommatus porsenna*. This pretty insect measures about one inch and a quarter from tip to tip, and is of a bright brown, singularly streaked, spotted and edged with black, which gives it an unusual and very pretty appearance. Four specimens were captured by the writer in the same locality on the last Queen's birthday, the 24th of May. Some seven or eight specimens were taken by the various members, making about a dozen in all. As far as is known, only one specimen has previously occurred in Canada, and but two in the United States, showing that as far as our present knowledge extends, it has been an insect of extreme rarity hitherto. Had no other insects been captured by the excursionists, they would have considered themselves well rewarded by securing this rare butterfly. Many other insects of minor interest were obtained, and about two o'clock p.m. the company set out on their return to the city, well satisfied with the results of the day's collecting.

Were the enjoyment derivable from such trips, as I have imperfectly endeavoured to describe, more generally appreciated, we should have fewer young men wasting their time and health in "saloons," or other doubtful places of amusement; and in entering on such pursuits as entomology, they would improve the tone both of mind and body, find pleasing recreation, and be ready to say, as we did, on separating, "We part to meet again."

ONE OF THE MEMBERS OF THE SOCIETY.

A Remedy for Bugs, Flies, Larvæ, &c., on Plants.

To the Editor of THE CANADA FARMER:

SIR,—MM. Corne & Demeux, of Paris, manufacture a powder which is the most valuable disinfectant now known, and which is used in France and in England most extensively, not only for the various purposes of disinfection and for deodorizing, but also by surgeons for purifying foul ulcers and wounds, and thus removing their pain and promoting their rapid cure. This powder is prepared by intimately mixing from one to five parts of common coal tar with one hundred parts of plaster (gypsum or sulphate of lime), and is sold in Paris for about one shilling per hundred weight. If prepared here on a large scale, it might be sold for about the price per barrel of the plaster itself.

But I have not yet reached my point. From the known effects of coal tar upon all insect life, I feel assured that this powder, if scattered over any plant, or perhaps upon the soil, if the plant is not up, will prevent or destroy any insect that may feed upon the plant. The powder will not only not injure the plant, but will really act as a fertilizer, just as plaster alone would do. I beg some of your enterprising readers to try this upon turnips and other plants, and then report to you the results. And for gooseberry bushes and shrubs that are devastated by caterpillers and other larvæ, another form of the coal tar will doubtless prove very successful. I refer to the stirring up of a little coal tar in water, which solution is to be sprinkled or dashed upon the shrub; or the powder above mentioned may be thrown over the shrub while the dew is on the leaves. If any one of your readers will try this, and report favourably to you, we shall find manufacturers ready to supply the whole country with this powder abundantly, and at prices to ensure its extensive employment.

It may be asked why the writer of this does not give the result of his *experience* instead of advancing a theory. I answer, opportunity has not permitted him hitherto, but that he is about trying it largely. At the same time the writer thought it would be well if others made the same experiments simultaneously, and the results arrived at would be the more conclusive.

H. Y.

Kingston, July 2nd, 1864.

BAD NEWS FOR THE CATERPILLARS.—A French gardener has discovered a simple manner of ridding a garden of caterpillars. A piece of woollen stuff having been lodged in a tree by the wind, was found to have become covered with those insects. The man seeing the result, placed several others pieces on different trees; and the caterpillars settling on them in the night, he was able to destroy a great quantity every morning.

The Household.

How to Make Hygienic Soups.

SPLIT PEAS SOUP.—Take three pints of peas, three common sized turnips, one carrot, and the shells of the peas. Boil one quart of the largest of the peas with the shells or the pods till quite soft; rub through a fine colander; return the pulp into the pan, add the turnips, a carrot, sliced, and a quart of boiling water; when the vegetables are perfectly soft add the young or smaller peas previously boiled.

BARLEY SOUP.—Take four ounces of barley, two ounces of bread crumbs, and half an ounce of chopped parsley. Wash the barley, and steep it twelve hours in half a pint of water; boil slowly in a covered tin pan five hours, and about half an hour before the dish is to be served, add the parsley

GREEN BEAN SOUP.—Take one quart of garden or kidney beans, one ounce of spinach, and one ounce of parsley. Boil the beans, skin and bruise them in a bowl till quite smooth; put them in a pan with two quarts of vegetable broth; dredge in a little flour; stir it on the fire till it boils, and put it in the spinach and barley (previously boiled and rubbed through a sieve.)

