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The Field.

Life in the Backwoods.

THE accompanying illustration gives a view of the rough beginnings of a home in the backwoods of Canada. It will recall to many of our readers their first experiences in the bush; show to others how their ancestors battled with primitive difficulties, and changed the wooded wilderness into a fruitful field; give a picture of present scenes and surroundings to settlers in our newer townships; and show to city

close at hand. He need not haul the logs that form its massive frame-work, many yards from where they grew, unless indeed, there be a cedar, tamarack, or black ash swamp not far distant, and he prefers to build his house, of lighter, straighter, and more uniform logs than are already on the spot. A well-built log house is by no means to be despised. There is a fitness about it that cannot fail to impress every observant mind. Our wonder is that with the architectural capabilities possessed by the new settler, better and more permanent log-houses are not erected. In our second number, Vol. I, we gave an illustration showing how a little skilful exercise of taste will

the biggest logs are chosen for the bottom course, and they are hastily bedded somewhat, and the work proceeds. More pains ought to be taken with the bottom tier. It would be unreasonable, perhaps, to expect the laying of a stone foundation, though it would be the wisest policy imaginable; but surely good solid blocks, on end, might be let into the ground, in order to prevent that chronic evil in log houses—*settling*.

In travelling through the newer sections of this country, one observes a great difference in the log structures. Some are contracted in size; composed of rough, crooked, gnarled logs; the ends wretchedly



residents here, and people in the old country, the prosaic reality of Canadian pioneering. Here are shown the first clearing, and the rude, yet not uncomfortable log-house.

Having inspected his estate, and selected the most advantageous site for his future residence, our settler plies his axe, and by felling a few of the trees on the chosen spot, lets in the long-excluded day light. His dwelling is to be constructed of materials that are

make a log-building attractive and ornamental. Other styles might be adopted, equally if not even more tasteful. Surprise has been expressed by good judges, that logs have been so little, if ever used for gardener's cottages, porter's lodges, and farm houses on pretentious estates.

One evil committed usually in putting up the settler's first habitation, is neglecting the foundation. A moderately level spot of ground is pitched upon;

hacked, and projecting irregularly; the ceilings low; windows very small; roofs made of bark; and if you enter them, you will find they have earth—or, as they are more appropriately called sometimes, "dirt" floors. Others are spacious; made of straight logs, gradually decreasing in size toward the eaves; the ends cut smoothly and the corners finished true and square; the ceilings high, windows of good size; roofs neatly shingled with either short or long shingles; and in-

side, you will find a good floor of sawed and, perhaps, planed lumber. It may be urged that many settlers have neither the means nor the skill to manage all that is desirable; but, generally speaking, by arranging an exchange of work with some skilful neighbour, the most important points might be secured. Elbow and head room, airiness, neatness, and workmanlike appearance, might surely be achieved from the outset. Even though a bark roof and a "dirt" floor must be borne with at first, they might soon be exchanged for shingles and planks. Sawing and planing are not needed about the exterior of a log house: with the axe alone a good wood-cutter will make very smooth, neat, and handsome work.

Our friend, the proprietor of the homestead in our engraving, has got on remarkably well for the short time he has been at it, and is what would be called rather a "forehanded" settler. He has not only put up a very decent-looking house, but a good barn. He has a yoke of oxen, a cow, waggon, pig, and chickens. There is a good rifle in the house which furnishes venison in plenty. The Spring is well advanced, and he has got a neighbour to help him in rail-splitting and fence-laying. He will pay him in exchange work by himself or his oxen, or both. There is much in his progress thus far, which needs to be explained to the uninitiated, but we must leave that to a future opportunity.

Coe's Superphosphate of Lime.

We have been perhaps culpably tardy in calling attention to the above valuable fertilizer, the manufacture of which is now carried on in Montreal and Toronto, and the sale of which is becoming an important item of business. So many worthless nostrums have been palmed off upon farmers in various parts of this continent under the name of superphosphates, that we have been purposely cautious not to commend without the most convincing proof of excellence. Such proof is now at hand. We used some of this artificial manure under very unfavourable circumstances during the past season, and though we are unable to speak of definite results, we are satisfied that it well deserves a fair trial from all tillers of the soil who are unable to make what manure they want. We found it extremely beneficial to potatoes, increasing the yield largely, and hastening maturity. Its effect on most garden crops was very marked. We hoped to have given it a trial with turnips, for which it is especially adapted, but from the extreme lightness of our soil and the drouth, did not succeed in getting a plant. We hope to try it the coming season under more propitious circumstances.

