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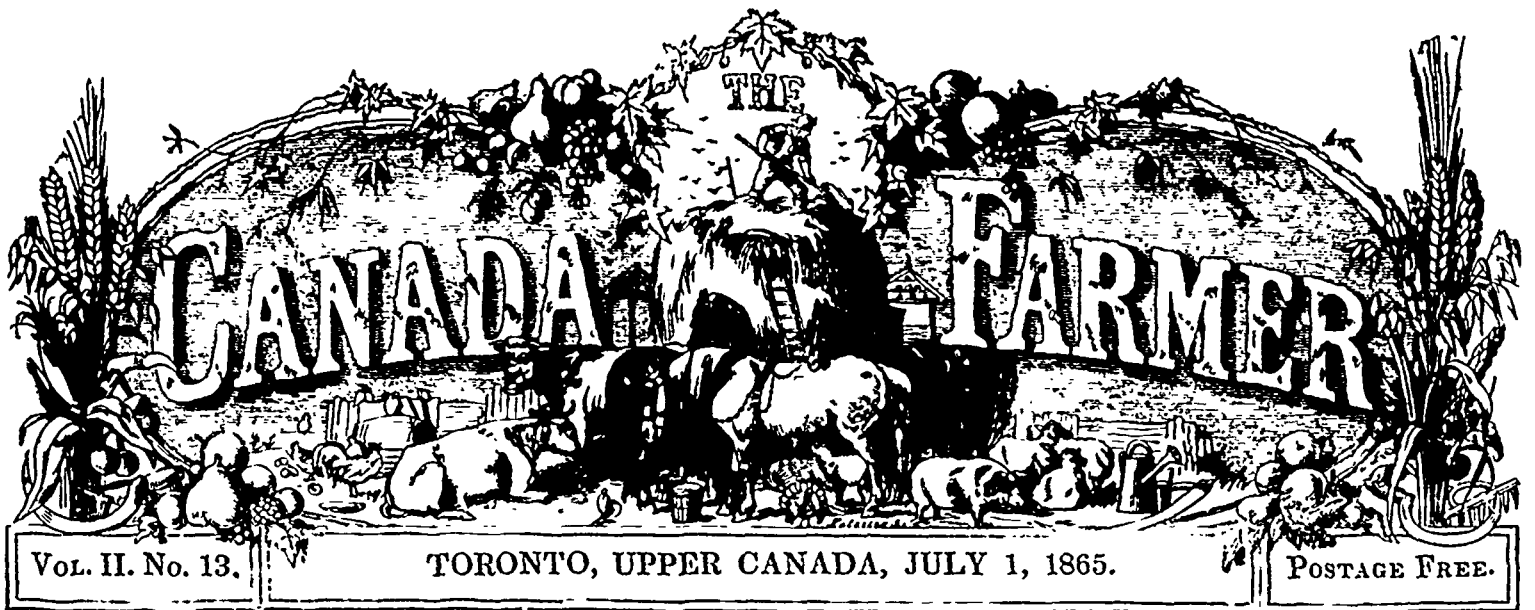
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## The Field.

### Improved Lifting Gate.

We herewith present our readers with an engraving and description of a very useful lifting gate. The inventor is Mr. David Reekie, of Georgina, Co. York, C. W., and his right is secured by patent, bearing date March 4th, 1865. This gate has met with a favourable reception wherever its advantages have been described, and its claims canvassed; and we think that it has only to be known to render its use very general. By reference to the cut, and the following descriptive details, supplied by Mr. Reekie, our readers will be enabled to understand its construction and appreciate its merits:

"A, A, gate posts; fig. 2 shows the side of the post on which the gate is hung; B, groove; C, a moveable scantling to work in the groove B; D, a clasp or staple to hold the scantling in the groove; E, a pin through the post and scantling; F, several holes in the scantling for the pin to pass through to hold it to any height desired; G, G, crooks in the scantling C, for the gate H, to hang on; I, I, pulleys for a chain to pass over to assist in raising the gate; J, a weight on the end of chain. For a large gate the moveable scantling requires to be of hard wood, four inches square, and of the length of the heel of the gate. The crooks go through the scantling and fasten with a nut; the scantling requires a rivet across each end to keep it from splitting. The clasp D, is made of five-eighths inch round iron, wide enough for the scantling to work in; it passes through the post from front to back, with a nut on each end of the clasp; the clasp should be just under the upper hinge when the gate is down. One of the hinges requires a nut to keep the gate from lifting off the hinges. Ordinary gates can be changed into 'Improved Lifting Gates' with little expense, by applying the moveable scantling. After the scantling is fitted in and secured, the post should be cased with an inch board, to protect it from the weather.

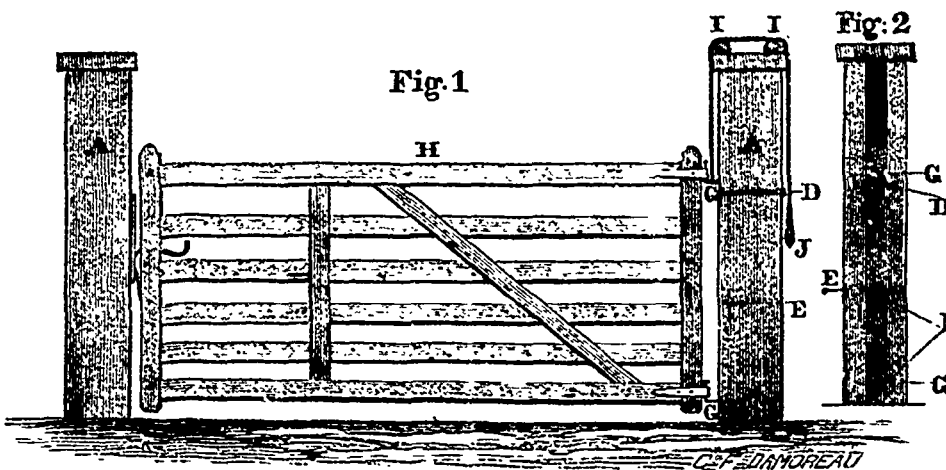
"Terms for the right to use a single gate, 50 cents; for village or town lots 75 cts.; farm rights, 100 acres or less, \$1; for 200 acres \$1.50.

"Churches, chapels, and public burying-grounds have free permission to use the gate.

## Work for July.

MANY of the hints given for last month are equally applicable to this. Look sharply after the turnip patch. Be sure to get a good plant. Sow a second time if the seed has failed, or insect enemies have swept off the young plants. Fill up gaps in the rows. When too late for the Swede to do well, the Yellow Aberdeen and White Globe varieties may be sown. These, though they do not keep so well as the Swede, are excellent for early winter feeding. It is a matter of prime importance, in growing turnips, to get them thinned and hoed in good season. A sharp hoe about eight inches wide in the blade will thin them out very nicely in the hands of a skilful operator. If the ground was properly cleaned before sowing, very little will be needed but the thinning out of the young crops. With a good start, and a timely thinning, they will grow in ordinary seasons with astonishing rapidity, and soon so shade the ground with their broad leaves as to render weed-growth impossible. The war against weeds among hoed crops requires to be prosecuted with unrelenting vigour. A cessation of hostilities is apt to be occasioned by the

help of this instrument, notice is got of a coming storm, and, with extra effort, the out-lying crop is housed in time. Hay caps do good service when they can be afforded. In regions liable to sudden storms, and in the vicinage of large cities in seasons when hay is high, they pay even at the present cost of cotton. They form a good covering for wheat-shocks as well as for hay-cocks. If there be too little barn-room to store away the hay crop, neat stacks should be built at convenient points. These must be carefully made in order to save the hay well. See directions and illustrations in our last issue. The wheat harvest promises to be early this year. It will tread very closely on the heels of the hay harvest. Much grain is lost by letting wheat get dead ripe. It should be cut before it is ripe enough to waste. A contemporary says:—"Careful experiments show that the grain is heaviest and makes the best flour while a portion, say about one third, of the chaff, is yet green, or with green streaks running through it, and the straw is brighter and richer." The almost universal use of mowing and reaping machines greatly facilitates the cutting of grass and grain at just the proper time. Buckwheat should be sown in July, on well-prepared ground. This grain is often put in very carelessly. It needs clean and mellow soil to do well. Green forage may still be sown. There are times late in the summer when the pastures are apt to be very bare, and when it helps cows greatly in keeping up the milk supply, to give them an armful of green feed morning and evening. The working teams also require more than they can get by close biting off a parched pasture. Corn, vetches, &c., are valuable for soiling purposes at such periods



labours of haying and harvesting, but this is bad policy. "No quarter" must be the watchword. If weeds are suffered to go to seed, they entail a world of trouble for the next and succeeding seasons. Haying is early this year, and in many parts of the country will be commenced before the first of July. Grass ought to be cut between blossoming and seeding. It is not easy to hit just the nick of time, but by all means avoid putting the job off too long. Hay becomes hard, woody and comparatively innutritious when cut late. A good after-growth is also secured by cutting grass early. In no operation on the farm is there more need of promptness and push than in hay-making. A little delay often results in great loss. Haying and harvesting are the seasons during which a good barometer is of great value. By the

as the grass fails. Dairy work is still at its height, and with the extra demands made upon the female members of the farmer's household by haying and harvesting, will be found pretty oppressive in many cases. The factory system gives relief, and we hope will soon spread widely in Canada. Orchards, particularly those newly planted, should have the soil stirred often. Boughs overloaded with fruit ought to be lightened. Over production one year induces shy bearing the next, from the exhaustion of the tree's vitality. There is also danger of trees breaking down, and so being permanently injured and disfigured by excessive bearing. Young trees may be shaped by pinching-in and rubbing off shoots. These processes, however, must be judiciously performed, so as not mainly to lessen the growth of leaves.

Budding cherries, plums, &c. may be done so soon as the terminal buds begin to form distinctly. Grape vines should be layered if it is desired to propagate from them. This is a very simple and sure method of multiplication. Bend down strong shoots of this year's growth, and bury the middle portion of them with a few inches of soil. Before winter, plenty of roots will have formed, and strong plants may thus be got. Old raspberry canes may be cut down so soon as the bearing season is over. Strawberries may, if desired, be transplanted during the period of partial rest that succeeds fruiting. They must be taken up carefully, the large leaves cut off, and the roots kept moist by planting them in mud, and keeping the surface well mulched. Insects of various kinds must still be watched for among the fruit, and, as far as possible, destroyed. The kitchen garden will need close attention this month. What with weeding, hoeing, making celery trenches, transplanting late cabbages, cauliflowers, &c., there will be enough to do. Encouraging returns now begin to be received in the shape of wholesome vegetables, and this, while it remunerates past labour, incites to further diligence. Swarming, the care of new stocks, and watching, from time to time, the condition of the bees, will necessitate daily visits to the apiary. Meantime "the little busy bee" is repaying the attention bestowed by "the sweet store she makes" during the short weeks of the fleeting summer time.

### Broad and Narrow Furrows.

THE English farmer thinks no ploughing good for any thing that is not narrow in the furrow, and straight as a line:—he expects every strip of soil to be turned fairly over, and laid closely and compactly against the preceding slice; and where the ploughing is on clover ley for fall wheat, the "presser" is used to follow the plough and "press" each succeeding furrow slice so close down on the preceding, as to leave no room for the seed to waste by falling between the furrow slices, and so being too deep to come up well, or be lost altogether. Clover ley land in England is preferred for wheat in all these kinds of rich land where the four-field system is used, viz., wheat, turnips, barley, clover, and then wheat again. In this system the land is never allowed to lie two years in clover, and the clover is generally sown close off before ploughing. It has first been mown for hay, then pastured; where manure is required, it is spread on the clover before ploughing, and then ploughed in. This in Britain forms an admirable tilth for wheat, but does not seem in such favour here. The reason we imagine is, that the season for sowing fall wheat is so much earlier here than in Britain. Here, if we hope for a crop, it must be sown during the first week in September. In Britain they constantly sow as late as the fifth of November, thus securing three months' more feed from the clover. The hay crop on clover land in Canada is much later. Here we use timothy and clover; there they use rye grass with the clover, and cut as soon as the clover flowers are well developed.

Clover ley land shows good ploughing (or what is called such) to much better effect than almost any other. There is sufficient adhesion in the furrow slice to hold well together, and as the land is always clear from obstruction, and "fared out," as it is called, with the utmost exactness, the field when finished shows a completeness and orderly appearance very seldom attained in Canada. The wheat being sown on the newly-turned-up ground, naturally falls from the sides of the ridge into the hollows, and to an unpracticed eye appears to have been drilled. The furrows are seldom more than nine inches wide, and oftener seven inches; and when the land is clear from couch grass or other weeds, the work is beautiful; but where couch grass is plentiful, it grows as fast nearly as the wheat. As the furrow slices are not turned completely over, but only partially so, the couch grass is only buried on one side, and

springs out between the furrow slices with great luxuriance. This must be wrong.—the couch grass where buried sufficiently deep is killed, where the blade can grow the root spreads equally fast, and the consequence is, that the wheat stubble (that is, the ground after the wheat is cut) is one mass and mat of couch roots. We must believe, reasoning from analogy, that the same land, if ploughed with the double Michigan plough, of which a cut will be seen on page No. 113 of Vol. 1. CANADA FARMER, would be infinitely better done. The double action of this plough would make far completer work, though not so sightly. The upper and forward or coulter plough skins off all the clover and couch roots, and deposits them at the bottom of the last furrow; the second mould-board or main plough brings up the lower soil free from roots and weeds, and thoroughly covers everything likely again to grow, and leaves it to rot and decay at the bottom of the furrow; so that when well done no one can tell, without turning over the soil, what the last crop was. We have seen wheat stubble (and that not cut short by any means) so completely buried by this double plough, that it was entirely covered out of sight, and no one not knowing the work of the plough would suppose it possible to have been a wheat stubble field, as it looked, with one ploughing only, more like a very clean old fallow.

The result of the English clover ley ploughing and its attendant couch cultivation, is seen next season. The couch grass has so spread and increased that when the land is fallowed by repeated ploughings, draggings, and harrowings, and all the roots of the grass are got to the surface, it has to be raked and hand-picked off and burnt on the ground, the couch heaps being often as close together nearly, if not quite, as to weight of crop, as an ordinary cut of a Canada grass field. After culture with turnips, and then for barley, goes a long way towards killing the remainder of the couch grass; but there is always sufficient left in the soil of all land favourable to it, to give a thorough crop the fourth year, and we cannot but in a great measure attribute this to the peculiar mode of ploughing the clover ley for wheat. Couch grass thoroughly buried 5 or 6 inches deep is killed; but where it is only half buried, it seems to delight in such cultivation, and increases with great rapidity.

If ploughing is intended not only to move the soil, but to kill the weeds which would otherwise survive, that kind of ploughing which buries the weeds deepest and most completely must be the best; and if this is the case, such ploughing as is shown off at ploughing matches, instead of meeting with reward, ought to be universally condemned. What should we say of the gardener who conducted his digging in such a manner as to leave half the weeds and grass within the influence of the air, so as to allow their roots to increase and fill the ground during the growing of the succeeding crop? We imagine he would soon be sent to the right about, and told that a hog would root up the ground better; and yet in all good ploughing (so called) this is most certainly the case. We do not for a moment mean to decry the skill which is shown at ploughing matches. Such exhibitions lead to the best results, and create a competition which must conduce to good; but we wish that farmers would look a little farther, and consider results as well as the beauty of the present process. All, so far as we ever heard, consider that good digging is the best possible mode of cultivating the soil; and if we would at all approach the result of digging, it must be by completely and thoroughly burying all that was on the surface so deeply, that there is no chance of its again growing from the same root. We know a certain roughness or means of burying the seed is absolutely necessary, but we do not think anything like so much "seed furrow," as ordinary good ploughing bears, is absolutely necessary. We are well aware that in drill husbandry one-half or one-third of the seed will often produce as heavy a yield per acre as the quantity commonly used on the old broadcast system. The reason for this is manifestly that the seed is all evenly spread over the land at an even and regular depth; whereas, in sowing broadcast on land roughly ploughed, a great deal of the seed is buried too deeply ever to come up at all, and a good deal is left so near the surface that it perishes.

Let any one try 100 grains of wheat at 1, 2, 3, 4, 5 and 6 inches in depth. The greatest number will be found to vegetate at 2 inches, the next at 3, and

so on until at 6 inches deep none will come up at all, or if any does, it will be poor, puny, light-green blades, never likely to come to good healthy stalks. Further evidence on this head can be obtained by counting the wheat plants on a square yard; you will find by the rate of plant you have that were every seed sown to grow, a peck of wheat would be sufficient for an acre. We know that some seed will be lost by birds, and some plants will be destroyed by insects; but not more than one-fourth the number of seeds sown broadcast ever come to maturity. This, however, is not the case with drilled grain.

In American ploughing, owing to our being used to newly-cleared land, where straight, even ploughing is impossible, that plough which will go over the most ground in a day is generally (perhaps too often) considered the best. The old Polly plough throws a furrow of fourteen inches wide when forced to its work; it heaves up the ground in a very rough state, requiring the drag to level it; but many will yet argue that it saves both time and labour, and produces as good a crop as the best Scotch plough which can be obtained; whilst judging from the apparent labour of the horses (for we have never seen a dynamometer used with it) it goes no harder, if so hard, as the Scotch or best English ploughs. It certainly breaks up the ground most perfectly, and does a great deal of work, though it does not do it handsomely—according to received ideas.

We do not mean to lay down the law that either the wide or narrow furrow is the best,—our object is by discussing the matter to make farmers think of what they do, and possibly place the matter in a new and different light before them.

### Agricultural Associations and Under-draining.

To the Editor of THE CANADA FARMER:

SIR,—Our Agricultural Associations could not do better than to encourage a thorough system of drainage. There are prizes given for all kinds of produce, but none for the best mode of preparing the land to grow them. It is strange, in the face of such positive proof of the benefit of draining, as is given in Great Britain and the United States, that our Societies have not evinced a more lively interest in this direction. Some may say that our country is new, and, hence, it cannot be expected, nor is it required, that we should thorough drain. Now, since our country is old enough to show improved stock, and implements of every conceivable variety, I hold that it is high time to show improved farms. And, unquestionably, the most permanent and profitable auxiliary to this end is, a thorough system of drainage. It should also be remembered that the freshness of the soil furnishes an additional reason for draining it, as, by adopting this course, we will preserve it in its original lightness, friability, and fertility, for generations.

Your issue, of June 1st, contains an excellent communication on the subject of "Spring Seeding and Drainage," in which the writer, Mr. Osborne, makes a munificent offer to a "Drainage Prize Fund."

In reference to the terms of Mr. Osborne's proposal, I am of opinion that the competitors should not be restricted to use tiles of not less than three inch bore, as tiles of this size do not constitute ten per cent of those used in thorough draining. A bore of 2 inches is sufficiently large for lateral drains, under ordinary circumstances, say, thirty feet apart, and may extend to the length of forty rods. It is useless to drain at an expense of \$25 per acre, when it can be done at effectually for from \$18 to \$20 per acre. Three inch tiles are sold at \$10 per thousand, and two inch at \$6; while a thousand of the former makes two good loads, and the same number of the latter but one, a consideration which lessens the cost materially, when the distance of carriage is great. Hence, it is obvious, that a prize offered, under the restrictions referred to, would only hinder the object which it is designed to encourage, as farmers would be deterred from draining entirely.

I would suggest, as an amendment, that a prize should be given to the farmer who invested the greatest amount of money in drainage, which should be determined by a certain fixed price, per rod, according to the size of tiles used, and depth of drain. The size of tiles should not be less than two inches, and depth of drain, as Mr. Osborne specifies, "not less than thirty inches," but this might be left to the option of the competitor, as no sane man will commit suicide for the sake of the Insurance. This course would prevent a monopoly of the fund, by any one who might be prepossessed in favour of tiles, of any particular size, regardless of cost, and would be an additional inducement to farmers to contribute to the fund.

WILLIAM WILKINSON.

Brampton.