BARLEY BROTH.—Take four ounces of pearl barley, two turnips, three ounces of Indian meal, and three ounces of sweet cream Steep the pearl barley (after washing) twelve hours; set it on the fire in five quarts of fresh water, adding the turnips; boil gently an hour; add the cream; stir in the meal; thin it, if necessary, with more water and simmer gently twenty minutes

SPINACH SOUP.—Take two quarts of spinach, half a pound of parsley, two carrots, two turnips, one root of celery, and two ounces of cream. Stew all the ingredients in a pint of water—a few lemon parings may be thrown in to flavour—till quite soft; rub through a coarse sieve, add a quart of hot water, and boil twenty minutes.

VEGETABLE SOUP.—Take two good-sized turnips, one carrot, one parsnip, one sweet potato, two Irish potatoes, one onion, a little parsley chopped fine, and three tablespoonfuls of rice or pearl barley. Slice the vegetables very thin; put them into two quarts boiling water; let them cook three hours; then add the rice and cook one hour longer.—MRS. MATTIE M. JONES, *in Herald of Health.*

How to Wash Flannels.

To the Editor of THE CANADA FARMER.

SIR,—In reply to your correspondent "Passus," I will give you an extract from a little work called the "Laundry Maid:"—

Flannels should neither be soaked, scalded, nor rinsed. If very dirty, they will require three lathers, otherwise two will be sufficient, with a good bit of blue in the last. They should not be put *all* together into the water, but *one at a time*, as lying longer than is necessary thickens them They must be wrung very dry, and while warm should be well shaken, and pulled quite straight from wring marks; then put to dry not very near the fire, nor in a hot sun. Before quite dry they should be folded smooth, and left so all night, when they will be fit for ironing; but will look well without. White woollen stockings and blankets should be treated the same. Stockings, or other things, of coloured wool, should be washed by themselves, in two good clean lathers. If washed in the water after other things, they will look white and linty. *No woollen things must have soap rubbed on them.*

I have had all my woollens washed by this method for twenty years, and they never thicken in washing. Flannel waistcoats, worn by working-men, will thicken from being constantly damp with perspiration; but this is unavoidable. A SUBSCRIBER.

TO PRESERVE RHUBARB.—Take pie-plant, or rhubarb, strip off the peeling, cut into inch pieces, then put one pound of sugar to five pounds of rhubarb, stew until soft, then strain out the juice by pressing through a cloth, spread the rhubarb on plates, boil or simmer down the juice quite thick, turn it over that on the plates, dry it in an oven or by the stove, the same as fruit, put into a jar and pound it down hard, covering tight to keep out millers, and it will keep for years; and, flavouring with essence lemon, it will make a far more delicious pie than when green,—of course, more sugar must be added when used.

J. H. T.

☞ Live fish, pickerel or trout will keep a cistern free from worms, dirt or smell

Poultry Yard.

Creve Cœur.

THIS hobgoblin-looking fowl is really "good and useful one; it is perfection for the table, and the eggs are very large. Some think its name is derived from the resemblance the comb presents to a split heart; others (with whom I agree) do away with this romance, and attribute it to the preponderance of the breed in the village of Creve Cœur, in Normandy, whence we can distinctly trace its origin. The hens do not sit, but lay for many months unceasingly.

I have bred these birds largely, and continue to do so, which is a sure proof that I consider this variety (so little known) worthy of considerable attention in this country. Parisians are quite aware of its merits. The breed is scarce, and I have found much difficulty in procuring birds, of a different strain, to breed from—true to colour. The pure-bred Creve is of large size; the cock should weigh nine and a-half pounds, and the hen (which is heavy in proportion) about eight and a-half pounds. The pullets come to maturity at an early age, and always outweigh the cockerels.

Creves possess the great advantage of thriving in a confined space, are remarkably tame, and of great amiability. The points to be aimed at are as follows.

Cock—jet black, body and tail with the greenish hue of the Spanish.

Neck and Saddle hackles—streaked black and gold colour.

Top—must be as black as possible.

Ear-lobes—red.

Wattles—bright scarlet, long, and pendulous.

Beak—black.

Legs—black, and free from feathers.

Comb—scarlet, in shape, a cleft heart, or rather like the horns of a fallow-deer.

Hen—identical in colour with the cock, as regards *body, legs, tail,* and *top,* all which should be black, but without the golden tinge on hackle; the *comb* is, of course, smaller.