Many very decisive testimonies have reached us from various trustworthy quarters. The value of superphosphate as a dressing for Indian corn, turnips and flax has been set forth in letters which have appeared in our advertising columns recently. A communication certifying to its influence on oats, peas and buckwheat, appears elsewhere in this issue. As a top-dressing to wheat, it has been found most beneficial, producing longer and stronger straw, larger ears, a plumper sample of grain, and maturing the crop earlier. It has been found an excellent application for barley, and indeed for all grain crops. But all who have made trial of it with potatoes, concur in representing its effects as wonderful. It seems particularly suited to them, and in this respect supplies a long-felt lack, the usual manures developing a tendency to the rot. Mr. John Taylor, of Almonte, testifies that at the rate of 400 lbs. of superphosphate to the acre, no other manures being applied, his potato crop was at the rate of 750 bushels per acre—an almost incredible statement. We give extracts from two letters, written by parties, our knowledge of whom enable us to place the fullest confidence in their declarations. The first is from Mr. Wm. Whitlaw, late Warden of the County of Wellington, and one of the best farmers in that fine section of Canada. He says, in regard to a crop of turnips:—

"I had a field of ten acres which was manured—with the exception of one acre—at the rate of twelve loads of farm-yard manure per acre. On this acre I applied 300 lbs. of phosphate, and no other manure. At the gathering of the crop, it yielded 100 bushels more than any other acre of the field, the whole yield being 5,400 bushels. The phosphated acre appeared the best through the season, and what was very singular, an army worm which appeared in the fall and devoured the leaves of the turnips extensively on the field, scarcely touched that acre that had phosphate."

The manufacturer furnishes the following statement for 10 acres according to above experiment:—"With farm-yard manure alone, 10 acres, 120 loads, say \$120, yield 5,300 bushels. With phosphate alone:—10 acres, 3,000 lbs., \$50 per ton, \$75, freight say \$6.—\$81, yield 6,300 bushels. It is better to apply the phosphate with farm-yard manure. In this case, had the 120 loads and the 3,000 lbs. been all applied together, the crop would probably have exceeded 8,000 bushels."

The second quotation is from a letter by Captain John Taylor, Agent of the Hon. George Brown, at his farm near Bothwell:—

"We have, during the past season, made a very liberal use of your Super-Phosphate of Lime on the farm belonging to the Hon. George Brown, in the vicinity of this village; and while I am unable to say what the result would have been had said season been an ordinary one, I can with safety affirm that, without its application—taking the remarkable drouth into consideration—some of the crops, more especially those of corn and turnips, would have been poor indeed; whereas, notwithstanding the extraordinary dry weather we had, they have exceeded our (at one time) most sanguine expectations. We used the Super Phosphate in various ways, principally on the fields where the turnips, beets, carrots, beans and corn were sown and planted, and we also used it on a ten-acre field of oats, and on this last the effect was very marked."

Analyses of Coe's Super-Phosphate have been made by eminent chemists with the most satisfactory results. Dr. Thomas Anderson, Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland, says:—

"I have analysed Coe's Super-Phosphate of Lime, manufactured in Montreal, Canada, which is clearly a well and carefully manufactured manure, made from excellent materials and thoroughly genuine."

Dr. Croft, Professor of Chemistry in University College, Toronto, and Chemist to the Board of Agriculture of Upper Canada, in reporting an analysis which he made of the Super-Phosphate in September, 1863, remarks:—

"The manure—containing in the insoluble portion, phosphate and sulphate of lime—and in the soluble portion so large a proportion of the salts of ammonia in such a form as to be readily assimilated by the plants, must be a very valuable substitute for Guano or other manure."

A more recent analysis by Prof. Croft is thus reported by that gentleman:—

"This artificial manure, which is now manufactured both in Montreal and Toronto, is coming into very general use as a substitute for Guano, and there can be little doubt that it will entirely supersede that manure. Several so-called Super-Phosphates which have come under my notice, contained little or no soluble phosphate, owing probably to an error in its manufacture, while Coe's Super-Phosphate contains a large proportion. A sample taken from several hundred barrels was lately analysed with the following result:—

Salts of Ammonia,.....	19
Soluble Phosphate,.....	13
Animal matter,.....	20
Bone Phosphate and Sulphate of Lime,.....	40
Water,.....	17
	100

"The large quantity of animal matter which, by its slow decomposition, will yield a very considerable amount of ammonia, the soluble and insoluble Phosphates will all tend to render this compound a very valuable manure."

The portable nature of this fertilizer, the ease with which it is handled, and its freedom from offensive odours, constitute very strong recommendations in its favour; and if it be kept up to its present quality, as we doubt not it will, we predict for it a greatly increased popularity.

Work for February.

Nor much can as yet be suggested in addition to the outlines of "Winter Work on the Farm," given in our issue of December 1. It is still winter, and such operations as were then enumerated, viz: the care of stock, manufacture of manure, preparation of fence material and fire-wood, making and mending various implements and conveniences, account-keeping, planning, and mental improvement, are nearly all that can be urged upon the farmer's attention. A few extra hints may however be thrown out. Cellars under buildings should be carefully examined and kept as clean as possible; apples, potatoes, and other roots, should be picked over, and those which are decayed or decaying removed. Ice-houses, if not filled already, should be filled during this month. Full directions on this subject will be found on p. 269, No. 17, Vol. I. of this journal. It is a good time to clean chimneys by burning them out while there is snow or frozen moisture on the roof. If scraping is preferred, the job ought to be done before the shingles become dry, as the soot may accidentally take fire and burning cinders falling on the roof set the house in a blaze. It is well to clean away the accumulations of snow from eave-troughs before thawing weather comes. This may be done with a ladder and long-handled hoe. During this month, orchards



should be examined with a view to destroying nests of caterpillar's eggs. Every shoot like that shown in the annexed cut, should be clipped off and destroyed. Each nest contains some hundreds of eggs, and it is easier to clear the trees now than after the eggs are hatched and the webby tents formed. A day when the sky is rather dark, is recommended for this work, as the eyes will be pained by constantly looking upward on a clear day. A pair of shears or knife a pole, and a basket hanging on the left arm, form an equipment for this job. Orchards may be top dressed with manure this month. Valuable time will also be saved by hauling manure to distant fields. Waste may be prevented by a slight covering of muck. Open drains or channels in wheat fields which have become choked by snow or ice, should be cleared out on the approach of thawing weather. Farm labourers, where needed, should be engaged in good season,—the best are apt to be spoken for early. If new tools or implements are wanted, get them at once,—time will be precious when spring work begins. If you think of planting fruit trees the coming season, send your orders to the nurseryman without delay. A supply of seed should also be provided in good time.