## The Culture, Harvesting and Manufacture of Flax.

To the Editor of THE CANADA FARMER:

SIR,—In your last issue I observe you notice the favourable progress of the growing crops—wheat, barley, oats, hay and turnips are favourably spoken of; not a word about flax, the crop of all others so necessary to keep under the notice of our agriculturists, many of whom have not given it a trial. I am happy to be able to state that the growing crop looks remarkably well; and, while wheat, barley &c., &c., are subject to the ravages of the midge, weevil, and several other drawbacks, flax is exempt from all those damaging influences which, I am sorry to say, our farmers have suffered from of late years so much. It is also well known, and admitted by all parties who have sown flax, that it completely destroys the wire-worm. Now that the season is fast approaching for harvesting flax, which generally comes in a week or ten days before most other crops, except hay or rye, I would beg leave to remind those who have sown it this year that much will depend on the care and attention they bestow in caring for the crop when ready for pulling, and in handling afterwards. It is much better to pull on the green side, and allow the seed to ripen in the stook, as much of the valuable oily substance is left in the fibre by this means, and adds much to its strength and quality. The quantity of seed will not be lessened, nor the quality injured at all for converting into linseed oil and oil cake. Great care should be taken in pulling or cutting to keep the best ends quite even, and the handfuls should be laid diagonally in the beet, which will render them much more easily handled afterwards, if either dew or water-rotted.

It would be well if farmers who have sown flax this year would give it that attention it requires, and so well deserves, as it so often happens, when parties have only put in a patch, or even a few acres, they are apt to neglect it, while attending to their other crops. It is the most of all likely to sustain injury, and hence a loss is incurred, and it is alleged that flax will not pay. There is no crop from which so much can be gained, by proper attention, as flax. The quality of the fibre is often increased in value double by proper attention, and a little judgment in the after treatment, while *steeping, dew-rolling, or grassing*. A great deal depends on proper care in this stage of management. A proper time must be observed for spreading on the grass if dew-rotted, and still more care is required to see it is lifted at the proper time. If left too long, which is so often the case, the fibre loses its strength, and often produces only tow in place of a fine quality of fibre. On the other hand, if taken off the grass too soon, it will not scutch clean, nor produce a good quality of fibre. If watered, the same care is most essential, as in Finland, Belgium, and all other countries. Parties desiring to produce the finer qualities are known, in many instances, to watch the time to a few hours before taking it out of the water. Full particulars on this head have already been given in several letters which have appeared in this Journal, and also in a pamphlet lately published, and sold at all book stores, entitled, "Practical Hints on Flax Culture."

The manufacture of this valuable fibre, after the farmer has done his part in producing it, ought to receive more favourable attention by our enterprising business men, as the cry is often heard, we are depending entirely on agriculture for our success. There is no good reason why we should not extend our manufacturing operations, more especially in this direction, since, when it has been proved beyond a doubt that the climate and soil of this country are so admirably adapted to produce any quantity of the "raw material."

Our reformatories might be turned to better account, and the inmates employed in spinning and weaving. Hand looms could be readily introduced, and the ingenuity of many of those unfortunate persons made to aid materially in rendering such institutions self-sustaining. The coarser descriptions of goods could be produced at prices quite as low as

we are obliged to pay for imported goods of this class, when we take into consideration that we are the producers of the raw material, and have 60 per cent. on the sterling in our favour.

By extending the manufacturing interest, more encouragement would be offered to the farmers to grow; and our people would find employment—a matter about which there is so much said at present, as affecting the general prosperity of the country. The favourable appearance of the flax crop this season, and the fact that parties of enterprise and capital are giving this subject more attention, is a guarantee that more will be done in this new and valuable branch of Canadian industry.

JOHN A. DONALDSON.

Toronto, June 17, 1865.

## Flax in and about Meadowvale.

To the Editor of THE CANADA FARMER:

SIR:—I have thought it might not be amiss to give you some account of the culture and prospects of the flax plant, in this part of the country. In Norval, a village situated on the Credit, about 8 miles to the West of us, Mr. Mitchell of that place has had a flax mill in successful operation for some time, and has this year given out seed enough to sow about 500 acres. I understand that he intends making thread in connection with his scutching mill.

The firm of Gooderham & Worts, with their usual enterprise, are also about engaging in the business, and will have a flax mill at work this fall in Streetsville. It will employ some 20 hands. It is the intention of the firm to engage ere long in the Linen Manufacture, and so extensively as to require the produce of many scutching mills along with their own. They have given out at their stores in Meadowvale and Streetsville, enough seed to sow at least, 700 acres; and of course there will be a large amount grown in addition by farmers who have the seed within themselves. But taking the 1200 acres sown with seed obtained from the parties mentioned, at an average yield of 2½ tons per acre, we here have 3000 tons, and reckoning this again at an average price of \$12 per ton, we have the snug sum of \$36,000 brought into the neighbourhood of these mills by the culture of flax. The return per acre would be about \$30, and deducting \$4 for seed, &c., \$4 for harvesting we have a net return of \$22 per acre, a very nice margin of profit over the crops of law, as the farmer can witness. And this return the farmer can depend on more than in the case of most other crops, as the flax is unhurt by frost or rust, or mildew, untouched of wire-worms, midge, or weevil. It has its enemies, of course, like all other crops, and suffers from drouth, bad farming, and as a result of the latter in poor soil, and Canada thistles. There is a field not far from here full of wire-worm, about 2 acres of which in the centre of the field is sown with flax, and the rest all around it with barley; while the flax is unhurt and thrifty, the barley was destroyed by the worm.

The opinion prevailed among us that flax was a tender plant, and not at all suited to the "rough and tumble" of Canada life, but that notion has gone, now that the plant can show for itself. One of our best and most intelligent farmers was remarking to me that he had no idea it was as hardy and thrifty as it appears to be. The great objection the farmers have to growing it is the pulling of it, as labor is scarce on most farms, and the pulling of it is doubly as tedious as reaping the wheat with the sickle used to be. If a machine can be found that will pull or cut it, doing the work quickly, cheaply, and well, it would be a desideratum, and greatly conduce to the culture of that crop throughout the Province. Another objection urged is that it is exhaustive to the soil, always taking, never giving. The remedy for this may be found in the fact that with the \$22 per acre we can, in comparison with other crops, afford to purchase artificial and other manures; and judging from what I have seen, sod is the best for flax, so that you may clover as much as you will (sow it on your sod and check the wire-worm), and I have heard it said, from a person acquainted with its present culture in Ireland, that there they "seed down" with the crop, and I believe it answers well in this country to do so. And surely, considering what a blessing the turnip crop has been to Britain, and how

much manure it returns in proportion to the acres sown, the increased growth of that vegetable would more than make up on our farms the want created by the culture of the flax plant.

I shall conclude by a description of a field of flax of 32 acres adjoining this village. It is the property of Gooderham & Worts, and is situated on the flats of the Credit. About 20 acres of the field was sod, a large portion of which had been returned for 17 years, the rest of the sod gave two fine crops of clover last year, the other part was in Mangolds and Turnips. The soil is a rich clay loam, and the wettest parts are underdrained. The field was ploughed this spring 6 inches deep; three or four times harrowed, twice rolled with a heavy roller, and sown about the last week of April, then only harrowed. Mr. W. Gooderham is of opinion that it would have been better to have rolled it after the sowing.

Contrary to expectation, the flax on the sod is more than twice the height of that on the turnip land. Last evening I measured stems of it 22 inches in length. The likely yield of the field will probably be about 100 tons—\$1200. The greater part of the turnip land has been sown with Coe's Super-phosphate, at the rate of a barrel per acre, but we are not able as yet to pronounce definitely as to its benefit on the crop. The flax will shortly be in bloom, a sight worth the eyes of him who has made the "lint" a classic plant.

WILLIAM LESLIE.

Meadowvale, June 17, 1865.

NOTE by Ed. C. F.—Has not our correspondent rather overstated the profits of the flax crop? The expense account seems to us a somewhat light one. Even with less margin of profit than that given in the foregoing letter, it will pay well to raise this crop.

## A Choice Sample of Fall Wheat.

To the Editor of THE CANADA FARMER:

SIR,—As a specimen of what can be produced on the north side of Lake Simcoe, in a part of the country where there is still much wild land to be occupied, we send you a beautiful sample of fall wheat, grown by Mr. Joseph Kean, of the township of Orillia. The yield was twenty-eight bushels to the acre, and Mr. Kean received the following letter from the Hon. W. B. Robinson in reference to it.

We have the honour to remain,

Faithfully yours,

O'BRIEN & Co.

Orillia, June 10, 1865.

"CANADA COMPANY'S OFFICE,

"Toronto, 3rd February, 1865.

"JOSEPH KEAN, Esq., Orillia, O. W.

"DEAR SIR,—I have to thank you for the splendid sample of fall wheat you sent us some time since. It has been greatly admired, and were it not for a little smut would be, I think, superior to that exhibited at the late Provincial Show, and which took the Canada Company's prize.

"I must congratulate you upon having land that will grow such fine grain.

"W. B. ROBINSON,  
"Commissioner."

NOTE by Ed. C. F.—We cordially endorse the opinions expressed above. The sample submitted to us is really very choice and beautiful; and some of our Toronto merchants, to whom we showed it, stated that they had seen no fall wheat that would favourably compare with it, offered for sale in this market for some years.

A LARGE CROP OF TURNIPS.—In the *Genesee Farmer*, for April, 1862, Mr. John T. Andrews of West Cornwall, Ct., gave an account of a crop of ruta bagas raised by him the previous season, the yield of which was, by actual measurement, 416½ bushels on a quarter of an acre, or 1666 bushels per acre. They were sown June 20th, on ridges 27 inches apart, and thinned out in the rows ten inches to a foot apart. The land had been very heavily manured, and in addition to this, after the ridges were made, a compost of hen droppings, night-soil, ashes, plaster, &c., was scattered in the ridges, which were then split with the plough, turning the soil back again and covering up the manure.

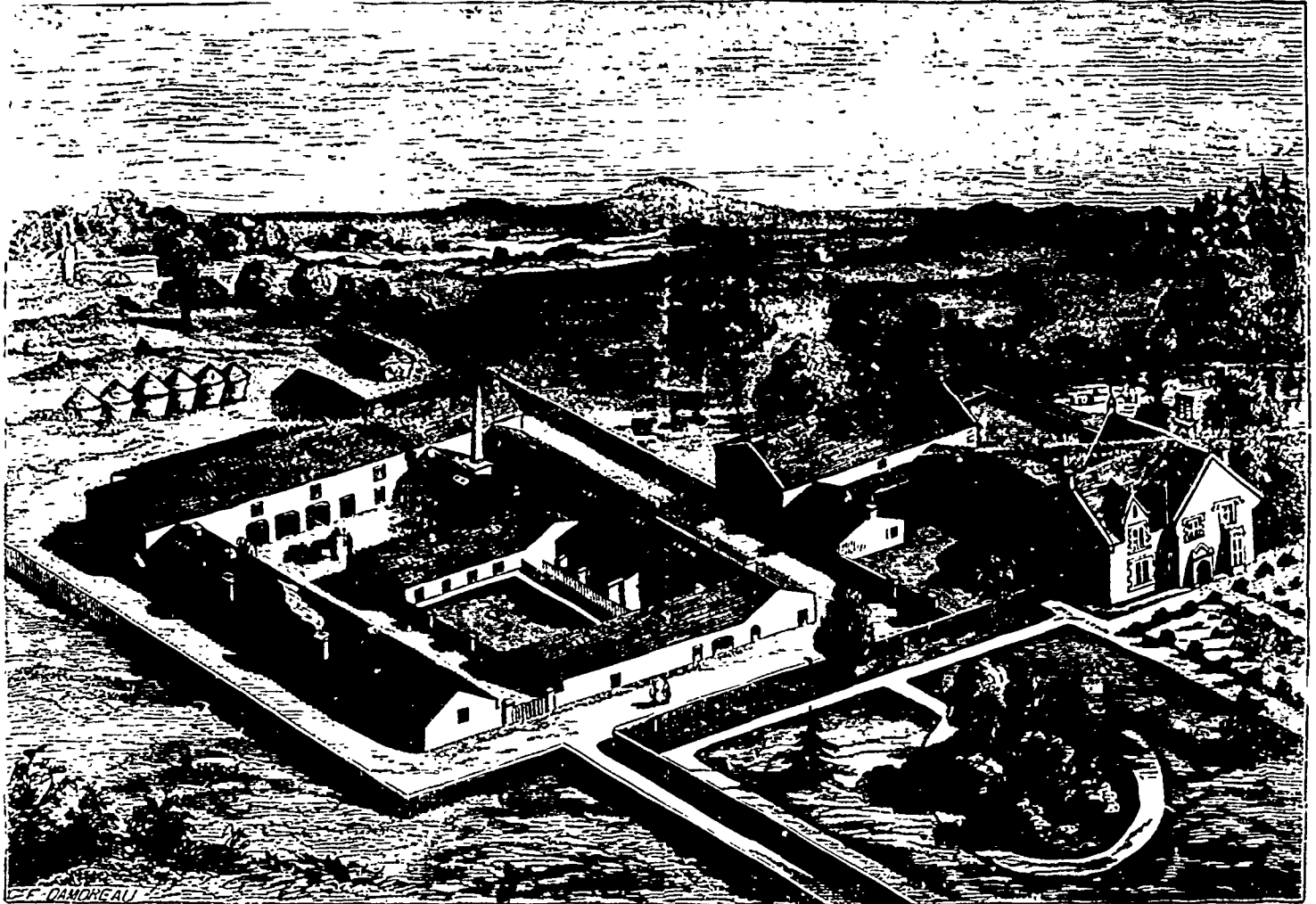
We mention the fact at this time, as we see a statement going the rounds of the papers, that Mr. Andrews has raised a crop of 2103 bushels per acre. We had supposed his former crop was one of the largest ever raised, but it would seem that he has beaten himself.—*Genesee Farmer*.

An English Homestead.

In the accompanying illustrations we present our readers with a projected or isometrical view of an open-yarded English farm homestead, and its corresponding ground plan. Our object, in thus inviting attention to the subject, is not to recommend the

is neglected. The strength of the horses is wasted in draught, between the stabling and the remote fields, and the general expense of cultivation is considerably increased. Low lying and moist spots are also objectionable. Let the crops be ever so well conditioned when brought from the field, a damp steading will soon give them a softness and mustiness, which both mil-

phers, and the want of proper ventilation. We are quite aware that choice of situation is sometimes partially controlled by such considerations as a southern aspect, a supply of good water, and easy access to turnpikes. But making due allowance for these exceptions to a general rule, we may set it down as a maxim, that farm buildings ought to be placed as



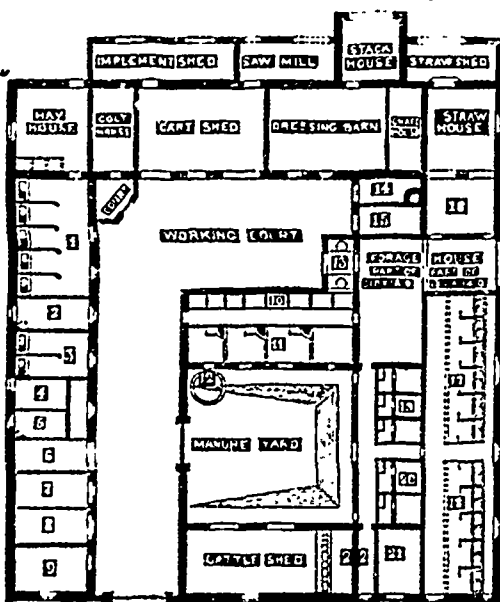
construction of farm offices precisely according to these plans, or indeed on such an extensive and costly scale as is here shown, but rather to exhibit the advantages to be gained in the saving of time and labour, by an orderly and methodical arrangement of the respective parts of a steading, and to furnish a study that may supply many useful hints to our farmers. In proportion as the farm buildings of a country are well constructed and arranged, will the condition of agriculture, in a general way, be found improved, enlightened, and prosperous; while the contrary results are sure to be witnessed when the buildings are mean, inconvenient, and defective. It may be well to premise that whenever a new set of buildings for farm purposes requires to be erected, the situation ought to be apointed of nice attention, and careful consideration. To place the farmstead in a corner, or on a border of the farm, as is frequently done, is an unwise arrangement. In the majority of such cases, part of the land

tates against their value, and tends to injure the health of the stock. Nor will the effects of a bad position be unfelt by the human inhabitants of the farm; for few escape the unhealthy influence of a humid atmos-

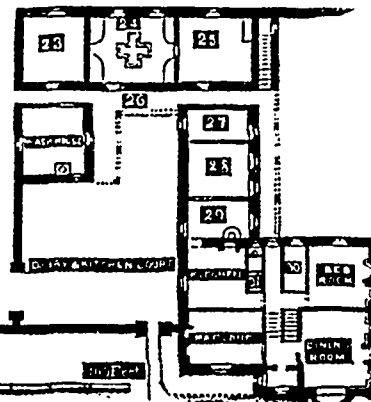
nearly as possible in the centre of the farm. With respect to the soil on which they should be built, it will be obvious that the driest is the best; while that which is most retentive of moisture is the worst.

Gravel and clay are, therefore, the opposite extremes and the position of a site is valuable, in a healthy point of view, just in proportion, as it recedes from the latter extreme.

The leading object in the arrangement of the plan before us, as we have already hinted, is the economy of time and labour in the performance of the work to be carried on. A careful reference to both illustrations will demonstrate that there is an immediate connection between those sections, whose usefulness depends on each other. Buildings used for similar purposes, or which form part of a regular series of operations, are as much as possible grouped and classified together. The barn, as the great storehouse of forage and litter, manifestly forms the central idea of all farm



GROUND PLAN.





arrangements. On the one hand the stables and feeding houses, being dependent on it for supplies, should be situated as closely proximate to it as possible, while the stackyard should be just adjoining. This connection between the barn and the stack yard has been materially improved, in the practice of some of the more eminent English agriculturists, during recent years. The ordinary method of removing a stack into the stack-house by means of carts or waggons, preparatory to threshing, is to some extent superseded, by intersecting the stack-yard with lines of railway, on which wheels are placed, that supply the place of pillars by supporting the stacks. During the process of pitching each sheaf from the stack to the wagon, and again from it to the barn, a great loss of time and grain is incurred; while the work must necessarily be done only in fine weather. But by the modern system of arranging the stacks in parallel rows, on lines of railway, with the main branch running directly into the stack-house, it is found that a stack can be safely and conveniently removed in any weather, in the course of a few minutes.

A careful inspection of the plan, with the references appended, will enable the reader easily to comprehend the scope of the principal illustration, and the object of its several parts. The dwelling house and its garden, offices, and dairy attached, also deserve more than a passing reference, did our space permit. But as their arrangement may be readily appreciated, we will merely add, that although the entire steading before us is supposed to be constructed of brick or stone, there is no reason why a like orderly and compact plan should not be adopted, when the building material is composed entirely of timber.

REFERENCES TO GROUND PLAN ON OPPOSITE PAGE.

- |                          |                                      |
|--------------------------|--------------------------------------|
| 1. Stable.               | 17 & 18. Feeding Stalls.             |
| 2. Harness Room.         | 19 & 20. Piggeries.                  |
| 3. Riding Stable.        | 21. Portable Manure House.           |
| 4. Hay House.            | 22. Sпар Cow House.                  |
| 5. Harness Room.         | 23. Churning House.                  |
| 6. Gig or Buggy House.   | 24. Milk Room.                       |
| 7 & 8. Infirmary.        | 25. Cheese-Making House.             |
| 9. Tool House.           | 26. Veranda.                         |
| 10. Calves' Boxes.       | 27. Potato House.                    |
| 11. Feeding Boxes.       | 28. Washing House.                   |
| 12. Liquid Manure Tank.  | 29. Scullery.                        |
| 13. Boilers.             | 30. Larder.                          |
| 14. Engine Room.         | 31. Cessat, and W C directly behind. |
| 15. Engine Boiler.       |                                      |
| 16. Part of Straw House. |                                      |

**Snowy Horse Fronts.**—It is for the love of show, and not for the love of beauty, that so much of our town architecture is bedizened with profuse and tasteless ornament. It is put there for the sake of respectability—as an advertisement, perhaps: for any reason except that it is really loved and appreciated. It is put outside, not inside. The owner of the house takes no delight in seeing it. He only sets it up as a sign to the world of his own wealth and importance; very often he puts it all up front, none at the sides or the back; for his opulence may be only sham opulence, and he wants to produce the greatest possible effect with the smallest expenditure.—*Building News.*

The Breeder and Grazier.