The *body* must be square, *breast* full, and *legs* short. —*Mrs. Blair's "Hencife."*

HEAVY HEN.—"John Smith," our news friend, has shown us half a dozen double-yolked eggs, laid in one week by a single hen, that weighed 1 lb. 4 oz. All the eggs of this valuable specimen, laid this spring, are double-yolked.—*Old Colony (Mass.) Memorial.*

[Rather a small hen to lay such heavy eggs. Agriculturists should not lose sight of this style of hen.—EDS. *Scientific American.*

GAPES IN CHICKENS—A TIMELY HINT.—"COXSACKIE" thus writes to the *Agriculturist:*—"Tried all sorts of 'cures,' without success, and almost determined to abandon raising chickens, on account of the great losses from this cause. I have learned that 'an ounce of prevention is worth a pound of cure,' and believe the only way to cure gaps, is not to have it. About three years ago I asked a neighbour if he had much trouble with gaps; he replied, none whatever, and gave as a reason that he had the meal cooked for young chickens, and was careful not to give them much for several days after they were hatched. I have since followed his example and have not been troubled with gapes."

A CITY POORLY OFF FOR EGGS.—A student at one of our military academies had copied a drawing of a scene in Venice, and in copying the title, had spelt the name of the city *Vinnice.* The drawing master put his pen through the superfluous letter, observing, "Don't you know, sir, there is but one *hen* in Venice?" on which the youth burst out laughing. On being asked what he was laughing about, he replied that he "was thinking *how uncommonly scarce eggs must be in that city.*" The master, in wrath, reported him to the colonel in command, a Scotchman, who, on hearing the disrespectful reply, without in the least perceiving the point of the joke, observed "An' a verra natural observation, too."—*Exchange.*

Miscellaneous.

Notes of a Recent Agricultural Tour.

To the Editor of THE CANADA FARMER:

SIR,—Having just returned from a brief agricultural tour in the counties of Northumberland, Prince Edward, and Hastings, a few observations founded on my daily memoranda may not be wholly devoid of interest to your numerous readers.

Considering the lateness and extreme wetness of the spring, and the severe drought which has followed for several weeks, I found the crops, upon the whole, quite as good, or even better, than could have been reasonably expected. For the last two or three weeks they have been suffering severely for want of rain, and upon the wet, heavy soils, when the grain was sown late and in bad condition, even should the weather now take the most favourable turn, the produce must prove very inferior both as regards quantity and quality. On the earlier and lighter soils, having in them a sufficient amount of plant food, the case is very different, presenting a prospect of a fair return of hay, grain, and potatoes. Of turnips, mangolds, &c, it is too soon to pronounce a positive opinion, much of the seed sown, however, has not germinated, and re-sowing has in many places been resorted to, so that unless very favourable weather speedily sets in, the root crop generally must be regarded as exceedingly doubtful, or rather a certain failure. The almost unprecedented rains that characterized the month of May were attended by so low a temperature, that even the grass has not made the progress that was anticipated, and the lateness and coldness of the seed-bed was no doubt injurious in a high degree to a vigorous and healthy germination of the various grain crops, and the drought that has followed puts quite a different complexion on things to what was anticipated the beginning of June. In seasons like the present, one cannot travel over any considerable area of country without meeting with the most convincing evidence of the vital importance of getting the soil into a proper *mechanical* condition, without which, notwithstanding any amount of manure that may be applied, it can never put forth its maximum power of productiveness. Illustrations of this great truth came under my notice every day.

At Colborne, I met in the evening a number of farmers and others interested in the progress of agriculture, and an hour or two was spent in the mutual exchange of thoughts and opinions in relation to this important subject. In this and other places I had the opportunity of meeting with small numbers of farmers and mechanics, and I trust that the subjects and suggestions which were discussed will tend to improve the practice of agriculture, and also the societies already organized for that object. One of the principal things which I endeavour to urge upon the attention of their members is the desirableness of holding frequent meetings during the winter months, for comparing notes and the results of observation and experience, with a view to the advancement of farm practice, both in townships and counties. These suggestions, I am happy to know, are favourably entertained generally, and in some cases have already been put into practice. I had the pleasure of meeting at Colborne an old friend of Canadian agriculture, J. B. Marks, Esq., formerly of Kingston. Mr Marks, notwithstanding his advanced age and loss of sight, continues to evince an ardent interest in rural pursuits, and has actually imported this season, from England, a new variety of pea, for trial in Canada, and presented small quantities of the same to several persons most likely to give the experiment the necessary attention. I was struck while going through the eastern section of Northumberland with the undulating character of the surface, and the numerous springs and small streams of excellent water Could not irrigation be practiced in some of the lower ground? Such an artifice is found exceedingly beneficial in some parts of the British Islands, and in many of the countries of Europe and Asia. It has not yet received the attention it deserves on this side of the Atlantic. Mr. Greer drove me to the residence of E. Burrell, Esq., who was unfortunately from home. I took a glance at his Devon cattle, sheep, and poultry, in each of which departments there are some excellent specimens. The poultry comprise most of the improved modern breeds; several individual birds could hardly be