Drainage and the Law relating thereto.

To the Editor of THE CANADA FARMER:

SIR,—As THE FARMER penetrates every nook and corner of our land, and is, moreover, specially designed to advance and advocate the interests of the farming community, I deem it my duty to bring before the public, through its columns, a subject of great public interest, viz., Drainage and the law relative thereto. There can be no doubt but the question of proper drainage of the soil will henceforth receive from the farming community an amount of attention to which it has not hitherto been considered entitled, not because the subject was really less entitled to consideration in bygone years than now, but because the great mass of tillers of the soil have had their attention mainly engrossed with the clearing up of the primeval forest, and rendering it fit to yield a sustenance to the sons and daughters of toil. But now that in many parts of our land the stubborn soil has been broken up, the roots decayed, the stumps rapidly disappearing, if not already numbered among the things that were, a new subject is propounded for the consideration of our rural population, viz., How shall the lands which we have cleared

be made to repay us for our past labours, as well as support us in futuro comfort? To this there can only be one reply, viz., by improved husbandry. Now the first step towards improved husbandry, unquestionably is *drainage*. As regards the law on this subject, it is sadly defective, and requires not only to be amended, but entirely remodelled. It is true there are those who think it perfectly good, as it is, and such will probably say, let well enough alone, but it will generally be found that such persons are strongly tainted with the principle of selfishness, and are at present so situated that the law as it stands is in their favour. Place these gentlemen in the position of their neighbours, and they will at once recall to your memory the fable of the farmer and lawyer discussing the question of the bull, having gored the ox. It will be remembered that when Old Legality understood that the farmer's bull had gored his (the lawyer's ox) he considered it right that he should receive one of the farmer's oxen in return for the injured animal, but when informed that the case was misstated, and that it was his (Legality's) bull that had gored the farmer's ox, he considered the case so materially altered as to require serious consideration. So it is with the parties who are satisfied with the existing law on the subject of drains and water courses. Place farmer A in the position of farmer B or C, and, like the lawyer, he will see the case in another light. One of the principal defects in the existing law is that in all cases where it is necessary that a farmer, for the purpose of obtaining sufficient fall for the proper drainage of low or swampy lands shall have to pass through his neighbour's farm, the law provides for the cutting of an open drain which shall remain and be kept open.

Now, sir, I contend that this is manifestly wrong, as, I think, will be admitted by any unprejudiced mind. It is certainly right that the law should allow A to pass through the land of B for the purpose of getting a sufficient fall to allow the surplus water on his farm to pass off, but it is equally certain that it is wrong to allow A to place a permanent open ditch on the farm of B without full remuneration to B for the damage done by such obstruction; nor should A in any case be permitted to pass through the farm of B with his ditch if he can get the water off his farm by the roadside or any other way without much additional cost. Another point is, if B can improve his lands by closed drains—and in so doing it is necessary to carry his drain to the line dividing his farm from A's—shall A be permitted to drain his farm into B's drain without remunerating B therefor? as it is self-evident that the drain, which may be quite sufficient for the carrying off of all the water rising on B, may not be sufficient to carry off the water from 10, 20, or it may be 50 acres of A's in addition. Thus it will be seen that unless by agreement with B, or on the decision of competent and disinterested judges, A should not be permitted to run his drain into B's without compensation therefor to at least half the cost of making and keeping in repair. Another question arises as to whether such drain should be cleaned out by A or B in the event of its becoming obstructed, as circumstances may arise in which it may be necessary for A's interest that the drain shall be immediately cleared out, while on B's part there is no urgent necessity for haste in the matter. Similar difficulties are incident to open drains, as in the case of covered drains. B may have the field through which the drain passes in grass, or pastured; in either case a little extra moisture from a summer rain may be a benefit rather than an injury to him; while A having the field so drained under fall wheat or barley, mildew or rust may result from the drain not taking off the water. Just the same with an open ditch or water course, A's fall wheat may require that the ditch be kept clear of any obstruction, while B having the field through which it passes under pasture, his cattle are daily crossing and re-crossing the ditch and breaking down the sides; also his hogs will wallow in the ditch, and certainly it is their just and inalienable right to do so; yet, in the exercise of their natural right, they will often raise such obstructions as may be a ground of action against their owner by his neighbour A, unless the law protects both B and his porkers in the enjoyment of their rights. But, let the law be so framed that in all cases where it is possible for A to send the water requiring to pass through B's farm, through an ordinary tile-pipe or sluice of any kind, he (that is A) shall be compelled to cover his drain, and when obstructed, clear it out at his own expense, and a fertile source of contention and litigation will be removed; and I think, whatever may be A's opinion in the matter, all disinterested parties will say that B, in such a case, is subjected to quite sufficient disadvantage in having his crops liable to be trespassed upon by A in cleaning out his drains. Hoping that the public mind may be prepared for an amendment of the law,

I am, yours, &c.,

Fullarton, Dec. 26th, 1864. D. McPHAIL.