Hog Feeding in Summer.

To the Editor of THE CANADA FARMER:

SIR,—In more than one letter in THE CANADA FARMER have I endeavoured to point out the advantages of fattening hogs in summer as well as in winter. The immense trade in bacon between America and England has within the last few years undergone a great revolution, and indeed the same remark might be applied to some other countries, to Ireland and Germany, for instance. There is evidently an increasing distaste for old rancid bacon, and a growing preference for the fresh, new article; and the trade has, in consequence, been obliged to adapt itself to this changed state of things. By the careful use of ice, the cure of bacon is now rendered almost as perfect in summer as winter; and a fat hog is therefore in good season all the year round, as much so as a fat steer or a fat sheep. Prime hogs averaging about 225 lbs. alive, say 200 or 270 lbs. each, would be worth in Hamilton now \$5.50 per cwt., 6 cents per lb. These are unsafe

figures to calculate upon for any great length of time, perhaps, still remunerative prices are very likely to be obtained.

In the Western States large farmers feed from 100 to 500 pigs, but for our Canadian friends to attempt the business on such a large scale might be imprudent and hazardous. Still it would not be too much to say that a good litter of pigs may be kept all the time to advantage. Hogs this summer, w'll, I think, bring a higher price before the first of September than after. SAMUEL NASH.

Hamilton, 20th June, 1865.

**Cows in Heat.**—I am very much wedded to a practice learned in boyhood, which clings closely in advanced age; a rule that I have found almost infallible. If I discover a cow in heat in the morning, immediately drive her off before milking. After connection with the male, put her in the stantials, milk and give her a pail of cold water with a trifle of salt in it; let her remain as quiet as possible, until two or three o'clock, then turn her out with the herd, milking at night as usual. If I find a cow at evening in the same situation, I drive her off prior to milking, return milk and water her, let her remain in the stantials over night, milk in the morning as usual. By pursuing this course, a cow will seldom require driving away the second time. A record should be made and correctly kept of the date—no guess work attached. This will enable the owner to make calculations accordingly.—*Can. Union Herald.*

Mr Angus McDonald writes to the *Union* to say that a female mule belonging to Judge Jarvis, of Cornwall, has had a foal. This, if there is no mistake about it, is a remarkable fact in natural history.

The Dairy.

Dairy Cows and their Treatment—The Different Breeds.

There are many good suggestions in the following extract which we (*Country Gentleman*) take from the Report of Edw. M. Gardner, Chairman of a Committee of the Nantucket (Massachusetts) Agricultural Society:

Now what should a farmer do in relation to producing profitable stock? In the first place we must remember that his milch cows are only so many machines to turn his grass into gold. Therefore, there are certain things beyond the mere milking capacity which are important. When a cow has become too old to be profitable as a milker, it is then important to profitably prepare her for the butcher. There are milch cows in Massachusetts which sell readily for slaughter, after they have ceased to be profitable for the dairy, for more than a hundred dollars each. If these cows would fatten for thirty or forty dollars,—which they would,—then the breeders get sixty or seventy dollars clear on a cow, while the raisers of poor mongrel stock get nothing.

So that the thriving farmer will look to milk first, and then to the capacity to take on flesh. A prudent merchant would pay but little for a ship that he could not at some future time repair and make valuable for some other business. So he who purchases a house looks to see if it can be repaired without costing more than it is worth.

By what we have said, it will readily be perceived that your committee are in favour of blood stock for profit.

The next question that arises is, "Among the various blood stock, which is best?" We answer this by saying that each one exceeds the other under certain circumstances. The question then with us is, Which is best for poor, or at least very ordinary pastures? that is, in a few words, which is best for Nantucket?

With good feed, a very ordinary cow may be made a respectable milker. With poor feed, the best cow will utterly fail. The farmer then should first look at his own means of feeding. The Short Horn cow is heavy; it is troublesome to her to travel; she requires thick grass; in fact, she wants to be "up to her knees in clover," and then she will pay most richly, both as a milker and for the butcher. But it would be the height of folly for a farmer who has only poor pastures to buy Short-Horns.

The Ayrshires are lighter on the foot, more nimble, capable of an luring severer winters, and of recuperating readily in the Spring. As milkers, they produce a larger quantity of milk and butter in proportion to the food they eat, than any other of the pure breeds,

Like all other cows, natives as well as pure breeds, they will make poor things on starvation. These, however, will be very good cows, and perhaps the very best, for the thin and meagre pasturage of Nantucket.

The Jerseys have their peculiarities. For richness of milk, and the butter made from it, no pure breed can excel them. Some say that they require more tender care than the Ayrshires, but to breed in with natives that are good milkers, a very superior cow would probably be produced. We say "probably," because no mongrel cow will certainly produce a good milker, however excellent the mother may be. Yet, to cross good natives with any of the pure breeds, the chance of getting a good milker is increased more than fourfold. For poor pastures and hard winters, they are not equal, as it is said by some breeders, to the Ayrshires. Other as reputable breeders, say that no cow exceeds the Jersey in hardness. A farmer, with a herd of Ayrshires or Ayrshire grades, could not do better than to have a Jersey or two to colour and flavour his milk and butter. For a private gentleman, the Jersey is far superior to any other cow.

The Devon is not usually a good milker. The Devon, crossed with our native cow, would be good for a mere stock raiser. For working oxen and the shambles, they are very valuable. Their beef is excellent. No beef is sweeter, and none so well "mixed."

But the best milkers in proportion to their size and food, are graze Ayrshires. A cross obtained from an Ayrshire bull and a pure-bred Short-Horn, produces a stock that for beauty, for the milk-pail, and, at last, to take on fat readily, would be hard to beat. It is almost excellent and profitable stock for Nantucket, if a farmer has good pasture lots for fall feed, and raises roots enough to mess them through the winter.

We have said that care does much to make the cow. Milk is not, as the Scotch have it, all "made through the mouth;" good feeding is not all. To have your cows, whether natives or bloods, do their best, there are certain other requisites.

- 1st. They should have a warm barn.
- 2d. That barn should be cleaned often.
- 3d. The cows should be fed regularly; that is, at regular hours.
- 4th. They should be milked and managed with all gentleness.
- 5th. They should never be forced to remain out in the cold, or starve.
- 6th. They should be "carried" every morning.
- 7th. They should be milked dry every time, and by a milker that milks quickly, but tenderly.

The Quality of Milk.

It has been remarked by Leibig, that cows being driven long distances to pasture, unless they get an extra supply of food, yield milk poor in cassin or cheesy matter—the materials which would otherwise have formed that constituent of the milk, being used in repairing the waste of the muscles, and other parts employed in locomotion. This fact is lost sight of by many farmers. Herds that are compelled to travel a long distance for water, or which are occupied a considerable portion of the day in getting a supply of food, yield less milk and of a poorer quality than when they can fill themselves quickly, and lie down to rest and manufacture their food into milk. In administering food to milch cows, the first consideration should be the maintenance of a healthy, robust condition. That secured, the increase and improvement of their milk may be realized by paying due attention, in securing quiet among the herds, and supplying the requisite food from which good milk may be realized.

In the milk of each cow, in the urine, and in the bones of each calf reared and sold off, Prof. Johnson estimates that a farm parts with as much earthy phosphates as is contained in fifty-six pounds of bone dust. It is evident that on old dairy farms we cannot continue to rob the soil of this material, without sustaining serious losses. Levi Bartlett, of Warner, N. H., a gentleman well known in the agricultural world, writes me that cows, running in the old pastures of that vicinity, are terribly afflicted with bone disease in consequence of the exhaustion of phosphates in the soil. In some parts of Cheshire, England, the most wonderful effects have been produced in increasing the quantity and improving the supply of milk, by the application of bone dust to the dairy pastures, and there cannot be a question but that bone manure could be employed here with the best results. All these are matters which must soon occupy the earnest attention of dairymen in the old dairy districts. It will be well if we shall be able to provide against the future by immediate action, and thus make sure of one of the most lucrative and prosperous callings in which the farmers of the grazing districts can engage.—*Ohio Farmer.*

## Sheep Husbandry.

### Flukes and Scab in Sheep.

To the Editor of THE CANADA FARMER.

Sir,—It has long been suspected, and is now generally believed, by Zoologists, that the "rot" in sheep is caused by the *Distoma Hepatica* (209 species are known), sometimes called a "fluke," from its shape, found in the livers of sheep and other domestic animals, also even in that of man. It is from half an inch to over an inch in length, oval in form, but pointed at both extremities. From the fact that sheep never contract the "rot," and, of course, the *Distoma*, in dry but do in wet pastures, it is surmised that the germs of this parasite exist in the water, or on the grass, of wet or marshy land, and find their way into the stomachs of domestic animals with the grass eaten or the water drunk, and into that of man from eating raw vegetables.

The larvæ, being so small as not to be visible with the naked eye, finds its way into the blood, and is finally deposited in the ducts of the liver, where it speedily becomes a "fluke." Their power of reproduction is immense, over a thousand being seen in a single liver. These creatures are bisexual, and their mode of multiplication is therefore similar to that of other creatures of both sexes, but different from that of the tape-worm in the first phase of its existence, which is, by division, similar to that of creatures of the lowest scale of animal existence. It has been observed that *graminivorous* animals are subject to the *Distoma*, while the *carnivorous* are liable to the tape-worm, in its perfect form, getting it from their prey: thus, the mouse is the nurse of the tape-worm of the cat, while the garden-snail is that of the pigeon.

Not having seen any cases of sheep diseased with the "scab," I am not acquainted with its appearance, but presume that it is the same as the *Mange* (*Scabies Ferina*) itch, which affects nearly all our domestic animals, especially the horse, sheep, dog and cow. If such is not the case it is likely to be allied to it, and the cause then, will be due to an insect, something similar to the itch insect of man.

Your article on the "Pros and Cons of Sheep Washing," suggested to me the subjects of this communication. In the article referred to, "rot" and "scab" in sheep, being apt to contaminate the whole flock, in the wash-pool or on the way leading to it, appeared as objections to the use of a public washing place. If the hypothesis that the "rot" is caused by the *Distoma* be correct, and it is very probable, since all sheep, whose livers are badly diseased with it, are found to have the "rot," although a few healthy ones have been seen, whose livers contained a few "flukes," and, as far as I am aware, no sheep diseased with the "rot" was free from the *Distoma*; it is impossible for them to contract the disease, by merely walking over the road leading to the pool, or being washed, unless they eat of the grass or manage to swallow some of the water, both of which are improbable. With the "scab" (if it is the same or similar to the *Mange*), it is different; this is communicated by contact, or might by using the same water, as the cause of the disease is, as above stated, an insect. By washing in a stream of water danger will be obviated.

Besides losing the "yolk" which may be employed as manure, as you stated, a solution of it in hot water has a very peculiar property of dissolving grease stains, and other impurities, from all kinds of woven textures, without in the least destroying the colour, but will, in a measure, restore it, and is believed to act as a mordant in fixing the colour. Two or three fleeces put in two pailsful of boiling water, will make a pretty strong solution, to be heated for use, and the garments afterwards to be thoroughly rinsed in clean water, no soap need be used.

J. McD.

South Finch Co., Stormont.

NOTE BY ED. C. F.—The disease spoken of in the article alluded to by our correspondent is *hoof-rot*, while that of which he states the theory correctly enough, is *rot*;—an entirely distinct complaint. Fortunately the latter is scarcely known to flock-masters in the northern portion of this continent, at least; and is believed not to be contagious. Hoof-rot, on the contrary, is decidedly and uniformly contagious; and is believed to be communicated by a species of inoculation—by the virus of a diseased foot being brought in contact with the inner portion of an undiseased foot. Experienced flock-masters, however, find no difficulty in effecting a perfect cure of hoof-rot, by the timely use of the knife and the cautery, upon the hoof affected.

### Foot Rot in Sheep.

A CORRESPONDENT of the *Genesee Farmer*, writes to know how to cure foot rot in sheep. John Johnston, to whom we sent the enquiry, kindly replies as follows: "Foot rot in sheep can be thoroughly cured by thorough paring of all the hoof from the diseased part, and applying a salve made of pulverized blue vitriol mixed with lard, butter, or any other grease. If hot weather a little tar added to the mixture is an improvement. Those sheep that are diseased must be separated from the sound at the first dressing, but the sound must have salve applied to their feet, else some of them will become lame in a short time. The diseased ones should be dressed over again in a few days, say three or four, every foot being closely examined. See that no part of the hoof has been left covering the sore. The sound ones should be dressed over again in about a week from the first dressing, or sooner if any are seen lame. About three dressings in that way will generally effect a cure, if the paring has been thorough. It requires thorough work to eradicate that disease, but I know from experience that it can be done in the way I state. But if the land is wet where they pasture, or land that retains water on or near the surface for days after it rains, it is very difficult to keep the sheep sound in the feet."—*Genesee Farmer*.

## Poultry Yard.

### Chickenhood.

A SERIES of capital articles has lately appeared, in the *Scottish Farmer*, on the management of chickens, a brief digest of which we herewith commend to the careful attention of our enterprising and thrifty housewives. The writer very appropriately introduces his subject by urging the prime importance of breeding only from fowls which are likely to combine, in their progeny, the marks of excellence especially sought for. In purchasing eggs for hatching, the prudent course is to apply only to such stockholders as can be trusted, and who are too sensible to spoil their market by cheating the uninitiated.

In speaking of the interest which attaches to the supervision of newly hatched chickens, the writer has the following genial remarks:

In health, warmth, and plenty, what more captivating sight than a large brood of chickens! The promising juvenile fancier, by his or her early and oft repeated visits, proves how much admired the sweet, nimble, and playful little favourites are. The animated appeals to older bystanders to watch their restless movements and happy activity, as well as the hearty shouts of laughter excited by their odd tricks, permit us no longer to wonder at the earnest entreaty of Johnnie or Nettie to be allowed to go with papa or mamma to feed the wee chickies, and as a special favour to carry their breakfast. The chicken-coop is a source of pure enjoyment to an observant child, and if the inmates are in proper condition they can do no harm either to the health or spirits of grown up people."

The first, and for several weeks the uninterrupted requirement of chickens is warmth, without which all other care is in vain. Exposure to a chill, for a brief space immediately after hatching, is death, and for some weeks after, cold is a serious hindrance to digestion, feathering, and growth. A steady mother will stick closely to her nest, till the second or third day after hatching; and there need be no anxiety about food or water during the first twenty-four hours, as warmth alone is required. For some weeks after the mother leaves the nest, she should be cooped up within narrow limits; but after the chickens are from twelve to fourteen days old, she should be let out to take a stroll of twenty minutes length. This recreation should never be permitted when it rains, or when the ground and grass are wet. The first meal of a chicken is properly oatmeal slightly slaked with water. The sounder the meal the better, and the yolk of a hard-boiled egg may be added to it with advantage. After the second week, broken grain may be given in moderate quantities as a separate meal; but it is advisable to continue the egg mixture, putting in the white as well as the yolk. Wheat is not suitable food for chickens: it fattens too rapidly and tends to roup.

Like their seniors, chickens are fond of grass and most of our common vegetables, and should have a supply cut small for them when very young; but when they are a few weeks old they delight to help themselves. They must have water constantly supplied to them in a shallow vessel, or, if one is used deep enough to drown a chick, let it be filled up with clean stones far enough to prevent this. If the slightest appearance of parasites be observed about the mother, in consequence of the weather preventing her from using the dust bath, dust a little sulphur among her feathers, particularly under her wings and over the lower parts of her body. Chickens and vermin cannot both thrive together; but care must be taken not to over-do this, and if a dust-bath can be formed under cover, the brimstone, in the majority of cases, may be dispensed with.

Do not treat them to a roost till ten or twelve weeks old. Of all chickens, we cannot in their first months see with certainty the excellencies of their respective points, and, looking to competition, we must keep all on till we are quite sure of the best. Of course, of the larger breeds, as Cochin, Brahmas, Dorkings, a very early comparative estimate may be made and rich feeding may be begun to push forward the lumps to astonish the visitors of exhibitions. The young giant must indeed, to succeed, have his oil, his gravy, his beef, and even his glass of ale or wine; and to make a frame whereon to support his flesh, do not withhold from him a feast of crushed bones in his tender years! Other breeds need not be so pampered, yet early maturity and richness of plumage may be much aided by considerate extra attention to those specimens on which the future honours of the exhibition-room depend. By all means keep them in good cheer; separate the sexes; and if the slightest tendency to pugnacity among the cockerels be observed, separate them also, and at once."

It will be convenient to effect this separation when, at most, the chickens have reached the fourth or fifth month of their age, by having a sparrow run for the cockerels, and for the pullets also, if space permit, although the latter can be, with little harm, distributed among the runs of the adult fowl.

The cockerels must not, for one day be so allocated. The first blast from the stripling's clarion in presence of a veteran ruler will be answered by the notes of war. If the slightest air of defiance is shown by the juvenile intruder to his superior, the rush of battle succeeds, and unless an early and safe flight is effected, the sharp spur of the mature pugilist is ruthlessly driven into the tender flesh of his unfortunate antagonist. If the chicken has been foolhardy enough to resist, it will be hopeless to live in his new home and thrive. He has only to make his appearance to be insulted before the ladies of the establishment; he will be hunted up often to be persecuted, and in his miserable flight, he may have to suffer the crushing indignity of being beaten by the hens.

Under these circumstances it is, of course, impossible for a young bird to fatten, or feather, or become robust in constitution. In farm yards where there is ample scope for all the stock, and abundant retreat for the vanquished, separation is less necessary; partial confinement of the pugnacious members being generally sufficient to keep peace.

"If the confinement be for a day or two, however, in cases where the battle has been all but drawn, the cure is only an inebriate form of the disease, as every renewed meeting will be more terrible than the preceding one. Hence, where more cocks or cockerels than one run together, and are not meant to be separated, our advice is to let the battle be decisive and the sad plight of the combatants at the end of the bloody fray will be well compensated by a lasting peace."

In cases of sanguinary frays like the above, if the plumage is much besmeared, it is better not to wash it; for when blood is left to dry, it hardly ever penetrates the downy under-part of the neck feathers; whereas, when it is washed it is soaked right in to the bird's skin, destroying its appearance, very frequently, for a whole season.

Of course, for a stock kept only for eggs and the table, the demands of the market and home consumption afford an easy and ready remedy, but even to the owners of such stock we say, do not, if you want to keep up the usual supply of eggs, and save the plumage and health of your hens, be slow to apply it; and the moment the cockerels become impudently mischievous, sweep off all you do not intend to keep permanently. If you fail to follow this advice, please do not fret at seeing your cockerels knocking one another, as well as the unoffending hens, to pieces, and bear with resignation the evil you have taken no means to prevent."

## What is Pure Breed?

A considerable amount of nonsense finds its way into type, respecting what are termed pure breeds of domestic animals. Such questions as the following are constantly asked: "Are Brahmas a pure breed?" "Are Black Hamburgs a pure breed?" &c., &c. These queries obviously owe their origin to a confusion of the distinction that exists between different animals, and between different varieties of the same animal. Let us illustrate our meaning by an example or two.