excelled. This part of the country does not yet occupy that high position in live stock and agricultural enterprise which the more naturally-favoured western portion has so long maintained.

I had a good opportunity of observing the state of hop-culture in this and the adjoining county of Prince Edward. The raising of hops has been considerably extended in this district within the last year or two, particularly in the vicinity of Brighton. The prospect for hops at present is, on the whole, somewhat discouraging. I never saw the hop ground in so bad a state of cultivation, particularly on the stronger soils, as at present. This unfavourable state of things is mainly owing to the extreme wetness of the spring and the subsequent dry weather. In some more favoured soils the surface, after much labour and expense, has been brought into pretty good tilth; while in others it mainly consists of coarse clods almost as hard and as impracticable to manage as stones. The speedy reduction of such surfaces, with deeper culture and more genial weather, may be safely assumed to be essential to any thing approaching a profitable crop. The worm, a small green caterpillar, is doing great mischief in some places, reducing the leaf to a perfect network, and consequently impairing the vital forces of the plant. The grub, too, in some situations, is doing underground mischief by eating the vines at or just below the surface. It is very noticeable that the weaker plants are the first to fall a prey to insect devastation; so the analogy holds good in the vegetable as it does in the animal kingdom. Another thing is obvious to careful observers—hops that were cut and picked last year before they were fully ripe, and the sap consequently declining, are, as a consequence, more weakly this season—a fact which I have repeatedly observed, both in Europe and America. It will hardly do in this country, where sufficient people for picking are difficult to obtain, to let a whole plantation get perfectly ripe before making a commencement. When the vines "bleed," as it is termed, profusely after being cut, it will be found advantageous to cut them sufficiently high to tie what remain into a knot, so as to keep them as far as possible in an erect position, a circumstance that will very much diminish the exudation of the sap, and prevent, or at least mitigate, "bleeding." The cultivation of hops on a moderate scale is likely to become more profitable in Canada than has hitherto been the case. The recent opening of the British ports to this article, free of import duty, will enable American growers to export their produce with increased chances of profit. Hop culture, however, should be cautiously gone into. It necessarily involves much labour, care and expense, and should never be attempted without sufficient practical knowledge of the art of growing them, and of curing them for market. It may be added that at best hop growing is a peculiarly uncertain business, and one is never certain of the final result, after much anxiety and labour, till he has got the money in his pocket.

I paid a hasty visit to Mr. Robert Werden, near Picton, County of Prince Edward. Mr. Werden is a native of this part of Canada, owns an extensive farm, combined with a nursery and flower garden of some twenty acres, the whole being the result of twenty-four years' labour, from the primeval forest. Some of the readers of THE FARMER will, doubtless, recollect the correspondence carried on in the *Canadian Agriculturist*, a year or two since, between Mr. Werden and Mr. Arnold, nurserymen, of Paris, C. W., on the subject of dwarf fruit trees, the former contending that many of the trees sold by nurserymen as dwarfs were no dwarfs at all, but in point of height and extent of top became, after a while, similar to standard trees. Mr. Werden pointed out to me several in this condition which he has growing in his own orchard. Mr. Arnold, however, one or two nurserymen in Rochester, and Mr. Beadle, of St. Catharines, have sent him several trees, both apple and pear, which those gentlemen guarantee as true dwarfs, and judging from appearance at present they seem to be the genuine article. Mr. W. will report progress in due course. He contends that the most advantageous way of raising apples and pears in Canada, at least in his own section, is not to adopt the high standard tree, but to graft low, and get a number of stems to ascend from a common stock near the surface. This condition of the tree, he affirms, is more favourable to its health and fruitfulness than when more exposed, either to the heat of summer or cold of winter, as it must be when growing as an ordinary standard. Mr. Werden's theory certainly receives favour from his own practice. In each corner of the zigzag fence that surrounds a portion of his grounds, he has a fine healthy tree, with stems rising near the surface, and which certainly compare favourably, both in point of health and fruit producing power, with the standard trees of the interior of the same grounds. This is a point to which it is desirable that our experienced fruit growers should devote proper attention.