"E. M.'s" Experience in Raising Flax.

To the Editor of THE CANADA FARMER:

SIR,—I was rather surprised to notice an article in THE CANADA FARMER of 2nd Jan., signed "E. M.," Sidney, Co. of Hastings, endeavouring, to all the extent in his power, to bring flax culture into disrepute. Having felt considerable interest in flax culture, I have taken steps to investigate the case alluded to, the particulars of which, I think I am now enabled to lay before you, so that others of your readers may judge for themselves.

In the first place, however, I quite agree with your just remarks, that "E. M.'s" letter is a very vague and meagre one. Had he given the quantity of ground, quantity of seed per acre, time it was sown, number of hands required to pull it, nature of the season, &c., &c., it would have enabled one to have arrived at a more satisfactory conclusion. I had, therefore, intended to request "E. M." to oblige your readers with these particulars, but reflecting that considerable time must elapse—as THE CANADA FARMER is only issued once a fortnight—and as the seed time will soon be upon us, there is not much time to spare. Moreover, there was a degree of uncertainty as to getting the details from him at all, while in the meantime, this article, if left unheeded, had the opportunity of doing injury, amongst those who were not acquainted with the details. I have, therefore, taken the initiative, and have learned from the books of the flax mill in this county, that a party from Sidney, whose name bears the initials of "E. M.," did bring in his crop of flax straw last autumn, that he was paid at the rate of \$14 per ton, receiving 95 cents. This may not, however, be your correspondent, but it looks extremely like his case as he states it. The extent of his crop, about which he complains so much, and which he says required "over two days' work to pull it," actually amounted to the formidable quantity of one hundred and thirty-eight (138) pounds weight of straw! You are well aware of the extraordinary season of drouth we experienced last summer. Old, intelligent, and reliable farmers admit that they have not known its like within the past fifty years. It was not altogether the severe drouth that formed this unpropitious and almost unprecedented year. The spring rains continued so incessantly that this section of the country was, in many parts, quite inundated, thereby preventing the farmers from getting all their ploughing done until about the middle of June, consequently the flax seed was sown about an average, at least, of five weeks beyond its proper time. From that date the rains ceased, and I do not think the crops received another beneficial shower so long as they remained in the earth.

Now sir, I would ask you, if you consider "E. M." has been justified in rushing into public print, after such a miserable one year's trial of such a paltry crop? Had he thoroughly prepared, say 5 or more acres of suitable land, sowed it about the first of May, or last week of April, if possible, with a suitable quantity of seed, had it been an ordinarily good season, had he got it pulled in something like a reasonable amount of time, &c., &c., and when all was done that could be done, by way of a fair trial, had he then found his returns so unremunerative he might have been justified in ceasing to grow this crop, and even in warning his neighbours; but as it is, his is a widely different case.

I will now take the other side of the question, and give the experience of farmers with whom I am acquainted, some of whom have grown flax for years past. They admit that they realized double and treble the amount last year for their flax crop that they did for any other crop they had on the same extent of ground, and which was realized, had as the season was, \$20 to \$25 per acre, after paying for their seed and pulling. Did any other crops in the county of Hastings realize such sums this past year? As to the pulling which "E. M." seems to make such a bugbear of, I admit it is not a job for kid gloves, but I have heard many respectable farmers state that they would much rather pull it than cut it (even although the flax-mill owner would take it in that shape, which he cannot) as the weight of the roots pays for the extra labour, and they got their land

thoroughly cleaned, and ready for a second crop, which, if the flax is off by the last week in July or so, as it can be by early sowing, there is plenty of time for turnips, rye or buckwheat.

"E. M." further states that he prefers adhering to his favourite crop, "hay," as he can get at least an equal weight per acre and the same price. I notice by the *Globe* that at a meeting held lately in Toronto, it was stated that 3 tons of straw and seed per acre was considered an average crop of flax in a good season. This, at \$11, would be \$42, or at \$15—the price paid in numbers of cases at the flax-mill here for a really good quality—would be \$45. Will the hay crop yield this sum? But I have known 4 tons per acre grown in the township of Thurlow before there was a flax-mill here at all. It is not every year that hay brings \$14 a ton. Probably "E. M." will remember when hay was sold in Belleville for about \$6 a ton; and it is not impossible that hay may tend in that direction again before many years, although it is to be hoped it will not.

As to the absurdity of comparison which "E. M." attempts to draw in alluding to the harvesting of wheat versus flax, I really cannot see it, unless the matter be turned the other way. I suspect the fullest and most solid explanation of "harvesting" a crop is when the money is harvested in one's pockets in the shortest time possible. With wheat it has to be cut, bound up in sheaves, driven to the barn, then threshed and cleaned, then driven to a market, universally an uncertain one (as to prices), because about the most speculative business in the world.