A hare is a pure-bred animal, because it is totally distinct from all other animals, or, as naturalists say, it constitutes a distinct species. It does not breed with other animals, for the so-called leporines are only large rabbits; and if it did, the offspring would be a hybrid or raze, and almost certainly sterile or incapable of breeding. In the same manner the common wild rabbit is a pure breed. This animal possesses the capability of being domesticated, and, under the new circumstances in which it is placed, it varies in size, form, and colour, from the original stock. By careful selection of these varieties, and breeding from those individuals which show most strongly the points or qualities desired, certain varieties, or as they are termed, breeds of rabbits, are produced and perpetuated. Thus we have alterations in the length of the ears, in the colour of the fur, in the size of the animals, and so on. It is obvious that by care, more new varieties may be produced and perpetuated. Thus, by mating Silver-greys of different depths of colour, a white animal with black extremities is often produced, and has been perpetuated by mating them together. Now, in the strict sense of the word, no particular variety of rabbit can be said to be a pure breed, as, like all the others, it is descended from the wild original. In the same manner, we may deny the applicability of the term pure breed to the varieties of any domesticated animal, even if, as in the case of the dog or sheep, we do not know the original from which they descended.

All that can be asserted of the so-called purest bred variety is that it has been reared for a number of years or generations without a cross with any other variety. But it should be remembered that every variety has been reared by careful artificial selection either from the original stock or from other varieties.

In the strict sense of the word, then, there is no such thing as an absolutely pure breed—the term is only comparatively true. We may term the Spanish fowl a pure breed, because it has existed a long period, and obviously could not be improved by crossing with any other known variety; in fact, its origin as a variety is not known. But many of our domesticated birds have a much more recent origin. Where were Game Bantams fifty years ago? The variety did not exist. They have been made by two modes: breeding game to reduce the size, and then crossing the small game fowl so obtained with Bantams. Yet Game Bantams, as at present shown, have quite as good a claim to the title of a pure breed as any other variety. In fact, every variety may be called a pure breed that reproduces its own likeness true to form and colour.

The statement that Brahmas, Black Hamburgs, Porkings, &c., as pure breeds is meaningless. If it is intended to imply anything more than that they will reproduce their like, which a mongrel cross between two distinct varieties cannot be depended on doing. There is no doubt but that many of our varieties have been improved by crossing with others. The cross of the bulldog, thrown in and bred out again, has given stamina to the greyhound. And although generally denied, there is no doubt but that the Cochin has in many cases been employed to give size to the dorking. In the same manner new permanent varieties of pigeons are often produced, generally coming to us from Germany, in which country the fanciers are much more experimental than in England, where they adhere to the old breeds with a true John Bull or bulldog-like tenacity.—*The Field*.

**THE BRAHMA FOWLS.**—We think the Brahmas (especially the dark), are the coming fowls, and well worthy the attention of poultry-rearers this spring. To those who do not wish to part with their barn-door hens, we commend the following.—A Brahma cock of ours was sent to a cottage with barn-door fowls last summer. Some eggs were set. The produce turned out to be uncommonly good-looking—and they laid all through the winter, when eggs were selling at 1s.4d. a dozen, and common hens were laying none. They also became "clockers" or sitters a week or two ago, when all in our part of the country were in search of hens for setting, and could not obtain them.

If any one wishes a nice-looking, useful hen, we have seen nothing that we can recommend so much as a cross between a Brahma cock and common barn-door fowl.—*Scottish Farmer*.

## The Apiary.

### Bees do not Injure Delicate Fruit.

I having been asked by several members of the Cincinnati Horticultural Society that bees seriously injure grapes and other delicate fruits, a committee was appointed to investigate the subject. In answer to a call upon him, Mr. DANIEL GARD of Cincinnati, writes as follows:

In response to the request for my opinion as to the benefit or injury arising from the honey bee being kept near vineyards and fruit gardens, and if the honey bee punctures the grape and other delicate fruits, I must admit I once entertained the erroneous idea, derived from the opinion and prejudice of others—that bees were injurious to grape culture and wine making. I have, however, long since changed that opinion, and now, from a knowledge of facts, observation and experience (having several colonies of bees), I believe bees do not—can not, puncture fruit, they having only a tongue or proboscis with which they suck nectar and gather their food. (For an illustration of this fact, see a magnified representation in Langstroth's most valuable practical treatise on the "Hive and Honey Bee," page 217.)

In times of scarcity of other food they avail themselves of the work of wasps and other insects, that cut and puncture the ripe, tender, juicy fruit.

My vineyard and wine press are very near my bees, and I have not lost or been annoyed by their depredations, but I have by wasps, hornets and yellow jackets.

Bee keeping, and a study of their wonderful sagacity, nature and peculiar habits, are very interesting, and should be regarded as an intellectual department of rural economy, and properly managed, may be a source of remunerative profit. Bees agitate and carry pollen from flower to flower, and thus promote fecundity and improvement of fruits and flowers, and very properly deserve the attention of our valuable institution, the Horticultural Society.

I observed last season—the most disastrous to bees I ever experienced—the white clover, a principal bee feed, and for best honey, disappeared. I believe from drouth, and more speargrass appeared in lawns and meadows than before. The locust blossoms, a very important support of bees, and for honey, only partially opened and dropped from the trees before expanding. So this year, now the white clover is abundant, and springs up after the speargrass is cut. The bees swarm late, but are now encouraged, and gather and store beautiful white honey very fast. It seems, from instinct, they knew they could not support an increase, and did not. I saw no drones. The male bees—that do not work—and even old colonies, as well as those imprudently divided, had to be fed at great expense, or perished.

It would be profitable to introduce for bee pasture the Dutch white clover, a medium size between our common white and larger red clover, that affords greater quantity of nectar, but cannot be reached by the tongue or proboscis of the common bee. I have sowed some this spring as an experiment.—*Country Gentleman*.

## The Household.

### Fault-finding with Children.

Mrs. H. B. Stowe, in the *Atlantic Monthly*, thus exposes this common mistake. Children are more hurt by indiscriminate, thoughtless fault-finding than by any other one thing. Often a child has all the sensitiveness and all the susceptibility of a grown person, added to the faults of childhood. Nothing about him is right as yet; he is immature and faulty at all points, and everybody feels at perfect liberty to criticize him to right and left, above and below, till he takes refuge in callous hardness or irritable moroseness.

"A bright, noisy boy rushes in from school, eager to tell his mother something he has on his heart, and Number One cries out—'Oh, you've left the door open! I do wish you wouldn't always leave the door open! And do look at the mud on your shoes! How many times must I tell you to wipe your feet?'—'Now there you've thrown your cap on the sofa, again. Where will you learn to hang it up?'—'Don't put your slate there; that isn't the place for it.'—'How dirty your hands are! What have you been doing?'—'Don't sit in that chair; you break the springs, bouncing.'—'Mercy! how your hair looks! Do go up-stairs and comb it.'—'There, if you haven't torn the braid all off your coat! Dear me, what a boy!'—'Don't speak so loud; your voice goes through my

head.'—'I want to know, Jim, if it was you that broke up that barrel that I have been saving for brown flour.'—'I believe it was you, Jim, that hacked the side of my razor.'—'Jim's been writing at my desk, and blotted three sheets of the best paper.'—Now, the question is, if any of the grown people of the family had to run the gauntlet of a string of criticisms on themselves equally true as those that saintly unlucky Jim, would they be any better natured about it than he is? No, but they are grown up people, they have rights that others are bound to respect. Everybody cannot tell them exactly what he thinks about everything they do. If every one did, would there not be terrible reactions?"

## Cool Water.

At this season of the year a cool draught of water is a luxury which we may enjoy with a little care.—By the following method, simple and inexpensive, water may be kept almost as cold as ice. Let the jar, pitcher, or vessel used for water, be surrounded with one or more folds of coarse cotton, to be constantly wet; the evaporation of the water will carry off the heat from the inside, and reduce it to a low temperature. In India and other tropical countries where ice cannot be procured, this expedient is common. Let every mechanic and laborer have at the place of his work two pitchers thus provided, and with lids or covers, one to contain fresh water for the evaporation, and he can always have a supply of cold water in warm weather. Any person may test this by dipping a finger in water and holding it in the air on a warm day; after doing this three or four times, he will find his finger uncomfortably cool. This plan will save the bill for ice, besides being more healthful. The free use of ice water often produces derangement of the internal organs, which, we conceive is due to a property of the water, independent of its coldness.—*Maine Farmer*.

**IRON DISH CLOTH—IRON CLOTHES LINE.**—Like yourself and your "Constant Reader," I was once so ill-informed of the progress of the fine arts as not to know what an iron dishcloth was. But seeing one in use at the house of a friend, I learned from a young Swiss gentleman, who had presented it to her, that they were in general use in his native country, and he had accidentally seen a cask full at an importer's, which were un-saleable in New York, and had become rusty, and looked upon as old iron. I procured a dozen and distributed them among my friends. They soon became bright from use, and are universally classed among the articles which we wonder how we ever did without. These are made of rings of iron wire, No. 15, linked together, and are about six inches square. I counted fifteen rings on one edge. One outside row of rings is only connected with the other at each end and an inch or two in the middle, which makes two in the middle, and forms two loops to hang it up by. Every kitchen maid who has scoured the inside or outside of a kettle with it, pronounces it better than scraping with a knife or scouring with cloth and sand. They are very flexible and I imagine must be like chain armor, which I have read of, but never seen. We also find it useful to put under a pot, or kettle hot from the stove, when we wish to place them on a table. We have used ours two years.

There is another iron convenience I have used six years, and which is as good as ever, that I would recommend to housekeepers—galvanized iron, telegraph wire for clothes lines. It never rusts, need never be taken in, never breaks down and lets the clothes fall to the ground and have to be rinsed again. I hope my experience may be of some use to your readers, and to your paper. I feel much indebted for valuable information on various subjects.—*M. S. T. in Country Gentleman*.

**FURNITURE VARNISH.**—A correspondent says, when black walnut or mahogany-coloured furniture becomes discoloured or damaged, any one may, at a very small cost, "shine it up," like new. Provide a few cents worth of burnt amber and Indian red. For mahogany colour, mix Indian red with copal varnish till the right colour is secured; thin with benzine, and add a little boiled linseed oil if it dries faster than desirable. For black walnut colour, mix both pigments in such proportion as is necessary.—*American Agriculturist*.

**DANGEROUS LAMP OILS.**—The following is suggested as an infallible method of detecting dangerous lamp oils.—Take two teaspoonfuls of boiling water and one of cold, mix together in a small basin, dip out a cupful of the mixture, and pour in its place a teaspoonful of the oil to be tested. Apply a blaze, and the dangerous oil, if those capable of igniting below 120°, will immediately take fire. Others will not ignite.—*Prairie Farmer*.





## A String of Questions.

To the Editor of THE CANADA FARMER.

SIR,—Will you, or some of your correspondents, inform me the reason why, out of the 24 fowls I have, nearly all have crooked breast bones? Especially are the Brahmas deformed in this manner; and some turkeys that I raised had the same peculiarity as the fowls. Is this owing to thin roosts, or to crowding them together at night, or is it natural with some fowls? My roosts are an inch and a half, or two inches thick for the larger birds, and proportionally smaller for the lesser ones, and are arranged like a ladder to the ground. I saw in one of the late numbers of THE FARMER, an article on poultry and poultry-houses, in which it was stated that the perches ought to be 4 inches in diameter. I always thought the roosts should be of such a size that the fowls could grasp them and put their claws around them, which they could not if they were 13 inches in circumference. But, following the directions of your correspondent, I have made the perches as he directs, and if the deformity of crooked breasts is owing to narrow roosts, it will be obviated in the rising generation. Will you please answer these, and the following questions, in THE CANADA FARMER? What is the fee to enter fowls for competition for prizes in the Provincial Exhibition; or do you become a member of the society, and entitled to compete in all the different branches of the fair for prizes, by paying so much yearly; and does this payment give the payer and family a ticket for the exhibition? And how are the prizes awarded to poultry? Is it by the appearance of the fowl or by the weight? And if by weight, how much did the largest cock of any breed weigh at the last Provincial Exhibition? And can you inform me anything about the everlasting layers; whether they are as profitable as represented in an article, in a number of THE FARMER some time ago, by a Mr. G. Clark, who stated that he had some, and that they layed 232 eggs a piece in one year? I wrote to this person, wishing if possible to procure so valuable a breed, but there was no answer. I enclosed a postage stamp, so it was not for that reason.

A SUBSCRIBER.

NOTE BY ED. C. F.—Probably some of our correspondents may be able to furnish an explanation of the crooked breast bones in your fowls. The entrance fee of the Provincial Exhibition is one dollar. This payment qualifies you to compete in any, or all, of the prize classes, but does not entitle your family to a free entrance to the exhibition. Prizes are awarded to fowls, as in other classes, by the greatest number of excellent points, in the respective breed. We know nothing of the "everlasting layers" beyond the assertions contained in the communication, to which our correspondent refers.

## Farmers' Club and Debating Society.

To the Editor of THE CANADA FARMER:

SIR,—During the long Canadian winter, our farmers are often sadly in want of some occupation with which to amuse themselves of an evening. I do not think that they could find a better source both of amusement and profit, than by the formation of a "Farmers' Club and Debating Society." Union is strength, is an axiom very applicable to the farming community in general. Such a debating society would be highly instrumental in bringing about a mutual exchange of opinions, and results of various experiments. I have often heard farmers remark, that knowledge gained by the perusal of works on agriculture is of little or no use to the practical farmer; but surely no man with any respect, either for his own opinions or those of his neighbours, can

say this of the mutual and verbal exchange of opinions, which would accrue from the formation of such a society. There we should have the ideas of all, of the old-fashioned practical farmer, as of the agriculturist fresh from the field of experimental science.

Each man would have his own theories to advance, hear the criticism of his neighbours, and go to his home a wiser man, and a better farmer. The person of least note has often ideas to advance, altogether unknown to his wealthier neighbour. Again, each man takes an especial interest in some particular kind of crops. We have our grain growers, others who cultivate roots largely, and our great stock breeders. To the man who pursues a system of mixed agriculture, each of these subjects would have its especial interest. Here we should learn the practical experience of others, the results of different rotations, manures, and experiments. I have always looked upon THE CANADA FARMER as an example of an epistolary debating society. Every man has a chance of expressing his own opinions, or of passing comments upon the opinions of others. It was very justly remarked in a letter to the above paper, by R. W. S., that "hints are often obtained in a very short paragraph, which are alone worth a year's subscription." This remark is equally applicable to the debating society. The slightest opinion from the most humble member is often of immense worth.

Not only does it work in this way to the good of the farmer, but it is a source of amusement and profit, a social gathering of neighbours, and a great incentive to mutual respect and friendly relationship between farmers.

I hope, Sir, that some well known farmer will try the experiment, and I am sure that you will agree with me when I say, that he will never regret the time and interest that he may have taken in the organization of a Farmers' Club and Debating Society.

OLD COUNTRYMAN.

Glanford, June 7, 1865.

"WO GEE NEDDY."—The lines submitted are not suited to our columns.

"THE CANADIAN BEE-KEEPERS' "GUIDE."—We are requested to correct a statement made in our last, in reference to this new publication, to the effect that "Orders may be sent, post-paid, to J. H. Thomas, Brooklin." To secure prompt attention, in all cases, orders must be addressed to "J. H. Thomas & Bros., Brooklin."

BLACK POLAND FOWLS.—S. Luscombe, jun. of Simcoe, enquires where he can "get a pair of pure black Poland fowls, and at what price? They must be pure bred, with black bodies and white top-knot."

ANS.—We cannot answer the queries. Probably some of our correspondents can.

COMMUNICATION ACKNOWLEDGED.—We tender our best thanks to Mr. Fisher for his communication on the "Apple Tree Caterpillar"; but as our illustrated article on the same subject, at p. 237, Vol. I, is almost identical in its contents with his, we do not see that it would be advisable to travel the same ground again so soon. In the meantime we shall be glad to hear from him on some other topic.

"HARD TO BEAT."—T. H. Hall, of Cedar Grove, sends us the following communication, with the title that we have prefixed. We should say it was *hard to do*, as well as "hard to beat!" "Mr. John Bear, of the Township of Scarborough, has a cow that had seven calves within eleven months; the next time she had three, making, in all, ten calves in less than twenty-six months."

STUMP MACHINE.—"Rusticus" writes ancient this subject as follows: "I have seen stumps taken out by a hand machine. It takes two men to work it, and they can carry it from stump to stump, but it is a slow way of getting the work done. For myself, I should not be bothered with it. You have to hitch to a root on one side of the stump, and wind it up a foot or so, and prop it there, then move the machine round to the other side, and lift that up, and so on, till you get it above the level of the ground. The

one I saw was made by Frost & Wood, of Smith's Falls, and the price is \$40."

CANADIAN ORNITHOLOGY AND THE CANADA FARMER.—On these subjects "D. L. M.," of Coeltenham writes as follows: "Your correspondent, 'N. A. P.' desires to know if there is a work on Canadian birds and their eggs. I was not aware till this summer that there was such a suitable one as 'Nuttall's Ornithology of the United States and Canada.' Shooting birds for the purpose of stuffing, I found even the minutest warblers, with their nests, eggs, &c., accurately described, thus furnishing me with their names, habits, &c. I am happy to see that we have now an Agricultural paper equal, if not superior—superior, at least, for Canadians—to any American Paper, and that it is rapidly superseding the use of all such in Canada. THE CANADA FARMER seems to be highly appreciated in this neighbourhood, if we may judge by the number coming to this office."

CROP PROSPECTS IN THE OTTAWA VALLEY.—"Rusticus" sends us the following communication on this subject: "The fall wheat looks very promising. I have not seen a yard winter killed, but unfortunately the fields of that grain are few and far between, for lately we have looked upon fall wheat as a very uncertain crop, and consequently the farmers are very cautious about sowing it. According to the census of 1861, this County grew more wheat than any in Canada, but it was principally spring wheat, and for the last few years that has failed so much, that many have given it up and grown barley, corn, &c., instead. Last year, however, there was an average crop, so this year we are expecting a "turn of luck" in our favour. Flax is not cultivated here yet to any extent, there being no flax mills in the vicinity. The spring grain looks very well; we have frequent showers that promise to give us more than average crops this season. As the result of an experiment, I wish to say that last May I sowed a small quantity of Alsiko clover with Timothy. I sowed it thick, and marked the ground it was upon. The same day I sowed the remainder of the field with the common red clover of the late kind, and the result is that the common clover all grew, and the Alsiko all failed."

THE RIDGE AND FURROW SYSTEM.—A Belleville correspondent writes us a long communication, strongly condemnatory of the opinions expressed in an extract, published among our "British Gleanings," on the above subject, in our issue of June 1st. He assumes the address, of which the extract formed a part, to have been directed to Canadian agriculture. "With us," he says, "the land is generally undrained, and tillage processes have not reached that stage of perfection that they have in England;" and from this stand point he forthwith proceeds to disprove the statements of the lecturer. If our correspondent refers to the extract again, he will see that it is premised, first and foremost, that allusion is made only to thoroughly drained land; and that, therefore, his communication does not touch a single position of the case in dispute.

CROPS IN HOPE.—"Merrimac" reports on crop prospects in his neighbourhood as follows:—"The crops in this township, are all looking extremely well; but at one time it was feared that the drouth would severely injure the late sown grain. The heavy rain storm that visited this part of the country on the 17th of May, beat the ground down so very hard, that any length of dry weather would seriously affect the grain crops. Within the last ten days we have had several refreshing showers, which have started crops forward with astonishing rapidity. The crop of clover will be a heavy one; fall wheat never looked better at this time of year than it does at present. Spring wheat, barley, peas, oats, and corn, are all looking remarkably well. The sales of horses, cows, and fat cattle, and the good prices realized for wool, together with the prospect of a fine harvest, have given our farmers cheerful countenances, if not plethoric pockets."

**HORSE HOO FOR TURNIPS.**—"J. N.," of Springwood communicates the following. "In your issue of June 1st, 'A Subscriber' enquires for a horse hoo for turnips. I have seen a great number of these implements both at exhibitions and in use, and have paid some attention to them. I consider there is no better one than that manufactured by Messrs. Mills & Melvin at the Wellington Foundry, Guelph. The advantage it has over all others is, that by changing sides with the side teeth, it will put the soil to, or take it from the crop; so that it will work equally well in turnips, potatoes, corn, or any other hood crop. The price is \$9. I have used a similar hoo for several years, and can safely recommend it. There is no harrow connected with it; nor is it necessary. The harrows used with these implements are useless affairs, as I have heard those say who have used them. There is not room enough between turnip drills for a harrow of any size to work, to do any good; and then the handles have to be so much longer that they are unhandy."