There is another thing that particularly impressed me in the very hasty way my time allowed me to look over these premises, and that is the number of tender and half-hardy trees and shrubs which flourish in these grounds with little or no protection during winter. For instance, I observed a tulip tree, with a large, graceful top, some twenty feet high, coming into blossom, and which never received any artificial protection. Mr. Werden's situation is high, and the surface is considerably broken, and the soil I should not consider anything extraordinary. The principal cause of this security to comparatively tender trees and plants must be sought for in the shelter everywhere found, both on the farm and in the garden, by having belts of the original forest. In this way heat, cold and moisture become modified and better suited to the healthy condition of the vegetable kingdom. The farm and ornamental grounds look somewhat like a forest as one enters the premises. The snow remains longer in spring, serving as a natural protector to delicate plants, while a greater degree of moisture is to be found during the heats of summer, both in the soil and surrounding atmosphere. Mr. Werden is of opinion that to denude our forest lands of trees, as is so generally done by settlers, is already producing the worst effects on our soil and climate; and that in old settled districts, where a tree can only here and there be found, judicious planting is among the first things necessary to the restoration of the former certainty and productiveness of crops. This is, indeed, a matter of grave moment in many parts of Canada, and I shall feel satisfied if in this incidental way only the readers of THE FARMER direct their attention in earnest to the subject, and favour each other with their thoughts and doings in relation thereto through the medium of your already widely extended journal. I saw only one field of winter wheat during the whole journey. Its cultivation has been almost abandoned for the last five years. Spring wheat is not extensively cultivated, and in many places looks but indifferently. Indian-corn will be raised to a large extent this year, and appears, where soil and situation are favourable, promising. The result of the coming harvest will be looked for by the public with much anxiety

Yours, &c.,

GEO. BUCKLAND.

University College, July 4, 1864.

Stump Machine.

To the Editor of THE CANADA FARMER:

SIR,—Your correspondent, "J. W.," of Beachburg, County of Renfrew, wishes to know where he can get the best and the cheapest Stump Machine. Billington & Forsyth, of Dundas, make the best and most powerful machine in Canada. I have used one of them the last three years. It is on the screw principle. The screw is made of four inch bar-iron, with three quarters worm; the screw works in a cap; at the top of the frame-work is a lever eighteen feet long; at the lower end of the lever the horse is hitched. The frame-work is white oak, and the wheels are made of white oak plank, fastened together with screw bolts. One yoke of good oxen can move the machine from one stump to another. The stumps on my farm are of the largest description; I have frequently had to put blocks under the axle to keep the broad wheels from sinking in the ground to the axle. The best and cheapest machine I consider is the one which will take up any stump. Such a machine is cheap compared with those which require half as much digging and grubbing as to grub up the stump entirely. The price I gave for mine was $240, the manufacturer paying half the freight to Barrie station.

J. S.

Vespra, Co. Simcoe, July 1, 1864.

☞ We are informed that Mr. Hugh McLaren, of Lowville, manufactures a "good and cheap" Stump Extractor, which he delivers at Wellington Square Station, G. W. R., at $80.

BIRDS AND INSECTS.—In a recent club debate about insects, Mr. Prince, one of the oldest and most extensive nurserymen in the vicinity of New York city, said that on his grounds they preserve all the birds and are not troubled with insects.

THE HARVEST.—Wheat will soon be ripe in this neighbourhood. We know of several farmers who intend commencing to their wheat during the next week, if the weather continues favourable until then. The fine rain which fell last Friday has improved the appearance of the different crops very much.—*Ayr Observer.*

HAIL STORM IN ORANGEVILLE.—About three o'clock on Sunday, 26th ult., the village of Orangeville was visited by a severe hail storm. The hail descended for eight or nine minutes, falling in irregularly shaped pieces of solid ice of a very large size, some of which were two inches in diameter, and weighing an ounce and a half.—*Guelph Advertiser.*

GUELPH JULY FAIR.—Our monthly Cattle Fair on Wednesday was pretty large considering the season, but the stock was generally poor. A few very good steers and heifers were sold at good prices, but middling and poor beasts were at a discount. There were several working oxen, but there was little demand for them. Quite a number of milch cows were on the ground, some with calves at their feet. Good ones fetched fair prices. The prices paid ranged from $2 75 to $3 50 per 100 lbs live weight; about $3 25 would be the average. There were a great many people in town, a large number no doubt attracted by the races as well as the fair. Business was good, and the merchants were quite busy all day. —*Guelph Mercury.*