With flax, when it is pulled and properly winnowed on the field for a few days in hot dry weather, it has simply to be bound up in moderately-sized sheaves and taken direct to the flax-mill, where, for a good article, the price is known beforehand, and what is probably of still greater moment, in many cases, it is about the first money in the shape of a crop that the farmer can lay his hands on. I fear I have transgressed in sending you so lengthy an article, but I trust the importance of the subject in question will be a sufficient apology, as it is very desirable to see the cultivation of the flax plant carried out as successfully as possible, it being the first step towards getting linen manufactories and oil-cake mills in our midst.

In conclusion, then, I must confess I can see no justifiable reason whatever in "E. M.'s" bringing his embryo grievance so hastily before the public, except it be that memory still painfully reminds him of the toilsome days he had in jerking out his 138 lb. crop from mother earth. These days we may assume to be 2½, and I would also have the charity to include the field time of two stout horses, necessary to collect this burden.

CANDOUR.

Thurlow, Co. of Hastings, C. W.,
18th January, 1865.

"Why Hedge Rows are scarce in Canada."

To the Editor of THE CANADA FARMER:

SIR,—I am sorry that your correspondent "A Farmer," at Port Oshawa, should be annoyed at my having written of his class "as too lazy and shortsighted to give the subject of hedge-rows attention." I do not withdraw the imputation, though it is possible that I may have very "imperfect conceptions about the shrub," available here for the purpose indicated. I think otherwise! I have had forty-five years' experience as a farmer at home, and have been and am a proprietor of hedge-rows, and these fences have consisted of the much-esteemed hawthorn, beech, and hornbeam. To the first of these, the English landowner and farmer give the preference, and I will state the reasons hereafter.

Since I have commenced writing to you about hedge-rows, I have met with a lecture delivered nine years ago, by a then farmer, now the Provincial Secretary, the Hon. W. McDougall, M. P. P. I think you would do "the whole class of farmers in Canada" a great kindness, if you would re-produce at intervals, the interesting and instructive lecture.

To evoke some opinions upon this point, daily becoming of more interest, as the materials for making the hideous snake-fence are fast disappearing, and for which a substitute must be found, I suggest to you to begin with the very questions submitted to the farmers of Upper Canada, by Mr. McDougall. They appear to me to exhaust the whole subject. Here they are:—

1st. What description of fence do you prefer for ordinary farm purposes?

2nd. Do you approve of live fences, and what do you use as a hedge plant?

3rd. Be so good as to describe briefly your mode of setting out and cultivating, &c.

4th. What are the accidents to which live fences are subject in your experience, and how do you guard against them?

5th. How many years before your hedge becomes a good protecting fence?

6th. Have you had any experience in growing the Osage orange?

7th. What is the cost per rod of planting a hedge on your plan, and how much per rod for each year until it becomes a protecting fence?

8th. How does this cost compare with that of a substantial post and board fence as you make them?

9th. Have you tried the native thorn of this country, and with what success?

Many of the answers given to the above questions, strongly confirm the opinions I have given without having previously seen the lecture. I have seen the hedge-rows near Newmarket, and they have not been cut down by the cause named by my antagonist, but they have not been tended by competent hands, but have been allowed to grow up to a height of from 15 to 20 feet, and are now small trees, instead of being fences of about five feet high at the utmost, and kept to that height by "plashing" the larger plants to induce a fresh sprouting from below.

I can show him in this city, and within a mile of it, scores of these neglected but still vigorous trees, and I can show him various other more favourable instances within 20 miles. But the seed of the hawthorn cannot be now procured in Canada. They require to be buried and pulped and then planted in a nursery or garden, until large enough to transplant to their permanent future destination. But we have abundant and excellent material at hand, and at our very doors in many cases. Next to the hawthorn is the native thorn of this country, to be found in every bush from Sandwich to Quebec—the *Crotogus crus-galli*—cockspur thorn. A fine specimen of a hedge from this material, can be seen at Mr. William Baldwin's, at Mashquatah near this city. The next material in point of value, I consider the *Rhamnus catharticus* or buckthorn. Tens of thousands of these plants, ready to plant out, can be had at George Leslie's, on the Kingston road, close to Toronto. The cattle and insects won't touch it from the properties indicated in its name.

Next in value perhaps, would be our own native beech. The plants, however, to be used for fencing should be raised from seed. Those found in the "bush" do not bear transplanting well. A great advantage of this fence is that it will bear the shears, make an impervious fence, and as it has green leaves in summer, and retains its dead leaves all the winter, it affords an astonishing amount of shelter and shade, summer and winter.

The *fiat* seems to have gone forth against our forest trees:—"Cut them down, they are cumberers of the ground." And this *fiat* is being obeyed too literally. Fire-wood is dearer in Toronto, Montreal, and Quebec, &c., than it is in England! On many farms in this district, the farmer has hardly left himself wood enough to make a bundle of matches. In England the tenant farmer, in hundreds of thousands of instances, never burnt a bushel of coal. His hedge-rows are an inexhaustible source of wealth to him. They keep his cattle within bounds and shelter them, they heat his oven, make the calves' milk boil, warm himself, give materials for thatching his house, stable, ricks, and barns, in the shape of spars, make the mow-staddle and the sheep-fold, &c., &c.