**YEAST FOR WARM WEATHER.**—"J. W. C.," thinking that some of our readers "may have a good deal of trouble in keeping their yeast good in hot weather," kindly sends us the following useful recipe. After it is prepared, the yeast should be kept moderately cool and perfectly dry; and, with these precautions, it will keep good, our correspondent says, during three months of the warmest weather. "Boil, say on Monday morning, two ounces of good hops in four quarts of water, for half an hour. Strain, and let the liquor cool down to the warmth of new milk; then add a small handful of salt, and half a pound of sugar. Beat up one pound of good flour with some of the liquor, then mix well all together. On Wednesday add three pounds of potatoes, boiled and mashed. Let the mixture stand till Thursday, then strain and bottle, and it is ready for use. While making, it must be kept warm, and stirred frequently. Always shake the bottle well before using it. The excellency of this yeast is that it ferments spontaneously, not requiring the aid of other yeast; and if care be taken to let it ferment well while making, you may cork it up tight when bottled."

**WHY DID THE BEES LEAVE THE HIVE?**—"F. G. Ashbaugh," of Harrisburg, writes as follows:—"I want some information concerning a swarm of bees which came to my place on the 17th of May. They left their hive, after staying in it since last summer, and went about half a mile, and settled in a currant bush in my garden. I lived them, and they appear to be doing well, although they are a small swarm. I have bees, and some thought that my bees robbed my neighbours, for there was no honey left in his hive."

**ANS.**—We submitted your letter to Mr. J. H. Thomas, of Brooklyn—one of our most skilful Canadian apiarists—and the consequent delay rendered it too late for insertion in our last issue. Mr. Thomas says:—"The bees left the hive because there was no honey in it. They may have consumed nearly all of it through the winter; and when breeding commenced, the small portion left would soon be exhausted. As the swarm was small, a sufficient number of the bees could not be spared from nursing the brood, to go abroad and gather food for the wants of the hive. Hence they left, and would probably have joined some other stock."

**WHY DON'T THEY ADVERTISE?**—"W. P.," Port Hope, writes as follows:—"I see from a recent number of THE CANADA FARMER that you recommend Todd's Young Farmer's Manual and Workshop (now edition). Have you a copy of this work to spare, or can you inform me where I can obtain it in Toronto? I prefer not writing to the States, for on two or three occasions I have had to wait a long time for books from there. Farmers living at a distance from Toronto and Montreal suffer no little inconvenience in not being able to get either a book or a tool such as they may desire, at any of the small towns. I prefer Ames' shovels, spades, and hoes to anything of the kind made in Canada. Not because they are American, for I am an Englishman, and my prejudices are

not in that direction. It is strange that some one in Toronto don't keep these choice books and tools and advertise them in THE CANADA FARMER."

**ANS.**—Todd's Manual is kept in stock by James Bain, bookseller, of this city, who will forward it to any address in Canada, post free, on receipt of \$1.50. With regard to useful agricultural books and tools, we think our store-keepers would do well to take the hint offered by our correspondent, and advertise them in our columns.

**PEACH SHOOTS WINTER KILLED.**—"A. F.," of Pakenham, writes as follows:—"In the spring of 1864 I procured from the Hamilton Nursery a few peach trees, which were planted in suitable soil in a sheltered position, having a southern aspect. They grew nicely all summer, and looked healthy in the fall—they were protected during the winter with matting, but next spring the wood made the previous year was dead. I was advised to cut them off about a foot above the graft; and they have now sent off lots of vigorous shoots from the stumps. Now, I want to know from you or some of your many readers, when the proper season comes round, if they could be budded on the plum, as I have plenty of young thriving native plum trees in the garden; and whether peaches could be grown in this locality with any prospect of their maturity; also the cause of failure in the first instance, and the best mode of protection in winter?"

**ANS.**—The young wood made by your trees last summer was too vigorous and spongy, and not being sufficiently ripened before winter the frost destroyed it. The peach is frequently successfully budded on plum stocks, and the slower growth of the latter tends to check the rapid growth of the peach, and renders the production of fruit earlier and more certain. In the meantime it would be advisable for you to remove the lateral shoots as they appear, in the present season's growth of your peaches. This precaution renders the wood harder, and therefore more likely to endure the winter.

## The Canada Farmer.

TORONTO, UPPER CANADA, JULY 1, 1865.

### The Aeration of the Soil.

The modern practice of underground draining by pipes, or any other form of open conduits, is well known to be among the most efficient means of permanently improving the soil. The chief value of the process consists in allowing a ready exit to stagnant water, thereby drying the ground, raising its temperature, and facilitating the operations of deep and thorough culture, by means of which the roots of plants can diffuse themselves through the soil, in search of food. But there is another, and by no means unimportant view of the effects of drainage, which is seldom understood or adequately appreciated, viz.: the aeration or ventilation of the soil. The portion of a drain not occupied by water contains atmospheric air, and if both ends of it be kept open a constant current of air will be kept up, having, as has been determined by careful experiment, the most beneficial influences on all cultivated crops.

About four or five years ago, M. Daniel Hooibrenk, a gardener near Vienna, announced in a definite form a new system of culture, stated to be more than any others conducive to the rapid and healthy growth of plants. It simply consists in placing in the earth pipes, or air channels, pierced with holes, which permit the air to penetrate throughout the mass of soil traversed by the roots. The reader will form, from the following condensed summary, some idea of the alleged advantages of M. Hooibrenk's system:—

1. The strongest clay soils, under the influence of currents of air, transmitted through the pipes, are divided by thousands of small fissures, and thus rendered friable, so that roots can easily penetrate them. The depth at which the pipes should be laid depends on the nature and consistence of the soil.

2. After the soil has been aerated by means of the air pipes, the vegetation of plants growing in it becomes more active, especially in the cases of grain crops and vegetables. The roots, finding the soil in a finely divided state, penetrate deeper than usual, and are consequently safe from the vicissitudes of temperature, which take place near the surface.

3. The looseness produced by the circulation of air in the soil causes a rapid absorption of rain water, and prevents caking of the surface. On the other hand, during long continued drouth, the roots, owing to the great depth to which they have penetrated, are not exposed to the drying effects of the external air, and are enabled to obtain a supply of moisture, which they could not do near the surface.

4. The air pipes passing through sour soil causes the sourness to disappear, so that where only bad herbage previously grew the finer grasses can be produced. These good effects are more particularly observed in swampy or marshy ground, which may thus be changed into fertile soil.

5. The soil, being always kept porous by the circulation of the air, can be more easily worked; and from its openness preventing the accumulation of water, cultivation can be commenced earlier in spring.

6. Plants grown on soil thus improved produce a great mass of roots, and consequently, being very strong, they require more space. There is, therefore, no need to sow so thickly as usual, and hence a considerable saving of seed is effected.

7. Manures are much more energetic in their action in soil that is aerated in this way than in that which had not been so treated, the reason of this being, according to M. Hooibrenk, that the aerated soil is more uniformly moist throughout its thickness, and that being the case, the decomposition of the fertilizing substance is more rapid and uniform.

It is claimed for this system that in all cases a much larger return is obtained from the land thus treated, and that in some instances double the usual produce has been returned. This increase soon repays the expense of laying the air pipes. Fruits, especially the vine, ripen earlier and are of a better quality. Careful experiments were made by Messrs Fichner & Son, to test the correctness of this system, the results of which may be epitomised as follows:—

The field in which these experiments were conducted consisted of a bed of loam or sandy clay, from 13 to 16 inches deep, resting on a subsoil of rounded pebble stones, like those in an adjoining brook. On the other side of the field was another brook, about six and a half feet lower. This difference of level, taken in connection with the stony subsoil, made it doubtful at first whether the beneficial action of the air pipes would not be owing to their action as drains in carrying off surplus water. The field contained rather more than an acre and a half, and had been in cultivation since 1852, but yielded only indifferent returns, at most only about six for one of seed. Messrs Fichner placed four air pipes at the depth of three feet across the field. Their internal diameter was nearly 2½ inches. The field thus prepared was divided into a number of beds, at right angles to the direction of the air pipes, and extending to the portion of ground not furnished with the apparatus. Of the four pipes first laid down, two were joined by a communication pipe, and the mouth of one of them opened into the ash pit of a furnace, whilst the other extremity terminated in an air tank, the sides of which were of masonry.

The surface of ground furnished with air drainage was half an acre and twenty-two poles. The furnace at the end of the pipe was intended to show that the atmospheric air could reach the fire by passing through the soil. To prove this the opening at the further extremity of the pipe was completely closed, and also the furnace and ash-pit doors, in such a way that no air could reach the fire to support combustion, except by passing through the soil, under which the pipe leading to the furnace was buried. The fire,

however, burned perfectly, well throughout the day. To burn 10lbs. of wood in 2½ hours would require 8,000 cubic feet of air, and this would have to traverse 108,000 lbs. of soil before it could reach the furnace. A similar circulation, though less active, must take place whenever there is a difference in the temperature of the air in the drains and that of the atmosphere, and from observations that have been made it has been found that a difference of this kind takes place at least once in twenty-four hours. M. Jaeger remarks that wherever a furnace exists, its fire may be usefully employed in fertilizing, by means of air tubes, the adjoining grounds; and that gardeners might thus make good use of their hot-house furnaces, for improving borders and other parts of their gardens.

The advantageous action of the atmospheric air in passing through the soil is said to be due to the fact of its losing a portion of its oxygen, and thus giving rise to the formation of a larger portion of carbonic acid. To determine the changes effected in these respects, Messrs. Fichner analysed the air contained in the tubes comparatively with that of the atmosphere. They found, after several days' uninterrupted heating by the furnace, during which time the circulation through the soil had been rapid, the air in the tubes had exactly the same composition as that of the atmosphere (21 per cent. of oxygen and 79 of nitrogen), and contained in 10,000 parts 12.80 of carbonic acid. Two days after the fire was not kept up the air in the tubes had only 20.83 per cent. of oxygen, and contained 20.99 of carbonic acid in 1,000 parts; and from four to six days after the fire was let out, they found 20.71 of oxygen and 35.72 of carbonic acid; six or eight days after, 20.03 per cent. of oxygen, and 35.73, per 1,000, of carbonic acid. During these experiments they only found four parts of carbonic acid in 1,000 of the air in the atmosphere.

We offer the above to the consideration of our readers, as involving matters of much curious interest, that may some day receive a more general and satisfactory application. As far as experiments have yet gone, there is sufficient ground for believing that the system is attended by very marked results. This has been particularly the case in Hungary, in the culture of sugar beet and other root crops. Like all practical questions, it will ultimately resolve itself into one of expense. In our judgment the practice of draining by means of pipes might be also made the means of aerating the soil to a much greater extent than obtains at present. This might in a great degree be accomplished by arranging the upper end of the drain so that atmospheric air could have free access to them, and thus a constant circulation kept up, when the drain was not full of water, which is seldom the case. The air would penetrate the soil through the joints of the pipes, for where water can flow, air will follow. We remember some years ago leaving the upper ends of half a dozen drains in the centre of a field open to the access of the atmosphere, not indeed for the purpose of aeration, but for local reasons. There was a marked difference between that and other portions of the same field in which the lower end only of the drains was left open. In spring the ground was drier at an earlier period over the ventilating drains, as well as moister during the drouth of summer. There is evidently much yet to be accomplished in this important section of the wide field of agricultural science and improvement.

### Canadian Produce at the Dublin Exhibition.

In an editorial, on the agricultural aspects of the Dublin Exhibition, the *Mark Lane Express* has the following pertinent remarks in reference to the Canadian grain shown there, and the system of tillage by which it is produced:—"Canada has a very fine display of agricultural produce, contributed by the Boards of Agriculture of Upper and Lower Canada

and by private individuals. The samples of wheat, oats, Indian corn, and other grain are very fine. The quantity of grain produced by Canada annually, seems almost fabulous. Of wheat, last year, over 25 million bushels were grown, of peas 12 million, of oats 10 million, and of buckwheat 13 million bushels.

"The tenacious blue-clay lands, which form the principal feature of Lower Canada, constitute a strong and rich soil, bearing in abundance crops of all kinds, but particularly well adapted for wheat, and were in former times noted for their great productiveness. These lands have been for a long time under cultivation, and by repeated cropping with wheat, without fallow, rotation, deep-ploughing or manure, are now, in a great many cases, unproductive, and are looked upon as worn out or exhausted. A scientific system of culture, which should make use of deep or sub-soil ploughing, a proper rotation of crops, and a judicious application of manures, would soon, however, restore these lands to their original fertility. The few trials which, within the last few years, have been made in the vicinity of Montreal and elsewhere have sufficed to show that an enlightened system of tillage, with subsoil draining, is eminently successful in restoring these lands, which offer at their present prices good inducements to skilled farmers. Besides grain and green crops, these soils are well fitted for the culture of tobacco, which is grown to some extent in the vicinity of Montreal. Notwithstanding the length of the winter season in Canada, the great heat and light of the summer, and the clearness of the atmosphere, enable vegetation to make very rapid progress."

The following statements of our contemporary, as to the condition of Agriculture in Upper Canada, indicate the prevalence of juster views about us than have sometimes found utterance in Britain, and will be heartily appreciated by our farming friends:—

"In no part of the Province, however, have skilled labour and capital been so extensively applied to agriculture as in Western Canada, and the result is seen in a general high degree of cultivation, and in the great quantities of wheat and other grain which the region annually furnishes for exportation, as well as in the excellent grazing farms, and the quantity and quality of the dairy produce which the region affords. This Western portion of the Province, from its more Southern latitude, and from the proximity of the great lakes, enjoys a much milder climate than the other parts of Canada. The winters are comparatively short, and in the more Southern sections the peach is successfully cultivated, and the chestnut grows spontaneously."

### The Season.

The weather, since our last issue, has continued in the main favourable to the growing crops. Apprehensions of damage from drouth were entertained, but the late copious showers have happily dissipated these fears. Unlike the warm sunshine which followed the previous rain, the temperature, at present, is somewhat chilly and unpleasant.

We regret to state that the vague, prophetic surmises and uncertain rumours respecting the appearance of the midge, which were current a fortnight since, have now assumed the shape of indisputable facts. Reports from all sections of the country, however they may differ as to the probable extent of the injury done, are alarmingly unanimous in testifying of the presence of the insect in vast numbers. There is, however, some ground for future encouragement in the circumstance, that the "midge-proof" wheat promises well the present season, and appears in the majority of cases at least, to be what its name implies. A city contemporary, however, reports that on some of the best cultivated farms in this neighbourhood it has signally failed. How far this may be correct, we have no means of determining; but the evidence from some quarters in favour of its imperviousness to the little pest seems very conclusive, as the following extract of a letter from

Messrs. Gooderham & Worts, recently published in the *Globe*, will show:—

"Enclosed please find a sample of midge-proof wheat, imported from the State of New York by Messrs. Gooderham & Worts and Mr. H. S. Howland, and now growing on the Meadowvale Farm, belonging to the former gentlemen. There are thousands of midges hovering amongst the straw and trying to work to the grain, but to no purpose. We have examined the field carefully and cannot find a grain injured.

"Enclosed, also, are two samples from the farm of Wm. Elliott, Esq., adjoining the Meadowvale Farm. One is the midge-proof and is perfectly safe; the other is the Soules wheat, planted one week earlier on the same land with nothing but the fence between, and it is almost totally destroyed by the midge. In this neighbourhood this is about the result generally."

A trustworthy correspondent writing from West Oxford, bears further testimony to the same effect. He says:—"The 'midge-proof' wheat was in ear by the 4th of June. On the 10th it was in bloom, and myriads of the midge were amongst it. To-day (June 26th), it is past all danger, and in two weeks, I think, it will be in shock. Closely adjoining it is a strip of red Essex, and next again the Soules wheat, both of which varieties are now in bloom, and the chaff of almost every grain is pierced. On minutely examining the 'midge-proof' from day to day, I have never discovered a single larva." This being the case, we trust the "midge-proof" wheat will be largely sown next year. Although inferior in quality to fall wheat, yet its yield is prolific.—10 bushels per acre being frequently harvested.

Flax, Barley, Rye, Oats, Potatoes, and other root crops, are making the most gratifying progress. Haying has commenced and will be general in a few days. The hay crop is unusually good, indeed in some sections the grass is reported to be so thick on the ground, that there is scarcely room to dry it. Fruit prospects are encouraging. The luscious strawberry, with its rich fragrance, conjuring up visions of platesful, cool and creamy, and ushering in Pomona's happy train, has been very abundant. Pity its season is so brief.

**DEATH OF MR. JOSEPH HALL.**—With much regret we chronicle the death of this eminent manufacturer of agricultural implements. The sad event occurred at his residence in Rochester, N. Y., on the 7th ult. A month previously he had taken a severe cold which resulted in congestion of the lungs, and the development of heart-disease, under which his system gave way. He was an older man than we had supposed, being at his death 69 years of age. Mr. Hall had been engaged in the manufacture of agricultural implements for some forty years. He was the first to build the thrasher and separator. He sent over a large supply of implements from his Rochester works to meet the Canadian demand, which at length became so extensive as to justify the commencement of a manufactory on this side of the lines. Oshawa was chosen as the location for it, and from moderate beginnings, it has grown to be the largest and best appointed implement shop in the country. We are glad to find that Mr. F. W. Glen, who has for some years most efficiently superintended the business at Oshawa, will continue to carry it on, and we bespeak for him a continuance of the confidence and patronage he has so well earned at the hands of the agricultural community.

**DECEASE OF SIR JOSEPH PAXTON.**—The *Asia* brought intelligence of the death of this distinguished architect and horticulturist. His abilities were first recognised in the superintendence of the Duke of Devonshire's great works at Chatsworth, and his achievements on that magnificent estate soon opened his way to a larger field of operations. He designed the Crystal Palace for the World's Exhibition, in 1851, and the building was put up under his superintendence. This public service brought him the honours of knighthood. He constructed the beautiful Palace at Sydenham, and laid out the adjacent grounds. He was elected two or three times to the House of Commons, and at the period of his death was sixty-two years of age.

### Complimentary to our Sheep-Masters.

We recently had the pleasure of inspecting four and twenty choice specimens of our Canadian sheep, in this city, on their way to Mansfield farm, Muncy, Pennsylvania. The purchaser and exporter, Mr. B. M. Ellis, is an enterprising and judicious breeder; and one of the most successful exhibitors at the County and State fairs, in his own neighbourhood. Circumstances, which from time to time have come under his observation, have convinced Mr. Ellis that, for the producer who makes the business of sheep-husbandry hinge on results,—in the way of both mutton and wool,—the Leicesters, the Cotswolds and the Shropshires, are emphatically *the* sheep; and, hence, his visits and purchases among our Canadian flocks.

The animals, on their way to the States, were purchased of Mr. George Miller, of Markham; Mr. Henry Jennings, of Victoria Square, Markham; and of Mr. G. L. Pearson, of Schomberg, Peel. They reflect credit, alike, on the judgment of the buyer and the careful breeding of the producers. Since all the animals reach a high standard of excellence, it would be invidious to particularize. Seldom have we seen a Leicester ram of more magnificent proportions, while the Cotswold was scarcely, if at all, inferior. The splendid appearance of a fine lot of five Leicester ewes and lambs, from the pastures of Mr. Pearson, bore conclusive testimony to that gentleman's care and judgment in sheep management. A Shropshire hogget, bred by Mr. Miller, exhibited signs of great promise, and we venture to predict, if he thrives kindly, that he will be heard of again, in some of the exhibitions yet to be held in the country of his adoption.

We trust the example of Mr. Ellis will act as an incentive to our farmers, to improve the breed of their sheep. The remark—"blood will tell"—often applied to horses, is quite as applicable to all of our domestic animals, and very pointedly to sheep. We trust that both for their own pecuniary advantage, and for the honour of the Province, our breeders will vie with each other, in kindly emulation, to maintain and enhance the reputation of Canada as a nursery of pure bred stock.