HOW TO DISPOSE OF DEAD ANIMALS.—On almost every farm, one or more large animal—a horse, a cow, or a bullock—dies in the course of each year; and every farm loses pigs, calves or sheep in the same period. The disposition of the carcase is frequently a source of perplexity to the farmer. If a large stream is convenient, they are frequently thrown into it to offend the sense of sight and smell, as well as pollute the waters. Occasionally the defunct animal is buried; but more frequently it is dragged to the nearest woods, where it rots, impregnates the atmosphere with offensive smells, and furnishes a rich feast to the crows and buzzards. This is all wrong, and in these days of high prices, the manurial value of a dead horse or cow is too great to justify such waste. Many farmers will sell a worn out horse to the tanner boy for half a dollar, while the actual worth of the carcase, for manure, is ten times that amount. Every particle of it—hair, hide, hoofs, bones, flesh—will assist in adding to the value of crops. The easiest and most profitable method of disposing of a carcase is to cover it thickly with fresh soil, with which a portion of quicklime has been mixed. After thorough decomposition has taken place, the whole mass should be made into a compost, with fresh soil, after which it is ready for application to the soil. It is stated by Dr. Wilson "that every pound of animal flesh will impregnate ten pounds of vegetable mould; or, taking our soils as they usually occur, one pound of flesh, fish, blood, wool, horn, &c., can fertilize three hundred pounds of common loam." These are striking and well authenticated facts, and they appeal with powerful force to the farmer, who, hitherto, has permitted this valuable fertilizing material to go to waste.—

Markets.

Toronto Markets.

"CANADA FARMER" Office, July 11, 1864.

Flour firmer; Superfine, nominal at $3 50 to $3 75 per barrel, Extra $4 20 to $4 40, Fancy none in market, Superior $4 75 to $5 10; Bag Flour $4 00 per 200 lbs.

Fall Wheat in better demand, 80c to 93c for common to extra per bushel.

Spring Wheat 75c to 83c 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 45c to 50c.

Peas 45c to 50c per bushel for common to extra.

Hay $8 00 to $11 00 per ton. *Straw* $5 to $7 per ton.

Hides (green) at 5c per lb.; trimmed, 5c to 6½c 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 $7 25 to $9 per ton. *Wood* $4 25 to $4 50 per cord.

Provisions—Hams 10c to 11½c per lb. wholesale. Flitch Bacon 7½c to 9c per lb. wholesale, 8½c to 10c retail. Cheese, wholesale 11c to 11½c 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 13c for superior, retail.

Calves in better supply at $4 50 to $6, upwards.

Sheep, clipped, $3 to $4 50. *Lambs* $2 to $3 00 each.

Butter—Fresh, wholesale, at 10c to 13c per lb.; retail 12½c to 15c per lb. Tub butter, dairy packed, 10c to 12½c according to quality, wholesale; retail, 10c to 15c.

Eggs—10c per dozen, wholesale; retail 12½c to 15c per doz.

Salt—$1 25 to $1 50 per barrel. *Water Lime*—$1 per barrel.

Potatoes—25c to 50c per bushel, wholesale; 45c to 60c per bushel, retail.

Coal Oil—30c to 40c for Canada; 40c to 60c for Pennsylvania.

Montreal Markets—July 8th—*Flour*—Superior extra, $4 75 to $5 00, nominal; extra, $4 40 to $4 50, fancy, $4 25, nominal; superfine from Canada wheat, (old ground) $3 85 to $4, do., (fresh ground) $4 05 to $4 10; superfine from Western wheat, $4 15 to $4 25; superfine No. 2, $3 70 to $3 75; fine, $3 50 to $3 60; middlings, $3 25 to $3 45; pollards, $2 80 to $3; bag flour, $2 20 to $2 25 per 112 lbs. Market buoyant; sales yesterday p. m. at higher figures than were quoted on 'Change—1,000 barrels of old ground superfine bringing $3 92½, and 2,600 barrels of superfine from Western wheat changing hands on p. t., understood to be at over $4 20. The transactions reported this forenoon were at $3 90 to $4 for old-ground superfine—the latter price for 100-barrel lots. Holders of fresh-ground were demanding a further advance, and some lots of selected and choice city brands, for local consumption, were sold at extreme prices, $4 20 being paid in two instances, and $4 40 for a favourite brand. Fancy nominal. Good extra was