Yours faithfully,

H. P. H.

80 Peter Street, Toronto, Jan. 9, 1865.

Fence Post Setting and Tile Draining.

To the Editor of THE CANADA FARMER:

SIR,—I saw a letter in THE CANADA FARMER some time since, recommending a plan to keep posts firm by means of cement and stones. Now, although this plan may be very good in the case of gate posts, I think it would be both expensive and troublesome for a fence. I should prefer to dig a ditch, and where practicable make a drain of stone or tile. I prefer the latter, both on account of expense and also the size of the ditch, which is an object, on account of setting the posts, as the ditch should not be wider than just to let the posts down on to the tile, and

then it will have a solid base of earth to rest against on either side, and when the boards are nailed on it will never give endways.

The object of the drain is to keep the posts from being heaved out by the frost, the action of the frost being more severe on wet land as is well known. It follows as a matter of course, that the drier the soil, the less the power of the frost. This will be plain to any one without the aid of experiment, but I have fence posts that have been set that way for three years, and are now as firm as the day they were put down.

Several of your correspondents have been enquiring about the cost of tile drains. I will tell them what they cost in this county. The tiles can be had at \$6 per thousand for 2 inch; \$10 for 3 inch; \$15 for 4 inch; \$21 for 5 inch. Add to this from 10 to 15 cents per rod for digging, the price differing according to the depth and nature of the soil, but 12½ cents is about an average for three feet deep, and the drains should not be dug less than that. A thousand tiles should lay about 60 rods of 167 feet. The advantages of underdraining cannot be overestimated. I put a piece of drain in a field 2 years since. It was seeded down this spring; I wished to extend the drain this fall, and when I dug down to find the end of the drain to start from. I found roots of clover 2 feet in length of only 6 months' growth. It would take considerable frost to heave that out I am thinking. I have not had much experience of underdraining, but I fully believe it to be the foundation of all good farming. I partially drained my orchard four years since, during which time the fruit has improved wonderfully. The trees also are making a strong and vigorous growth, in fact I believe that there is nothing will pay for draining so well as an orchard, more particularly if it be in a wet place. Lodged grain is an evil. Lime and salt stiffen the straw, but unless the land is dry, the lime and salt are injurious, the one keeping the land wet and cold, and the other causing it to bake harder than it was before, if that were possible, which in some places I think it is not. I also recommend the use of the subsoil plough to break up the hard pan, 6 inches deeper than the common plough. Read's patent English pulverizer is the best subsoiler I know of. Number 11 of THE CANADA FARMER, page 163, will tell where they are to be had.

Nelson, Halton Co.

A SUBSCRIBER.

Spent Tan Bark.

In our notes on the town of Verona, some months since, we gave an account of the advantages resulting from an application of spent tan bark to clay soil. The bark was spread upon the surface, in an undecomposed state, and ploughed under. The soil was a tenacious clay, and one of the beneficial effects produced was in ameliorating the condition of the soil—its operation being of a mechanical character. Each particle of the bark for a time at least caused a free admission of both moisture and atmosphere, thus improving the texture of the soil and rendering it more available for plants. The Rev. Dr. Chassel, of Holland Patent, while a resident of Herkimer county, made at one time a considerable use of tan bark about his barns and yards where the herds were kept, and we believe, regarded its use in this way with favour. The bark served, at first, the purpose of keeping the yards dry and clean. It caught the droppings of the cows, and when it became in part or wholly decomposed it was carted upon the land.

Trees, in their process of growth, store up large amounts of inorganic elements adapted to the sustenance of plants as is proved from analysis of the ashes, when burned. The roots of trees penetrate deeper in the soil, hence these inorganic constituents come from a deeper source than those of cultivated crops. The bark of trees contain a larger proportion of inorganic matter than the woody fibre, and when decomposed must furnish the same amount of inorganic matter as is contained in its ashes, after having been burned.

It parts with a portion of its organic matter when used by the tanner, but must receive back something of value from the hides. The great objection to the use of tanner's bark is its slow decomposition, but when it can be conveniently had for the mere cost of hauling, it might be used, it would seem, with profit in the way alluded to, or lime might be used for hastening its decomposition, and it would then be made available for the use of plants.—*Utica Weekly Herald*

GOOD CROP OF POTATOES.—The *Free Press* says that Mr. William Jones, 20th concession of East Williams, planted 2½ bushels of potatoes in a small patch of land, from which he raised 54 bushels.

GOOD FARMING.—Mr. George Tennant, of Mallorytown, Leeds County, C. W., raised this year 437 bushels of fall rye upon nine acres of ground. It was harvested in July, and after saving thirteen bushels for seed, he sold 424 bushels for \$300, and had cash in hand on the first day of August. Of the above, 300 bushels grew upon six acres, sixty bushels per acre.

SALIX ALBA, OR HUNTINGDON WILLOW.—The wood of this tree, when made into furniture, takes a beautiful polish, and the clusters of diamond-shaped spots with which it is mottled add much to its elegant appearance. It is superior to any foreign wood, from its light and chaste colour, for the manufacture of cabinets, &c. From its quick growth (averaging from three to four feet every year), and easy culture, it is one of the most profitable trees for planting by the sides of streams or marshes. Being a very tough wood, when seasoned it is difficult to work, and at the same time very lasting, even when exposed to the weather for many years without being painted.—*Scottish Farmer*.