### Wash for Ticks and Scab in Sheep.

We invite the attention of our flock-masters to an advertisement, in another column, of a composition for destroying ticks, scab, &c., on sheep, prepared by Hugh Miller & Co., of this city. The importance of bathing sheep, infested by these parasites, cannot be over-stated. Unless these insect pests are destroyed, the condition of the unfortunate animals is rapidly reduced, and, in cases where the precaution is neglected, it is sometimes a difficult matter to save their lives. The vermin are, however, so easily exterminated, that it is as much a disgrace as a pecuniary loss to the sheep-master to suffer them to remain in a flock. The process of dipping, or bathing, is quite simple, and the experience of some years with a composition nearly identical with the article in question, enables us to vouch for its efficacy. Some of its constituents being poisonous, it is necessary to use a certain amount of caution, lest any portion of it should enter the eyes, nostrils, or mouth of the animal. Every portion of the wool should be carefully squeezed after immersion, to prevent any drippings being deposited on the grass, and eaten by the animals. Full directions for use accompany each package.

COUNTY OF CARLTON FARMERS' CLUB.—We have much pleasure in learning that the laudable efforts of the promoters of this club have been crowned with success. A considerable number of members have been enrolled; and the first monthly meeting took place on the 3rd ult. The subject proposed for the consideration of the meeting was "Drainage," which Mr. Harmer introduced by reading an essay "On the benefits derived from drainage, and the manner in which these benefits are produced." After the reading, Mr. D. Kennedy and Mr. J. Robertson bore concurrent testimony; the former described the beneficial results of some drainage effected on his own farm. The next meeting was arranged to be held on the 7th inst., when a further consideration of the same subject will be had.

### Book Notices.

TRANSACTIONS OF THE BOARD OF AGRICULTURE OF UPPER CANADA: 1860-3. pp. 468.—This volume, as the title denotes, is chiefly taken up with the doings of the Board of Agriculture during the years above mentioned. It also contains extracts from reports of County and Township Societies, and a few papers of permanent interest on drainage, the agriculture of various parts of the country, &c. The Provincial prize list for the years specified, will be found in this volume, duly corrected and certified. Much useful information is collected in these pages, and the whole forms a valuable book of reference, which ought to be in the possession of every farmer in Canada. A wood-cut of the Agricultural Hall, corner of Yonge and Queen Streets, Toronto, faces the title-page; the printing and binding have been creditably done; but in some parts of the volume, more accurate proof-reading would have been a great improvement.

MICHIGAN BOARD OF AGRICULTURE.—The transactions of this body for 1861 are before us, in the shape of a neat volume of 254 pages. The Report of the Secretary, Sanford Howard, Esq., is a most complete affair, and gives a very satisfactory bird's-eye view of Michigan farming. An Appendix, which occupies nearly half the book, contains valuable articles on Ayrshire Cattle, Drill and Broadcast sowing of Wheat, Various Breeds of Swine, American Merino Sheep, Diseases of Cattle, and a carefully kept Register of Meteorological Observations for every month in the year 1861. There are also pretty full Reports from the County Agricultural Societies. This work is not only useful for statistical reference and consultation, but contains a large amount of practical information that must be very valuable to the Michigan farmer. Our American cousins are setting us an excellent example in the thoroughness and liberality with which they are pushing forward their State Agricultural institutions. The record of their doings is really quite stimulating.

FACTS ABOUT PEAT AS AN ARTICLE OF FUEL. By T. H. Leavitt. Boston. Leavitt & Hannewell; 1865. Price \$1.

This is the title of a well-printed volume, of 120 pages in paper covers. It gives an account of the origin and composition of peat, and the various localities in which it is found in the greatest quantity, in other countries as well as in our own. With regard to Canadian deposits, the writer remarks: "Numerous and extensive deposits of peat are met with in various parts of Eastern Canada, chiefly confined to the plains of the St. Lawrence and its tributaries; and two tracts in the County of Gloucester each contain 2,500 acres." The ordinary methods and difficulties of the preparation of peat for fuel are carefully described; and its adaptability to the requirements of the arts and manufactures, as well as its availability for domestic use, are well stated by the author. We gather from an appendix that the publishers are Agents of the "American Peat Company" in process of formation. "Their various inventions are secured by letters patent, and the whole reduced to a very simple process, which can be seen in operation at their works at Lexington, Mass." The proposed capital of the Company is \$250,000; and "their purpose is to encourage the manufacture of peat wherever it is found, and to this end they furnish machinery and rights under their patents, at moderate rates."

THE FIFTH ANNUAL REPORT OF THE BOARD OF AGRICULTURE OF THE PROVINCE OF NEW BRUNSWICK.

This is a pamphlet of 136 pages, and contains besides a statement of the financial condition and prospects of 31 county and district agricultural societies, some really valuable information to the farming community of New Brunswick. We notice with especial pleasure that in the digest of the returns of the various district societies, the respective secretaries, in the majority of cases, have the good fortune to report

somewhat as follows: "More attention is paid to the making of manure and composts. A great improvement is being made in farm and out-buildings. A systematic rotation of crops is practiced. The importance of flax as an object of culture is becoming better appreciated, &c." A prize essay on "Under-draining and deep tillage," in which the writer—Mr. G. L. Goodale—discusses the subjects ably and systematically, is an important contribution to our agricultural literature. There is also a very useful article on the qualities of different kinds of food, and the best methods of fattening stock." The writer treats the question in its chemical and physiological bearings with much skill and acumen, and concludes by urging the paramount importance of uniting science and practice in agricultural pursuits. The volume is wound up by a report of last year's Exhibition of the Board of Agriculture, at Fredericton.

### Agricultural Intelligence.

#### Notes from Lower Canada.

FOR THE CANADA FARMER.

FRANKLIN, Huntingdon Co., June 15, 1865.

THE season, so far, in this section of the country, has been most propitious for preparing the land for the various crops, and for advancing them to a healthy maturity. Farmers are thought to be generally a grumbling class, but there is no complaint heard from them, as to their prospects, this year. During last winter, the ground was covered with a heavy coating of snow, which disappeared very rapidly at an unusually early period in the spring, allowing the spring work to be commenced at least a fortnight sooner than in ordinary seasons, and giving the farmers plenty of time for their work. The first half of May was rather colder than usual, but the few frosty nights did little damage, and the weather during the last four or five weeks has been precisely that which was best adapted for bringing the crops forward, in this particular district of the country, at least, however it may have been elsewhere. We have had an almost uninterrupted succession of warm, growing days, with genial showers just frequently enough to keep our soil in a sufficiently moist condition. When the corn was put in some four weeks ago, the earth was warm and mellow, and the stalks came up vigorously, and are now looking strong and healthy. Hay is generally a pretty sure crop in this section, but this year the grass has an unusually luxuriant appearance, said to exceed anything that has been known at the same season for many years. The cereals also are all in good condition, and promise an abundant harvest. If nothing untoward occurs, it would appear that the chief trouble in the fall will be want of sufficient barn accommodation.

#### OATS.

These are cultivated quite extensively in this County. They suit almost every sort of soil, and as much of the ground here is of a poor quality, our farmers find that they make the best use they can of it, when they put a considerable breadth of their land under this crop. In the census year, while 5,746 acres were under wheat, 10,985 were under oats. They are sown like wheat, any time in May. On fair soil, oats will give 40 bushels to the acre. As much as 80 have sometimes been obtained. Last year was of course very unfavorable, and one of my neighbors, having sown 21 bushels, harvested 16! The year before was better. From a little patch, less than an acre, my predecessor on this farm harvested in that year 66 bushels of a mixed crop of oats and peas. Oats, at present prices, with the larger yield, are a more profitable crop just now than wheat.

#### BARLEY AND RYE.

Barley is not much grown. It is put into the ground about the end of May, or beginning of June.

Rye, though it used to be grown extensively, is now cultivated on even a more limited scale than barley, on account of its not finding a good market. Fall rye would succeed well here, if it was worth growing, as it is found hardy enough to pass through the winter successfully.



## BUCKWHEAT.

This is raised extensively in this section, but is little grown in those parts of the County where a clay soil predominates. It is an easy crop. It is not put in till long after the pressing spring work on other crops is finished. It will give a fair yield for several years in succession on the same ground; and the popular impression here is that it does better without manure than with it. It is said that on richly manured soil it becomes so heavy that it will lodge, and if wet weather comes on, will become mouldy. On the other hand, I see it asserted by some correspondents of THE CANADA FARMER that, when raised on poor soil not enriched by manure, it is unwholesome food for man or beast. Where the truth lies, I have not had sufficient experience of the crop to pretend to decide. Buckwheat in this section is generally sown in the latter part of June. When it follows the same crop, there is generally by the time of ploughing a somewhat luxuriant growth from the droppings of the seed in the previous year, which, being turned under, of course goes to enrich the soil to some extent. It is ready for harvest shortly before the coming of frost, about the middle or latter part of October. The average yield is from 20 to 25 bushels per Imperial acre.

## INDIAN CORN.

This is one among the four most profitable crops in this township—namely, potatoes, apples, hay and corn. On the clay lands of the County it is less grown. It thrives well on our warm, gravelly soil, no better crops of it, I believe, being grown anywhere in Lower Canada than in Franklin. The common yellow eight-rowed variety is considered the best. As regards the time of planting, the accepted rule here is from the 15th to the 20th May, or with the blowing of the apple blossom. It is generally well fed with barn-yard manure, and thirty bushels of shelled corn to the acre is a fair crop. Sometimes forty-five or fifty bushels are obtained. In addition to the barn-yard manure, I have this season supplied each hill, in alternate rows, with a tablespoonful of Coe's Super-phosphate of Lime. The experiment has not been very successful—in consequence, I believe, of the super-phosphate having been brought too near, although not in immediate contact with the grain. The manufacturer not having sent with the article instructions how to use it, I had to apply it according to my own judgment, and the result has been that, as compared with the rows in which the super-phosphate was not applied, the growth of one-third of the seed was greatly retarded, and in some cases the germinating power seems to have been destroyed altogether. At the time of the first hoeing, many of the stalks were only appearing above ground. Generally, however, those which started fairly at first, and got the benefit of the super-phosphate without being injured by it, are now growing much more luxuriantly than the plants in the other rows. I was reading to-day the record of some experiments recently conducted under the auspices of the New York State Agricultural Society, to ascertain the manure best adapted to Indian corn. Among the results I find the following:—On a plot manured with 300 lbs. Super-phosphate of Lime per acre, the yield was precisely the same as on a plot with 100 lbs. of plaster (sulphate of lime), per acre, and as in the 300 lbs. of Super-phosphate there were about 100 lbs. of plaster, it was inferred that the good effect of the Super-phosphate was due entirely to the plaster it contained. I believe, however, that the Super-phosphate experimented with is something different from Coe's, for the directions were to bring the seed into immediate contact with it, while Coe's Super-phosphate, must not touch the seed. The corn, experimented upon with the Super-phosphate, it may be worth adding, came up first, and retained its superiority over the corn in all the other plots until the time of hoeing, but the product did not come up to these early indications. Some fourteen plots were experimented upon with different manures, and that which gave the most profitable result was the plot supplied with the 100 lbs. of plaster. The Super-phosphate used in the trial was prepared especially for these experiments, and was "a pure mineral manure of superior quality, made from calcined bones," and cost about two and a half cents per pound.

There is much difference of opinion as to whether corn should be soaked or not, before planting. Mine was planted unsoaked, and came up vigorously some eight days after planting. On the adjoining field, in the next lot, soaked corn was planted two or three days before mine, and rotted to such an extent that most of the field had to be re-planted.

## PEAS.

These are not much cultivated in Franklin, although in other parts of the County they are grown somewhat extensively. They are generally sown about the middle of May, but it is considered that the sowing may be delayed, without injury, till the end of the month. From 20 to 25 bushels to the acre is a good yield.

AGRICOLA.

(To be continued.)

## British Cleanings.

## Acclimatisation of Birds in Australia.

We recently noticed the successful transportation of salmon ova to Australian and Tasmanian waters; and, now, from a late English exchange, we gather that the efforts of the "Acclimatisation Society of Victoria," are at present directed to the introduction of small birds, as a check to the ravages of insects in that country. At this time, when efforts to check the wanton destruction of our little feathered favourites, are all but universal, the following extract, from the Third Annual Report of the Society in question, will be read with interest:—"In a country so subject as this to the ravages of insects, the case of the agriculturist has always been carefully considered. Hundreds of industrious farmers have even this year been ruined by the caterpillar, and similar visitations must necessarily be expected. The introduction of insect-devouring birds has therefore been carefully attended to; and with this has been combined an effort to surround our colonial residences with those interesting associations which constitute no slight portion of the charms with which the name of "home" is ever surrounded. The thrush, the blackbird, the skylark, the chaffinch, the sparrow, the Chinese sparrow, the Java sparrow, and a most active and interesting bird, the Indian mino, may now be considered thoroughly established, and are rapidly extending by natural means through the colony. The goldfinch, the linnet, the greenfinch, the yellowhammer, the oriole, the canary, the robin, and many kinds of the smaller birds of other countries are being accumulated in the aviaries of the Society, and many of them have already bred there. The nightingale and the hedge sparrow have been promised us by benevolent ladies at home, and the Queen herself has made an effort to supply us with the rook."

## Utilization of Town Sewage.

THE Commissioners entrusted with the enquiry into the best mode of utilizing town sewage, have issued a Third Report, in which they submit the following conclusions:—

1. The right way to dispose of town sewage is to apply it continuously to land, and it is only by such application that the pollution of rivers can be avoided.

2. The financial results of a continuous application of sewage to land differ under different local circumstances, first, because in some places irrigation can be effected by gravity, while in other places more or less pumping must be employed; secondly, because heavy soils (which in given localities may alone be available for the purpose), are less fit than light soils for continuous irrigation by sewage.

3. Where local circumstances are favourable, and undue expenditure is avoided, towns may derive profit, more or less considerable, from applying their sewage in agriculture. Under opposite circumstances, there may not be a balance of profit, but even in such cases a rate in aid, required to cover any loss, needs not to be of large amount.

Legislative action on the subject should be taken, they think, first, to compel towns, the sewage from which pollutes rivers or streams, to abate that nuisance, and, secondly, if they have not legal power at present to take land for the purpose, to confer such power by a new enactment.

ENTHUSIASTIC LISTENERS.—A Lancashire paper states that carriage-loads and cart-loads of people are going to Lymn, in the neighbourhood of Warrington, to hear a nightingale, which sings in the woods, and charms the ravished ears of his numerous audience, nearly every evening.

AN INSECT EXHIBITION AT PARIS.—We learn from a British contemporary, that a curious example of French ingenuity has been displayed in Paris, by the formation of the novel supplement of an insect exhibition, to the dog show recently held there. The idea originated with the Horticultural Society, which is to carry out the necessary arrangements.

MAGNIFICENT TESTIMONIAL TO ALDERMAN MECCHI.—We learn from the *Scottish Farmer*, that a committee of noblemen and gentlemen propose to purchase Tip-tree Hall estate, and present it to Mr. Mecchi, as a testimonial of their appreciation of the services he has rendered to the cause of advanced agriculture. The gift will be alike creditable to the donors and well-deserved by the recipient.

CROP PROSPECTS IN BRITAIN.—On this subject *Bell's Messenger* has the following cheering report:

"The accounts of the state of the crops are, with scarcely an exception, very satisfactory. The wheat crop on the clays promises to be very abundant. In some districts it is unusually forward. The copious showers with which nearly every part of the country has been visited, have done an immense amount of good. The mowers are busy in the hay-fields, and on most of the old pastures there will be a heavy yield of rich grass. The wheat trade is rather dull, and prices are tending downwards. Stock of all kinds continues very dear."

PIGS' TAILS.—A correspondent of the *Mark Lane Express* says: "Allow me to inform the public, through your journal, that the caudal appendages of young pigs may be retained by a very simple method, which I beg to recommend as infallible: Rub their tails with an oily or greasy rag two or three times, as soon after they are born as you like, and whenever you see a tail likely to go, with a darkish mark upon it, grease it at once, and you will probably save it. I attribute this disease in tails to the want of circulation of the blood, which is undoubtedly checked by the cold weather. I have no doubt cutting a small piece off the tail will promote the circulation, and save the tail, but that plan is apt to leave the end thickened, and therefore unsightly."

THE LIGURIAN BEE AND THE VINEYARDS.—The Australians do not appear to favour the introduction of the Italian bee to their apiaries. One of our British exchanges copies, from a Melbourne paper, the following somewhat startling objection to the new bee:—"We have on more than one occasion called the attention of acclimatizers to the injury they are inflicting on the colony by the importation of noxious pests like the Ligurian bee. A correspondent, writing to the *Age*, confirms our remarks as to the damage done to the vineyards by the new bee. He gives the following as the experience of a German vigneron who had twenty-four hives of these bees:—"The bee has destroyed the crop of the vineyard (two and a half acres) and orchards completely during three successive years. His neighbours, also, whose vineyards were three miles distant, complained about them, so that he was obliged to part with them, and re-stock with common bees, which he did without finding any difference in the yield of honey."

NEWLY IMPORTED SPECIES OF INDIAN POULTRY.—A recent number of the *Illustrated London News* has a fine cut, representing some newly imported fowls, accompanied by the following description:

"The Beegum Pilly Gaguzes is a species of poultry which Captain Hastings Frazer has brought from Central India, and which he intends to naturalize in Scotland. The cock stands 2 feet 6 inches upright, and is a noble bird; his thigh is so big that it can hardly be spanned with one hand; his eagle-like eye and mighty feet are also worthy of remark. The chickens are of extraordinary size and character, and are probably near relations of the Malay and Culm fowl. We understand that, by the last mail, seventeen of these fowl left India, and, with the exception of three chickens, they all arrived safe and in good condition. The great recommendation of this species for breeding is the quantity of flesh which they carry, young birds seven and eight months old weighing as much as 8 lbs. The Mohammedan Patans of India are very jealous of parting with their breed of poultry, but the native gentleman or petty chieftain, from whose family these birds take their name, presented a few of them to Captain Fraser, and that officer has brought them to England with the intention of crossing them with Dorkings."

## Entomology.

## Wheat Insects.

Our great staple is liable to attack from a variety of insect enemies. A few of the more common and mischievous of these depredators, we now propose very briefly to describe, accompanying the description with illustrations, by the help of which any one can readily identify the little pests.

THE MIDGE.—[*Cecidomyia Tritici*.]

This is the worst insect foe with which the wheat crop has to contend. It has long been known to British agriculturists, and has occasionally given them trouble; but its career in the western world, though a short one, has been terribly destructive. In 1828 the wheat crop in the north-western part of Vermont

was greatly injured by it, and from that State it rapidly spread throughout the other Northern States and the Canadas, proving everywhere the same fearful scourge, and rendering it almost useless in many places to sow the important cereal on which it preys.

The wheat midge is a small two-winged fly, about one-third the size, and something the shape of a mosquito. Its colour is bright lemon yellow, and its wings are clear and glassy. The annexed cuts will give a good idea of its appearance both when flying and walking.

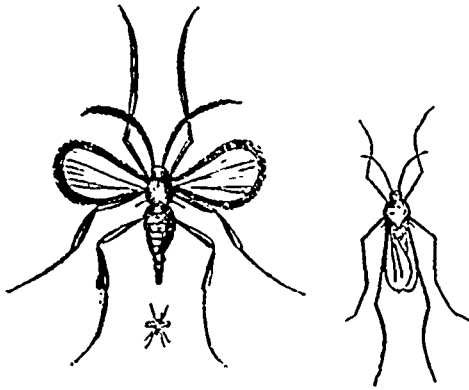


FIG. 1. WHEAT MIDGE FLYING.

FIG. 2. WHEAT MIDGE WALKING.

The small figure underneath the large one in Fig. 1, shows the natural size of this insect. It is the female midge which is represented by our wood-cuts. The male insect is smaller, has longer and more slender antennæ, each of which consists of twenty-four globular joints in pairs, while the antenna of the female has only twelve of these joints. These insects come out of the ground in the fields where wheat was grown the year before. The sexes having paired, the females fly away by night in search of grain fields, in which to carry on their work of destruction. They usually appear about the middle or end of June, and for more than a month haunt the ripening wheat, depositing their eggs between the chaffs of the ears. Moist weather is their delight, and dry weather unfavourable to them. They work on cloudy days, toward evening when the dew falls, and in the night time. Their eggs, two of which highly magnified are shown in Fig. 3, hatch into very small worms or mag-



FIG. 3. EGGS OF WHEAT MIDGE.