sold at $4 50 for a 200 barrel lot. Some business was done in coarse grades, middlings bringing $3 40 and $3 45. Sour superfine was sold at $3 60. *Oatmeal*—Rates for good, about $4 70 to $4 80 per barrel, some cheap held at $5. *Wheat*, per bushel of 60 lbs.—A cargo of Upper Canada spring was sold at 92½c, and a sale of Milwaukee, mentioned as made yesterday p. m., at 95c. Holders now asking more money. *Peas*, per 60 lbs.—A small lot sold at 60c per 66 lbs., equivalent to about 63c per 60 lbs. *Oats*, per 32 lbs.—A few thousand bushels were sold at 35c. *Ashes*, per 100 lbs.—Sales of pots reported to day were at $5 65. *Pork*, per bbl, of 200 lbs.—Market firm, no large transactions reported this forenoon. *Lard*—Kegs 9½c to 9¾c per lb; barrels and tierces 8½c to 8¾c. *Cheese*—Current prices for new are 8c to 9c per lb. *Butter*, per lb.—Market continues quiet; prices nominally unchanged; Canadian choice dairy, 13c to 14c; medium, 12c to 13c; store packed, 11c to 12c. *Freights*—Wheat engaged to Liverpool this forenoon at 5s.—*Witness*.

Woodstock Markets—June 30.—*Fall Wheat*, 85c to 95c, *Spring Wheat*, 75c to 77c, *Flour* per 100 lbs., $2 to $2 25; *Oatmeal* per 100 lbs, $2 75 to $3; *Oats* per bushel, 38c to 40c; *Peas*, 40c to 45c, *Barley*, 60c to 65c, *Potatoes* per bushel, 75c to 80c, *Wood* per cord, $1 75 to $2, *Butter* per lb, 12c to 13c, *Apples*, 25c to 00c, *Hay* per ton, $7 to $8, *Cheese*, 8c to 10c, *Eggs* per doz., 7c to 8c, *Wool* per lb., 45c to 46c.—*Sentinel*.

London Markets—July 8.—*Spring Wheat*—No material change; current rates 80c to 85c. *Wool* coming in slowly; rates from 40c to 45c per lb. The full price paid in silver. *Hay* more plentiful to-day, with a downward tendency, $14 top price. *Fall Wheat* 85c to 90c per bushel. *Spring Wheat* 80c to 86c. *Barley* $00 to $00. *Oats* 47c to 50c. *Peas*, 48c to 50c, *Corn*, 65c to 75c, *Hay*, $12 to $15 per ton. *Beef* 7c to 10c per lb. *Oat Straw* $3 to $4 per load, *Butter*, fresh, 14c to 16c per lb, keg do. 11c to 12c. *Apples*, 50c to $1 50 per barrel. *Potatoes*, 60c to 80c per bushel. *Flour* $2 25 to $2 75 per bag. *Eggs* 10c to 12c per dozen, *Hides* dry, 9c to 10c per lb, green do, 4c to 5c, *Sheep skins*, $1 25 to $2, *Wool*, 43c to 45c.—*Prototype*.

Detroit Markets—July 7.—*Flour*—There is a very firm feeling, and prices fully sustained. Sales high extra at $11, extra from amber wheat at same. *Wheat*—Prices rule high. We note sales No 1 white at $2 32, No 2 red was offered at $2 20. *Corn* somewhat unsettled at $1 45. *Oats* steady at 85c. *Barley* nominal at $2 to $2 50 from waggons. *Beans* unchanged, $2 to $2 25 from waggons. *Butter*—Ready sale at 30c to 32c from store. *Eggs* are quick at 22c to 23c. *Wool* nominally unchanged, at 85c to 90c.—*Free Press*.

Milwaukee Markets—July 5.—*Wheat*—The wheat market opened with an upward tendency yesterday morning, partly under the influence of an easier money market, and partly on account of more favourable foreign news by the *City of Baltimore*. At the morning Board No. 1 spring changed hands at $2 08 to $2 11, the market closing firm at the outside figures. *Flour*—The market was very dull, the local demand having quite subsided, and the prices asked being altogether too high to meet the views of shippers. Sales at $9 25 for extra, and $10 50 for double extra spring. *Oats* were neglected and nominally lower; No. 1 could probably have been bought at 87c in store, but we did not hear of any inquiry for them. *Corn* was in good demand at $1 30 in store. *Barley* nominal, No. 1 would bring $1 45 to $1 50, and prime $1 60. *Rye* saleable at $1 50, but there is none in the market. *Wool* continues firm with an upward tendency. Good to choice lots of fleece would sell readily at 94c to 98c, and large quantities could not be bought under $1, though we have heard of no sales above 95c.—*Sentinel*.