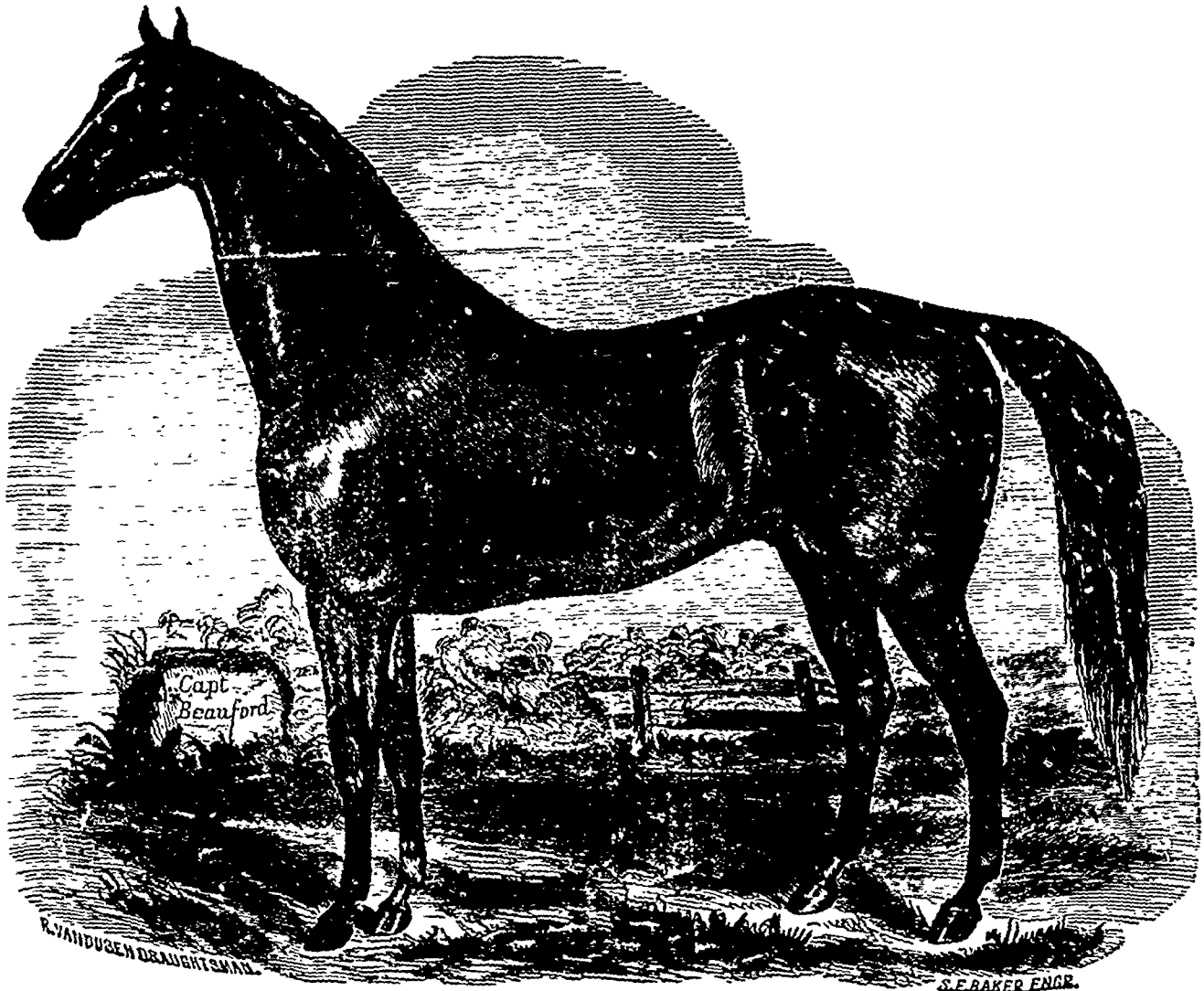
THE CULTIVATION OF POTATOES.—An agricultural society has been established at Planitz, Saxony, under the title of "Society for the Cultivation of Potatoes." The society has already published a number of reports. One of them states that the best specimens of potatoes grown in sandy soil have quickly degenerated and given only an indifferent crop in the strong clayey land in the neighbourhood of Planitz. Since the foundation of the society, in 1860, the members have made numerous experiments on strong, light, clayey, gravelly and stony soils. The society procured samples of every description of potato sold, and they propagated those which produced the best results. After a year's trial they have generally found that the greatest number of potatoes succeed best in light and slaty land.

AN ARGUMENT FOR SMALL FARMS AND HIGH CULTURE.—A correspondent of the Providence (R. I.) *Press* makes the following statement of the profits of a single acre of land cultivated the last season by D. S. Reed, of Bristol, Rhode Island:

"The profits of an acre of land. Noticing in Monday's *Press* your statements about Capt. A. B. Chadsey's crop of onions and carrots from 2½ acres, I desire to give you a statement of D. S. Reed, of Bristol. His lot contained one acre, five-eighths of which was planted with onions and three-eighths devoted to raising onion seed and some other crops of small account. He sold in one lot from the five-eighths of an acre \$1,248 worth of onions, and has 150 bushels still on hand which, at \$1.50 per bushel, would make his crop of onions bring \$1,470. From the other three-eighths of the acre he sold to Burdick & Barratt \$600 worth of onion seed, and reserved \$100 for his own use. Now add \$75 for a good crop of carrots, put in after taking off the onions, and we have the nice little sum of \$2,248 as the yield of one acre. The next income from the acre was \$2,000."