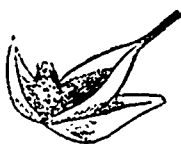


FIG. 4. WHEAT CHAFFS OPENED, SHOWING THE WORMS ON THE KERNEL.

gots, without feet, which soon become of a bright orange colour. They forthwith begin to feed upon the soft young kernels of grain, see Fig. 4, sucking the juice out of them, stopping their growth, and causing them to become shrunken and shrivelled. These worms attain their full size in three or four weeks, when they are about a tenth of an inch long. Fig. 5 shows one of them greatly enlarged—the little speck on the left hand being about its natural shape and size.

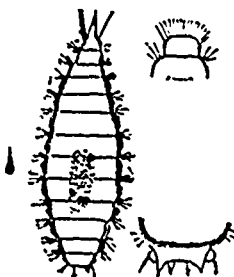


FIG. 5. LARVA OF WHEAT MIDGE.

Being without feet, it cannot get about upon the wheat stalk except in moist weather. It then moves readily by contracting and elongating its body. The fully represented insect shown in the cut, is in the act of crawling, and has its horns extended; while the two ends given, show the appearance of the insect when lying still. Having done all the mischief they can, and their growth being completed, they descend to the ground, wrap themselves in tiny cocoons, and

sleep just beneath the surface, until June weather comes again and transforms them into flies.

No thoroughly efficacious remedy for this visitation has yet been discovered. The nuisance may, however, be considerably abated by the adoption of certain precautionary measures. The early sowing of fall wheat and the late sowing of spring wheat, have been found to secure escape, partial or total. The former hastens ripening so that the grain kernels are hard before the midge appears. The latter keeps back the ripening period until the short career of this insect is at an end. Many of the worms remain in the wheat heads at the time of harvest. These pass into the screenings of the sawing-mill, and should be carefully destroyed, either by fire, or by being fed under cover to poultry and pigs. If thrown out of doors, they will mature, and enter on a career of mischief the following summer. Deep fall ploughing of wheat stubble has been found of much service, by burying the minute cocoons far down in the earth, and preventing their coming to life. This is thought by many to be the most effectual remedy yet known. Fumigation has been tried with some success. Strips of woollen cloth saturated with melted brimstone, and fastened to sticks in different parts of the field—particularly on the windward side, have been set on fire several evenings in succession when the grain was in blossom. Or heaps of brush and weeds sprinkled with brimstone, have been placed to windward of the field and set on fire. The smoke and fumes thus circulated among the standing wheat, are said to have proved offensive and destructive to the midge flies when depositing their eggs. Lime or ashes, strewn over the grain when in blossom, has been thought to prove a safeguard. From a peck to a bushel of newly slaked lime, or fresh wood ashes, is put on per acre. The best time for doing this is when the stalks are wet with dew. A judicious rotation of crops also tends to lessen the evil. By raising other farm products, these insects lose their favourite nutriment, and their increase is retarded. Entomologists predict deliverance from this pest, as in the case of some other insects, by the introduction into the country of those parasite destroyers which are so fatal to its increase elsewhere. A kind of wheat styled "midge-proof," has been tried in some localities, but it needs to be more fully tested before it can be pronounced true to its name. Some good farmers have grown it and found it exempt from midge attacks, when other fields close by were greatly injured. Whether it would escape if no other kind were grown remains to be seen.

THE CHINCH BUG.—[*Blitopus leucopterus*.]

This insect has of late years been a source of great annoyance to the wheat-growers of the American continent. By the accompanying cut it will be seen



FIG. 6. CHINCH BUG.

that it is somewhat beetle-shaped, and it wears the appearance of a little narrow black bug. The small upper figure shows its natural size. These insects prey upon the sap of the stalk, leaves, and kernels of the wheat plant, and in such multitudes do they attack the growing crop that in places they seem to crowd and jostle one another. The infested portion of a field turns of a whitish colour, and the wheat kernels shrivel to nothing. The eggs of the chinch bug are laid in the ground, where the young ones have been found, in great abundance, at the depth of an inch or more. They appear on the wheat about the same time as the midge—the middle of June—and continue busy throughout the rest of the summer. It is said that some of them remain alive through the winter in their places of concealment. We are not aware of

any effectual remedy for this pest having been as yet found.

THE GRAIN APHIS.—[*Aphis Avenæ*.]

This is a species of plant louse unknown to the grain fields of this country until the year 1861. During that and the following season it was very numerous. Strange to say only female specimens of this

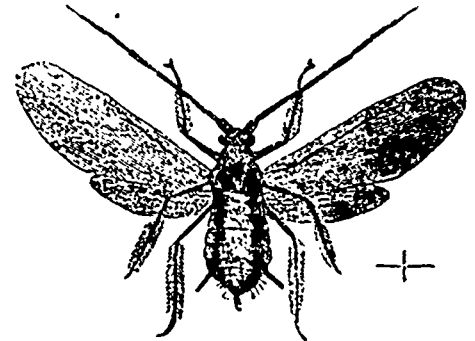


FIG. 7. GRAIN APHIS, WINGED FEMALE.

insect have been observed and described. Some of them have wings, as represented in Fig. 6, but most of them are destitute of wings, as shown in Fig. 7.

The cross lines in the lower right hand corner of Fig. 6 give the usual size of the grain aphid. Its body is but little larger than the head of a pin, and is at first of a light green colour, changing to yellowish red. They appear about the first of June, scattered at first upon the stalks and leaves

of the wheat plant but clustering at length upon the heads, as soon as they are developed. They suck the juices of the plant, retard its growth, and render the grain light. They are very prolific—a single female being capable of producing a progeny of more than two millions in twenty days. Some varieties of these aphides, or plant lice, are very troublesome in gardens and orchards. On a small scale something may be done to get rid of them by means of solutions, hot water, whale oil soap, or dustings with fresh lime, but these are only available to the horticulturist. On a large scale there is no remedy that can be recommended. Fortunately they are but a transient evil, for so soon as they begin to be abundant, they are preyed upon by other insects, to an extent which soon abates the nuisance.

THE HESSIAN FLY.—[*Cecidomyia destructor*.]

This insect, as will be seen by the annexed cut, somewhat resembles the wheat midge in appearance.

Unlike the midge, however, it does not feed on the kernels of wheat, but upon the root and the lower part of the stalk. The fly appears in the month of September when the fall wheat begins to show itself above ground. Its eggs are laid in the creases on the upper surface of the leaf. In about a week they hatch, and the little worms produced creep down the stalk to the crown of the

root just below the ground, where they feed on the juices of the young plant, making it wither and die. It attains its growth in about six weeks, when it undergoes a change, and becomes covered with a hard shell, in which state it looks very like a flax seed. Inside the shell is a white worm which

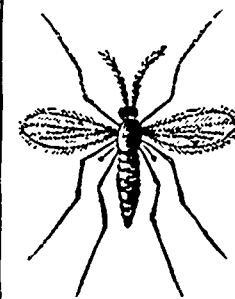


FIG. 9. HESSIAN FLY.

into the fully formed fly in May, and in that month both fall and spring wheat. There are several generations of the Hessian fly each year, and it is most liable to injury from this insect. It does not exist where only spring wheat is grown. High fertility of soil and late sowing are safe-guards against it to some extent. Pasturing the wheat stubble,—burning it off, steeping the seed grain and rolling it in plaster or lime, sowing wood ashes, two bushels to the acre in both fall and spring,—are remedies more or less efficacious. Human endeavours are aided by the attacks of other insects. The Hessian fly is followed up and destroyed by two small, black, ant-like parasites. These are so numerous and active, whenever and wherever it appears, that it is very quickly exterminated, and hence has now ceased to be an object of serious apprehension to the agriculturist.

**A NEW DESTROYER.**—A yellow worm, one-half to five-eighths of an inch in length, and very destructive to grain, has made its appearance at Ritchfield, on the line of the La Crosse Road. A wheat field covering some ten acres, was completely destroyed by these insects in the course of three days.—*Mil. News.*

**A GOOD WORD FOR SQUIRRELS.**—I wonder if farmers are aware that the little striped squirrel makes food of the crysalis from the caterpillar's cocoon? I have seen him at it several times within the last two years, and also learned that he was a meat-eater, for food or medicine. Walking over an elevated portion of the road one day last summer, I heard a rustling in the grass and shrubbery in the ravine beside me, forth came the squirrel with a little brown snake eight or ten inches long, and perched himself upon a flat stone in a wall near by, and I watched until the snake was consumed.

## Veterinary Department.

### Our Treatment of Milk Fever.

Cows exposed to cold and dampness or fed on dry, heating or astringent food, often have fever of some kind. To prevent this, keep the cow from exposure to cold and dampness near calving time, and for some time afterwards, give warm messes of wheat bran after calving, made thin three times a day, and some water to drink from which the chill has been taken, if drawn from a well or cold spring. Four years since we had a cow which came in the first of May; she seemed smart, and the third day was given a cold mess of bran and water at noon. The next morning she was in great distress, would rise up, tremble and fall down, and had not eaten the hay placed in her manger over night. The stable floor was littered with straw a foot thick to prevent her from injuring herself when falling. A piece of saltpetre the size of a large pea was dissolved in a pint of water, put in a long-necked bottle and poured down her, then she was vigorously rubbed all over with wisps of straw, and covered with a thick woollen bed-quilt, to draw the internal warmth to the surface—her limbs often well rubbed. Some warm gruel (made of bran and flour, mixed), was poured down her, as she could eat nothing her-self, but calf permitted to run with her, and having a good appetite, took every opportunity to get what milk it could. The rubbing and external warmth were kept up; the second dose of dissolved saltpetre was given twenty-four hours after the first, repeated doses of wheat bran and flour gruel given, and some young, tender grass picked and placed in her mouth. The second day she did not trample so much, and could stand longer; the third day was much better, and the fourth being pleasant she was let out to feed on tender grass near, and return to the stable when tired. She soon became as well as ever.—*Brantford News.*

**SCRATCHES AND GREASE.** These ailments are scarcely known in well ventilated stables, where cleanliness and care are exercised in managing horses' feet. J. B. Chaceman sends his method of treatment, which is as follows: "Cleanse the heels with soap suds, and, when dry, apply hot tallow with a swab. One application is sufficient. Fish brine, or a coating of common white lead paint, are equally efficacious." We approve of your application of warm water and soap, and rubbing the parts dry, after which the white oxide of zinc ointment, or a little glycerine, will be found excellent applications for these diseases. They can be obtained of any good apothecary, are easily applied, and free from danger; which is not the case with the remedies you mention.—*American Agriculturist.*



### Exhausted Fruit Trees.

It is no uncommon thing to find single trees or even whole orchards, once productive, that have become barren, either yielding no fruit whatever, or a few scrubby specimens, mere apologies for the products formerly given. In such cases you will perhaps hear it said that the trees have failed, or become exhausted; whereas the truth is that the soil is exhausted. Such phenomena are viewed as among the mysteries of the vegetable kingdom, but they are among the simplest and most easily explained facts, to be met with out of doors. It would be difficult to find anything more irrational than the course pursued by many in regard to fruit-growing. A young orchard is planted out, and forthwith sown to a grain crop in which the trees stand during the summer months, like storks in a rush pond, their heads just peering over the nodding grain. Year after year a similar course is pursued. The land is expected to bear as much of some sort of crop as though an orchard had never been thought of. After much hard struggling half the trees, two-thirds perhaps—are found to have survived, and they begin to bear a little fruit. At last, by a stretch of leniency, the orchard is seeded down, and after one or two mowings converted into hard-run pasture. Who ever thinks of manuring an orchard,—or what soil would dream of giving up the land to the trees, and manuring it well, and cultivating it thoroughly? Yet, if after the worst possible usage the trees do not bear plenty of choice fruit, either the nurseryman is blamed, or the climate is cursed, or forsooth the trees are exhausted! In the June number of the *Horticulturist* the author of "Ten Acres Enough," cites the case of a farmer in the best fruit-growing region of New Jersey, who came into possession of a farm, which thirty years ago was used as a nursery. Many choice fruit trees were planted upon the estate, but the new proprietor "considered the raising of sweet corn and pickles the chief end of man," neglected his trees until they only bore meagre crops of indifferent fruit, and had made up his mind to grub out the useless things to furnish more room for "corn and cucumbers," when he was successfully tempted to sell out. The buyer determined to reclaim the degenerate trees, being encouraged to take this course by an account which appeared in the *Horticulturist* many years ago, and which we cite as proof of the extent to which soils may be exhausted by neglect, and the manner in which renovation and reclamation may be effected. Two outcast pear trees that had once borne fine fruit, had for some years only produced worthless specimens. The owner was told they had exhausted the proper elements of pear tree growth in the soil, and that these must be renewed. Determined to test the truth of this theory he set to work very vigorously; scraped off the rough outer bark and put on a coating of soft soap,—pruned and shortened in the trees about a third, paring the large cuts and covering them with a solution of shellac; dug a large trench round each tree, cutting away a portion of the roots, and filling the trench with good soil and well prepared manure. Next season the trees put on a rich dress of luxuriant foliage,—the second year there was a moderate bloom, every blossom of which came to fruit. The third season the two trees bore six bushels of superb fruit. Their vigour and fruitfulness were restored, and they literally renewed their youth. The theory of rotation of crops in general farm practice is based on the fact that constantly growing the same product

exhausts particular elements in the soil, and this fact, no doubt, often accounts for the barrenness of fruit trees, and the failure of orchards. The soil is robbed of its nutritive qualities year after year,—no new supply is furnished—and out of nothing, nothing can come. The practical lesson is obvious,—we must feed our fruit trees if we expect them to feed us.

### International Horticultural Exhibition.

*Editor of THE CANADA FARMER:*

SIR, To introduce my subject, let me quote from the *London Gardeners' Chronicle*, of April 15th.

"The International Fruit Show is fixed to commence on the 9th of December. On this occasion, besides the gold medal for the best collection of fruit and vegetables produced in the garden of a Sovereign, gold medals are also offered for the best collection of fruit and vegetables grown by any Botanic or Horticultural Society in any part of the world; for the best and most complete representative collection of fruit and vegetables from any of the colonies; and for the best and most complete representative collections from the Presidencies of India; while certificates exchangeable for medals, are to be given for separate exhibitions of fruits and vegetables, either fresh or preserved, from all parts of the world. This should produce something of interest."

It will be seen by the above announcement, that colonial competition is solicited, and collections of fruit and vegetables, either from societies or private sources, will be gladly received. We all remember the important position Canada occupied at both the great Industrial Exhibitions held in London, and surely we ought not to be behind-hand in exhibiting specimens of our home grown fruits and vegetables at the proposed International Fruit Show. But how is the thing to be done? There are comparatively few individuals who could afford to send home private collections, and perhaps the better plan would be for the Provincial Agricultural Association, or the Upper Canada Fruit Growers' Society, to organize or appoint a committee to receive and arrange specimens that may be sent from the different parts of Canada, and send them to England in charge of some experienced person, who could arrange and look after them there. A subscription to defray expenses (if the above mentioned Societies could not appropriate funds for the purpose), could be got up by the Horticultural Societies throughout the country, and I should imagine there would be no difficulty in raising an adequate amount.

Strawberries are now in season, and cherries coming on. A good collection of these, and other perishable fruits, should be preserved, as they ripen, by competent hands, so as to be ready for the committee or society, undertaking to exhibit them. Canadian fruits, whenever shown in England, have always attained a high rank. Why should we not bear the palm, and come out as fruit growers, at the head of the list of British Colonies? All we want to accomplish this desirable result, is promptness and unity of action.

There will, no doubt, be a good display on the 9th of December, as collections for the competitive exhibition of fruit and vegetables from the garden of the Sovereigns of Europe, will be sent by France, Russia, Italy, Turkey, Hanover, Belgium, Greece, and many others probably who have not yet declared their intention so to do.

If any better plan than that suggested by me, can be proposed, let us have it,—only let us lose no time in making a beginning, but proceed at once most earnestly with the work. W. T. GOLDSMITH.

St. Catharines, C. W.

NOTE BY ED. C. F. We are much obliged to our valued correspondent for calling attention to the above important matter, and earnestly hope that in the way suggested, or in some other, care may be taken to have Canada worthily represented on the occasion referred to.

TO HORTICULTURISTS.—The fruits of breaking a pair of plants are mostly composites of air.

THE CURRANT WORM.—The *St. Catharines Journal* says:—Mr. Jas. Taylor has been experimenting with the 'currant worm.' He finds unleached ashes sprinkled on the leaves early in the morning, before the dew evaporates, a sure remedy."

**REMEDY FOR THE APPLE-TREE CATERPILLAR.**—A correspondent of the *Maine Farmer* gives the following recipe, one application of which, he says, is sufficient to effectually destroy this pest of the orchard. I have used Kerosene Oil with complete success, a few spontaneous applied just above the nest on the limb will cover the entire surface where the worms have lodged. I take an oil can, tie it to the end of a pole of sufficient length to reach those on the higher branches, and when I discover a nest oil it up.

**CABBAGE AND DITTO.**—"I love you like anything," said a young gardener to his sweetheart, pressing her hand. "Ditto," said she, returning the pressure. The ardent lover, who was no scholar, was sorely puzzled to understand the meaning of "ditto." The next day, being at work with his father, he said, "Father, what is the meaning of ditto?" "Why," said the old man, "this here is one cabbage-head, ain't it?" "Yes father." "Well, that ere's ditto." "Drat it!" ejaculated the indignant son, "then she called me a cabbage-head!"

**TO DESTROY THE CURRANT WORM.**—A correspondent of the *Utica Herald* thinks the following an infallible remedy: "Take two pounds of sulphate of iron (copperas) dissolve in two gallons of hot water; dilute with ten to twelve gallons of cold water; sprinkle with a fine rose watering pot. When the dew is on the bushes in the morning is the best time. In a few hours you will find the worms prostrated or dead, fallen off the bush, and the foliage not injured except where the worms have eaten the leaf. The just proportion of copperas might not be the best, as the least portion that will eradicate the worm is perhaps the best. We would recommend its use for other insects, but cannot say definitely; but rely on its destroying the currant worm."

**REMEDY FOR BUGS ON MELONS OR OTHER VINES.**—A correspondent of the *Country Gentleman* contributes the following to that journal: "Take a roll of the best cotton batting, draw off pieces as thin as possible; place these over the young plants, putting a small stone or handful of dirt on each corner of the cotton, to keep it from being blown away, and your plants are effectually guarded. A pound is sufficient for several hundred hills. I have tried many methods and found none as cheap, convenient or effectual as this. The cotton acts as a very thin netting, allowing the air and rain to have free access to the plant, while it entangles the feet of the bug, should he alight upon it. You will also find that plants thus covered will become more healthy and vigorous than those left uncovered, though neither should be troubled by bugs. These remarks apply equally well to squash and cucumber vines."

**THE APPLE TREE WORM.**—Sir: I notice in this day's *Herald*, an article on "the apple tree worm," and some suggestions for destroying them. I will suggest a very simple method which I have used for a number of years, and found effectual. Take a piece of leather, an old boot leg—half of a man's boot leg is large enough—cut off at the instep, and cut all the tap except about two and one-half or three inches at the bottom, into narrow strips nine or ten inches long, and one-fourth or one-third of an inch broad; then wind the bottom part closely around the end of a long rod—an old rake handle is as good as any—and secure it firmly there by tacks and cord, leaving the strips loose like a bundle of springs. With this whip the worm nests; the best time is early in the morning when they are all at home; it kills them effectually without injury to the tree. One or two with shorter handles will be found convenient to use in the tree when the nests are too high to reach from the ground. A few repetitions of flogging in the manner indicated, as the different swarms show themselves, will accomplish the object.—*Cor. Utica Herald.*

**LAW FOR THE PROTECTION OF FRUIT GROWING IN ILLINOIS.**—The following law was wisely enacted by the last Legislature of Illinois. It will be of great value to fruit-growers. "An Act for the Protection of Fruit-Growers." Section 1. Be it enacted by the people of the State of Illinois, in the General Assembly, That if any person or persons shall hereafter enter the enclosure of any person, without leave or license of such owner, and pick, destroy, or carry away any part or portion of the fruit of any apple, pear, peach, plum, or other fruit tree or bush, such person or persons shall be deemed guilty of a misdemeanor, and, upon conviction thereof, may be fined in any sum not less than ten dollars nor more than fifty dollars, and may be imprisoned in the county jail for any period of time not exceeding twenty days. The penalties incurred by a violation of this Act may be enforced by indictment in any court having jurisdiction of misdemeanors, in the county where the offence is committed, or the fine may be recovered in an action of debt before any Justice of the Peace of such county.