Chicago Markets—July 6.—The markets in nearly all directions were firmer to-day, and values were higher. Prices in the present disordered state of the finances are characterized with so much irregularity that it is difficult to give quotations which can be relied upon longer than a day at a time; in fact not longer than a few hours in many respects. The Produce markets were active and very firm to-day. The news by the steamer was better, and prices at Liverpool were firmer and tending upward at the latest dates. This news, and the advance in gold, stimulated a brisk speculative demand for grain, and the leading markets closed strong on 'Change. *Flour*.—The market was very firm, but the advanced views of holders restricted business. There was a good inquiry, and holders, before the close, advanced prices 15c to 25c per barrel. Winter extras sold at the range of $10 to $11 37½, as to quality, and spring extras at the range of from $9 to $10. Really choice brands of white winter are held at $11 to $11 50, and choice brands of spring extras at $10 to $10 25. *Wheat* was firmer and prices have advanced, since the sales last evening at the Second Board, 1c to 1½c on No. 1, and 3 to 4c per bushel on No. 2. Spring, and the market closed firm at the advance. The advance since yesterday morning is 8c to 8½c per bushel. The sales to day were at the range of $2 05 to $2 08½ for No. 1, and $1 96 to $2 02½ for No. 2—all in store. *Corn* opened firmer, and prices advanced 4c to 1c per bushel, and closed firm. The demand was good. The sales were at $1 32½ to $1 33 for No 1, $1 29 to $1 30 for No. 2. *Corn* afloat sold at $1 34 for No 1, and $1 29 to $1 31 for No. 2. *Oats* were firmer and advanced 1c, with a good demand. The sales were at the range of 79c to 81c for No 1, and 76½c to 78c for No 2 in store, and closed firm. In *Rye* and *Barley* there were no transactions worthy of note, and prices were nominal. Provisions were firm, but the advance in prices tends to check business in barrelled *Pork*. Some city packed mess sold to day at $40, but some brands were held firmly at $42. *Bulk Meats* and *Bacon* are firm, but in the absence of sales we quote prices nominal. *Lard* was in demand very firm and under the advices from New York holders of choice kettle rendered were demanding 18c to 18½c. Steam rendered sold at 17½c for city and 17c for fair country. *Beef Cattle* were quiet and unchanged. Sales were limited, mostly inferior to medium stock, which were taken principally on army account, at $5 50 to $6 50 for medium, and $3 to $5 25 for inferior to common. *Hogs* were steady at the decline noted last evening, at $9 to $9 50 for good lots, and $7 50 to $8 75 for stock and medium grades.—*Times*.

Albany Markets—July 7.—*Flour* steady at $10 to $13, demand more active. *Corn Meal* firm at $3 to $3 12. *Grain*—*Wheat* 1 active; sale of white Michigan at $2 70. *Corn*—Old Western sold at $2 65. *Oats* firm; small sales at $1 to $1 01, delivered.—*Statesman*.

Boston Markets—July 7.—*Flour*.—The market is firm, with a good demand. Sales of Western superfine at $9 50 to $9 75, common extra, $10 to $10 50; medium do., $10 50 to $11 25; good and choice do., $11 75 to $15 per bbl. *Grain*—*Corn* is firm and in fair demand. Sales of Western mixed at $1 72; Southern yellow, $1 72 to $1 75 per bushel. *Oats* are in good demand. Sales of Northern and Canada at $1 05 to $1 10 per bushel. *Rye* is worth nominally $2 to $2 05 per bushel. *Shorts* are selling at $37 to $38; *Fine Feed*, $40 to $42. *Middlings*, $44 to $46 per ton. *Provisions*—*Pork* is firm and in good demand. Sales of prime at $38 to $40, mess, $43 to $45 clear, $45 to $47 per barrel, cash. *Beef* is firm and in fair demand. Sales of Eastern and Western mess and extra mess at $22 to $30 per barrel, cash. *Lard* is scarce. Sales in barrels at 20c to 21c per lb., cash. *Hams* are selling at 20c to 25c per lb., cash.—*Advertiser*.

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