## Miscellaneous.

As floss speak more forcibly than words, they are the test of character. Like fruit upon a tree, they show the nature of the man—while motives, like the sap, are hidden from our view.

AN Irishman got out of the cars at a railway station for refreshments. Unfortunately the bell rang, the train left before he had finished his repast. "Hould on!" cried Pat, as he ran like mad after the cars, "hould on, ye murtherin old sthame ingin—ye've got a passenger aboard that's left behind."

HER MAJESTY A PISCICULTURIST.—We are informed that some months since General Seymour, ranger of Windsor Park, sent for Mr. Frank Buckland, by Her Majesty's command, to ask that accomplished breeder of fish to superintend the laying down of ova in the royal demesne. Mr. Buckland has accordingly had a number of boxes containing eggs of several thousands of the great lake trout, &c., placed in the waters in Windsor Park, under the care of Mr. Menzies, and he hopes ere long to breed salmon in these waters, whence they will be turned into the Thames.—*Scottish Farmer.*

A STRANGE FISH.—A Queensland paper says that a large fish called a "grouper," was caught off the coast there. It was seven feet in length, and upwards of six feet in girth at its thickest part, and its head weighed 80 lbs. The contents of its stomach prove it to have been a regular marine store dealer. When opened the following cargo was revealed:—two broken bottles, a quart pot, a preserved milk tin, seven medium-sized crabs, a piece of earthenware, triangular in shape and 3 inches in length encrusted with oyster shells, a sheep's head, some mutton and beef bones, and some loose oyster shells. The spine of a skate was embedded in the grouper's liver."

"THE CRATER" AS A RAT CATCHER.—A correspondent proposes a new way to kill rats. His own house being overrun with the vermin, a servant girl who had seen the effect of "old Bourbon whiskey" on bipeds, thought she would try an experiment on the rats. Accordingly she took a small quantity, made it very sweet with sugar, crumbled in bread enough for the crowd, and set the dish in the cellar. A few hours after she went down and found several rats gloriously "fuddled," engaged in throwing potato parings, and hauling one another up to drink. These were easily disposed of; those not killed left the premises immediately, suffering with a severe headache.—*Haldimand Tribune.*

"HE'LL NEVER SET THE TEMSE ON FIRE."—Very few know the origin of this common phrase. Many years ago, before machinery was introduced into flour mills for the purpose of sifting the flour, it was the custom of the miller to send it home unsifted. The process of sifting was done thus, but principally in Yorkshire: The temse, or sieve, which was provided with a rim which projected from the bottom of it, was worked over the mouth of a barrel into which the flour or meal was sifted. An active fellow who worked hard, not infrequently set the rim of the temse on fire by force of friction against the rim of the flour barrel; so that, in fact, this department of domestic employment became a standard by which to test a man's will or capacity to work hard; and thus of a lazy fellow, or one deficient in strength, it was said:—"He will never set the temse on fire." The long misuse of the word temse for sieve, as well as the superseding of hand labour by machinery in this particular species of work, may possibly have tended to the substitution of sound for sense, in such phrases as, "He will never set the Thames on fire."

VEGETABLE FLANNEL.—Among the numerous manufactures derived in Germany from Scotch fir, one of the most remarkable is asserted to be a kind of stuff called vegetable flannel, and recommended by physicians in cases of rheumatism and neuralgia. This stuff, which is used to effect a permanent contact between the body and a part of it, and the most active elements of the leaves, produces similar effects to those obtained from the bath made with the same. Vegetable flannel is said to revive the functions of the skin, so often disturbed by various causes, and constantly maintains those functions in their normal state, due to the double action exercised simultaneously on our body; by its formic acid it attracts the humours to the skin by a mild and continuous excitement; by its tanning and resinous principles it imparts to the skin for absorption the elements necessary for the neutralization of certain emanations. Thus, vegetable flannel prevents or cures the effects occasioned by those elements, which, in a state of disease, are expelled in too large a proportion, especially phosphorus. The German journals contain details concerning the manufacture of this textile

fabric, operations requisite for converting the leaves of the Scotch fir into waldwolle (forest wool), spinning and weaving the raw material, &c., in the large establishment of M. Leopold Lairitz, the inventor of the process, who now gives employment to hundreds of workmen. Common flannel made of wool does good service by keeping the warmth of the body in, or excluding that of the ambient air, as well as by the irritation it causes on the skin, whereby that organ is excited to greater activity in the exercise of its functions. But wool, from the concentration of caloric it produces, is apt to cause cerebral congestion in plethoric subjects, and some persons cannot bear its irritating friction on the skin. Vegetable flannel is said to be free from those defects; it protects from damp and cold quite as well as wool, and the irritation it causes on the skin is easily borne by the most sensitive and delicate individuals.—*Galignani.*

AN EXTRAORDINARY TOAD.—During the excavations which are being carried out under the superintendence of Mr. James Ynal, of Dyke House Quay, in connection with the Hartlepool Water Works, the workmen on Friday morning found a toad, embedded in a block of Magnesian limestone, at a depth of twenty-five feet from the surface of the earth, and eight feet from any spring water vein. The block of stone had been cut by a wedge, and was being reduced by workmen, when a pick split open the cavity in which the toad had been incarcerated. The cavity was no larger than its body and presented the appearance of being a cast of it. The toad's eyes shone with unusual brilliancy, and it was full of vivacity on its liberation. It appeared when first discovered desirous to perform the process of respiration, but evidently experienced some difficulty, and the only sign of success consisted of a "barking" noise, which it continues invariably to make at present on being touched. The toad is in the possession of Mr. S. Horner, the president of the Natural History Society, and continues in as lively a state as when it was found. On a minute examination, its mouth is found to be completely closed, and the barking noise it makes proceeds from its nostrils. The claws of its fore feet are of extraordinary length and unlike the present English toad. The Rev. R. Taylor, incumbent of St. Hilda's Church, Hartlepool, who is an eminent local geologist, gives it as his opinion that the animal must be at least 6000 years old. The wonderful toad is to be placed in its primary habitation, and will be added to the collection at the Hartlepool Museum. The toad, when first released, was of a pale colour, and readily distinguished from the stone, but shortly after its colour became darker until it became a fine olive brown.—*Leeds Mercury.*

## Markets.

### Toronto Markets.

"CANADA FARMER" Office, June 27, 1865.

There is considerable uneasiness evinced in regard to the ravages of the midge, in this neighbourhood. Some reports reach us that the "midge-proof" variety of fall wheat has escaped. Others, again, confidently state that this variety has belied its name, and is also suffering severely, even on some of the best managed farms in the district. The recent boisterous rain conferred immense benefits on our growing crops; and a confident belief is entertained that a good reward for the year's labour will be received, in spite of some partial shortcomings.

We have had very quiet markets, and much activity cannot be expected until the harvest is over. Flour and grain continue in light supply, while the demand is slow. There are consequently few transactions. Wool continues firm; and although many buyers have left the market, the price is well maintained.

Flour—market dull with few transactions, fresh ground from Canada wheat, nominal at 55; extra do. at 55 50, superior extra at 56 25, 100 barrels superior extra at 56 25.

Fall Wheat in fair demand and steady, at \$1 06 to \$1 08, according to quality. On the street, cargoes held firmly.

Spring Wheat—quiet; selling on street, at \$1 07 to \$1 10.

Barley quiet and nominal, at 55c to 55c per bushel.

Peas steady, at 75c to 80c; not much doing.

Oats dull and heavy, at 42c to 45c, asked for car loads.

Wool has been in active request, and with fair receipts in consequence of high prices and fine weather, market steady, prices from 40c to 42c, according to quality.

Corn unchanged.

Provisions improving.—Butter scarce at 15c. to 18c. per lb. for rolls, dairy, in tubs, 10c to 12c per lb; re-packed 8c to 12c per lb.

No demand for the latter kinds.

Cheese—scarce, wholesale 11c to 12c per lb; retail 14c to 16c. per lb.

Eggs—market steady, with good supply, fresh 12c to 13c per dozen.

Potatoes—Scarce, but of excellent quality, with fair demand, wholesale 40c to 45c per bushel.

Beef—in demand only for local consumption; prime cuts 10c to 12c per lb., stew and corn pieces 7c to 10c per lb.

Mutton—Fair supply and in good demand; at 8c to 10c per lb; hind quarters 10c per lb; fore quarters 8c to 10c per lb.

Dressed Hogs and Pork—market firm and prices unchanged, very little offered, from \$6 60 to \$7 50 per 100 lbs.

Livestock—dressed weight, 1st class \$6 to \$6 50; 2nd class \$4 60 to \$5; inferior, none offering; calves, \$5 to \$6 each; fair quantity in the market; sheep, \$3 50 to \$4 60 each per car load; do. yearlings, \$3 to \$3 50; lambs, \$2 to \$2 50.

Hay—unchanged, with small supply at from \$10 to \$13 per ton.



**London Markets.**—The attendance on the square today was, as usual on Monday, extremely small, scarcely anything being brought in for sale. We have no change to note in prices. *Fall Wheat*, per bushel \$1 00 to \$1 12½; *Spring Wheat*, do., 95c to \$1 00; *Barley*, do., 60c; *Oats*, do., 4½c to 4c; *Wool*, per lb., 45c to 44c; *Butter*, fresh, per lb., 14c to 15c; *Butter*, keg, per 100 lbs., \$2 to \$2 50; *Potatoes*, per bushel, 60c to 70c; *Flour*, per 100 lbs., \$2 to \$2 50; *Apples*, per bushel, \$1 to \$1 50; *Out Straw*, per load, \$3 to \$4; *Dressed Hops*, per cwt., \$3 to \$7; *Hief*, per cwt., \$3 50 to \$4 25; *Peas*, do., 75c; *Corn*, do., 60 lbs., 55c to 60c; *Hay*, per ton, \$5 to \$14; *Eggs*, per dozen, 12½c to 10c; *Hides*, dry, per lb., 6c to 7c; *Hides*, green, 5½c; *Sheepskins*, fresh off, 75c to \$1 75; *Calfskins*, per lb., green, 8c to 10c; *Calfskins*, do., dry, 14c to 15c; *Chickens*, per pair, 20c to 30c.—*Prototype*, June 27.

**Hamilton Markets.**—The market yesterday was poorly supplied, as is generally the case on Mondays. Grain is on the decline; wool finds a ready sale at from 45c to 44c per lb., little brought in yesterday. Our quotations are as follows:—*Flour*, double extra \$0 to \$0 50, extra, \$0 50 to \$0, and \$5 for No. 1 superfine. *Grain*—fall wheat at from \$1 to \$1 05; spring wheat at 96c to \$1 00; peas 60c; oats 47c; *Barley* 55c to 60c; *Corn* 65c to 70c; *Rye* 64c to 65c. *Provisions*—fresh butter is plentiful at 13c to 15c, tending downwards; retail at 15c; dairy tub brings 12c, eggs 13c to 15c, cheese in good demand at 12½c to 14c. *Pork*—*Meat*, \$15 50 to \$19; prime meat \$15 to \$10, hams, uncovered, 10c; do. covered, 12½c; shoulders, uncovered, 9c; do. covered, 10c. *Hay*—per ton \$10 to \$12, straw, per load \$3 to \$5. *Firewood*—No. 1, \$3 50 to \$4; No. 2, \$2 50 to \$3 50 per cord. *Fallow*—rough \$5; do. rendered, \$6 50. *Hides*, green, (trimmed) \$3, do. (untrimmed) \$2 50. *Calfskins*, per lb 7c to 8c. *Sheepskins* and *Lambskins* \$1 to \$2. *Wool*, 42c to 44c.—*Spectator*, June 27.

**Quebec Markets.** June 27.—*Fall Wheat*, per bushel \$1 10 to \$1 15; *Spring Wheat*, \$1 07 to \$1 03; *Oats*, 40c; *Peas*, 60c to 60c; *Barley*, 60c to 60c; *Hay*, per ton, \$7 to \$10; *Straw*, per load, \$4; *Butter*, 12½c to 15c; *Eggs*, per dozen, 10c to 11c.—*Advertiser*.

**Galt Markets.** June 27.—*Wool*, per lb, 41c to 42c; *Flour*, per 100 lbs, \$2 50 to \$3; *Fall Wheat*, per bushel, \$1 12 to \$1 13; *Spring* do, do, \$1 to \$1 10; *Barley*, do, 55c to 65c; *Oats*, do, 37½c to 40c; *Flax Seed*, per bush, \$1 to \$1 25; *Butter*, per lb, 13c to 14c; *Eggs*, per dozen, 12½c.—*Galt Reformer*.

**Montreal Markets.** June 26, 1865.—*Flour*, per barrel of 196 lbs.—Superior extra, \$5 10 to \$6 30; extra, \$5 50 to \$5 90; fancy, \$5 60 to \$5 70; superfine from Canada wheat (old ground), \$4 80 to \$5 00; superfine from Canada wheat (fresh ground), \$5 to \$5 35; market exceedingly dull, transactions being restricted to small lots for local use; no demand for round lots, and most of what is now coming forward goes into store. No sales transpiring on which to base a change of quotations—figures of the past two or three days are therefore continued; a lot of U. C. bag flour at \$2 90. *Oatmeal*, per brl. of 200 lbs., \$4 50 to \$4 60, according to quality. *Wheat*, per bu. of 60 lbs., only a few hundred bushels reported as received by canal since Saturday morning; no sales reported. *Corn*, per 50 lbs, a sale of 13,000 bushels, to arrive at 67c. *Ashe*, per 100 lbs., sales of first lots at \$5 20, \$5 22½, and \$5 25; seconds, \$5 60; first pearls have brought \$5 40 to \$5 42½; seconds \$5 50. *Butter*, per lb., a lot of very choice mentioned as bringing an extreme price, otherwise the business doing is of a retail character. *Pork*, per brl. of 200 lbs., no wholesale transactions. *Cheese*, per lb., latest sales of dairy at 9c to 9½c; and of factory at 10½c to 11c.—*Witness*.

**New York Markets.** June 27.—*Flour*.—Receipts 10,331 bbls; market dull, and 5c to 10c lower; sales 5,800 bbls at \$5 30 to \$5 60 for superfine State; \$5 00 to \$6 05 for extra State; \$6 10 to \$6 15 for choice do; \$5 30 to \$5 65 for superfine Western, \$5 90 to \$6 25 for common to medium extra Western; \$6 60 to \$6 75 for common to good shipping brands extra round hoop Ohio. Canadian flour dull and 5c lower; sales 320 bbls, at \$6 00 to \$6 20 for common, and \$6 25 to \$3 00 for good to choice extra. *Rye* flour dull. *Wheat*.—Receipts, 27,957 bushels; market dull and drooping; sales 7,000 bushels amber Milwaukee at \$1 39—an outside price. *Rye* quiet. *Barley* dull. *Corn*.—Receipts 17,914 bushels; market dull, 1c to 2c lower; sales 41,000 bushels at 70c to 78c unsound, 80c to 85c sound mixed Western. *Oats* dull and drooping at 74c to 75c for Western. *Pork* higher; sales 1,300 bbls, at \$24 50 to \$24 75 for new mess; \$22 75 to \$23 00 for 1863 and 1864 do; \$17 75 to \$18 for primo. *Beef* dull.

**Advertisements.**

**IMPORTED POLLED ANGUS BULL FOR SALE.**

THE Subscriber offers for sale, at a low price, his splendid and justly celebrated Imported Polled Angus Bull, six years old. Full particulars may be had on application to

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By Naponee, C. W.

July 1st, 1865.

v2-13-1t

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HUGH MILLER & CO., recommend to farmers their **Tick Destroyer**, which has been fully tested in the old country and Canada, and has never been known to fail. Can be used either as an ointment or a wash. Price thirty-five cents a pound,—three pounds for one dollar.

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For lists and particulars, apply to the proprietor,  
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Toronto, March 15, 1864. #W

**JOSEPH HALL'S  
AGRICULTURAL AND STEAM ENGINE WORKS,  
OSHAWA, C. W.**

In announcing the death of Mr. Joseph Hall, his executors return thanks to the Canadian public for the very liberal patronage heretofore extended to him, and have to say that the business at this place will be continued by them without change or abatement in any particular.

As has been the case for several years, the business will be conducted under the immediate supervision of the undersigned, one of the executors, assisted by able and experienced foremen, in the several departments, and with facilities for manufacturing unequalled in Canada. It will be the aim of the executors to so conduct the business, as not to impair, in any degree, the reputation so long and justly enjoyed by Mr. Hall's manufactures, and they hope to receive a full share of patronage.

As heretofore, special attention will be given to the manufacture of Agricultural Machinery, including

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Single and combined, Birdsall's Clover Thresher, Huller and Cleaner, Grain Drills, Sowing Machines, &c. The Machines will be finished throughout in the finest style, and will be warranted to give satisfaction.

Attention is also called to the General Machinery and Job Department, wherein we shall continue to manufacture

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Executor, Oshawa, C. W.  
v2-13-1

Oshawa, July 1st.

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v2-12-2t

**ROOT SEED SOWER,  
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THE Subscriber has obtained a patent for the above Machine, which he desires to introduce to the notice of the Farming community. It will sow, and evenly distribute all kinds of root seeds, in any required proportions. It will at the same time distribute manure or plaster, in any required quantity.

It will sow and distribute the seed with or without any manure or plaster. It will distribute, without injury, plaster or ashes over plants when they come through the ground. It will sow double or single—two rows, or one at a time. It can be worked by manual labour, or by horse power. It is the most complete article of the kind, and one of the greatest LABOUR SAVING INVENTIONS yet brought under public notice.

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**JAMES CLAYTON,  
Farming Implement Manufacturer, &c.**

Waltby, April 14th, 1865.

v2-3-6t

1865.  1865.

**NOTICE.**

**THIS YEAR'S IMMIGRATION.**

IMMIGRANTS of the classes so much needed in Canada, Domestic Servants, Mechanics, Farm Laborers, &c., are now beginning to arrive and may shortly be looked for in increasing numbers. It would therefore be very desirable that parties in Canada wanting any of the above classes, should signify their wishes (the kind of person wanted, wages, &c., &c., and the best mode of reaching the applicant), and address any of the following Government Immigration Agents:—

- HAMILTON, . . . R. H. RAE.
- TORONTO, . . . J. A. DONALDSON.
- KINGSTON, . . . J. McPHERSON.
- OTTAWA, . . . W. J. WILLS.
- MONTREAL, . . . J. H. DALEY.
- QUEBEC, . . . A. C. BUCHANAN,

CHIEF AGENT.

A record of such applications will be kept, and no pains spared by the various Officers of the Department to supply all wants.

Proprietors or Agents having improved farms or lands for sale or lease are invited to forward printed descriptions of same for the free inspection of immigrants and distribution.

A. C. BUCHANAN,  
GOVERNMENT IMMIGRATION OFFICE,  
Quebec, 1st April, 1865. Chief Agent.  
v2-7-6t.

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ALSO IN CANADA.**

IMPORTANT TO CHEESE MAKERS. The undersigned is prepared to fill any amount of orders for **CHEESE BOXES** and **SETTERS**, at a very low rate. All orders will be strictly attended to.

ADAM OLIVER,  
Ingersoll, March 24, 1864. v2-7-6t

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