ANIMAL MANURES.—In the *Journal d'Agriculture Pratique*, M. Barral gives some interesting details on the subject of the manufacture of animal manure at Aubervilliers. This manufactory consumes every year 8,000 horses, 200 donkeys, 300 cows, 300 pigs, 9,000 cats and dogs, 6,000 kilogrammes of meat unfit for food, 500,000 kilogrammes of offal from the Parisian abattoirs, and 600,000 kilogrammes of other refuse animal matters, such as skins, horns, &c. The raw material is first cut up and boiled to extract the grease. The flesh is then separated from the bones, pressed, and dried. It is afterwards ground and sifted, and the dried bones, which are also submitted to the same process, mixed with it, forming a manure containing 35 per cent. of nitrogen and 55 per cent. of phosphate of lime. The blood is collected separately, and also made into manure. The soup obtained in the boiling is strained, and the solid matter thus collected is added to the rest. The offal is piled in alternate layers with other organic matter, such as wool and parings of horn and hoofs, with which is mixed a certain amount of mineral phosphates. The heap is well moistened with the strained soup, fermentation is set up, and the whole is gradually transformed into excellent manure. During this process the phosphate of lime breaks up into phosphoric compounds, more or less soluble, and various salts of ammonia are formed. This is really a much better use to put dead horses to than making them into saucissons de Lyon or filets de bœuf for the cheap restaurateurs.

THE THOROUGH-BRED HORSE



CAPTAIN BEAUFORD.

We present herewith an engraving of the thorough-bred blood stallion, Captain Beauford, recently imported from Lexington, Kentucky, by Mr. Joseph Grand of this city. He is of a beautiful rich chesnut colour, 16 hands high, and is heavier, and stronger built than the blood stallions we have usually had in this country. Mr. Grand informs us that he is renowned as a sure foal-getter, that he has taken first premiums wherever shown, and that his colts are very highly prized. He is of excellent descent, his sire being the celebrated Giencoe. We consider him a valuable acquisition to Canada, and hope his present owner will find the large sum he has expended in his purchase, a profitable investment.

The Breeder and Grazier.

Will it pay to soil Cattle?

This is a question which well deserves fair and full discussion. Generally speaking, it is assumed that it will not pay in a country like this where land is abundant, and labour is high. Perhaps however, this may be mere assumption. The subject is one of great practical importance, and we commend the following remarks of the *Country Gentleman* in regard to it, to the attention of our readers, more especially as they deal definitely with a matter which is too often left to vague impression.

"The great objection is the increased labour and attention involved—every farmer likes to turn his animals out where they will take care of themselves. The only way to obviate this objection is to show, by calculation or actual experiment, that a saving will result—if this can be done, thorough business men will adopt it. To assist in approximate estimates of this kind, we suggest the following:—Soiling would obviate the necessity of interior division fences. On these 70 acres about one mile would be thus saved, costing, if made of posts and boards, about \$1.50 per rod, amounting to \$180. The annual interest on this is \$33. The annual cost of replacing, if lasting 20 years, would be \$23, or \$61 saved annually in fences.

Secondly, the increase in manure would be about as follows:—A well managed farm of this size should yield every year about 200 loads of manure. If doubled by soiling, it would yield about 400 loads. But this would not be a clear gain, as the ordinary droppings on pastures are valuable; probably it would be safe to put the gain at 100 loads, worth, at \$1 a load, \$100. Thirdly, the increased growth of forage, when not trodden down by hoofs, and the free use of cornstalks and sorghum for feeding through summer, would doubtless double the feeding products of the soil. If 20 acres were in pasture, therefore, worth ordinarily \$5 per acre, a doubling of this would amount to \$100 more. These three items would amount to \$261, and would much more than pay the wages of a hired man to cut and draw the 20 acres of forage and take care of the animals in summer—even with the disadvantage of cutting by hand instead of the appliances of mowers and other machinery used in cutting wholesale in baying time. Probably this estimate may be considerably varied on examination."

Wintering Colts.

To the Editor of THE CANADA FARMER:

SIR,—Will you permit me to make a few remarks in your most valuable journal, on the subject of raising colts? I wish more particularly to speak of their management at the present season of the year. As soon as the weather begins to get cold, I com-

mence stabling my spring colts. A colt should never be allowed to stand on anything but the ground for a floor. For one colt a box 10 x 12 is a very good size, 12 x 20 feet for 2 colts.

I fix my manger on the side opposite the door, I elevate the bottom plank for a good sized spring colt, 3½ feet from the ground, the upright plank leaning towards the colt, say 12 x 15 inches high, this manger should be at least 15 inches wide at the bottom, and 18 at the top. Across this manger, from one end to the other, I place strong, round, smooth sticks of hard wood, about 16 inches apart, the back end about 6 or eight inches higher than the front, this makes a nice, handy feeding box for either colt or horse in day time. I put a nice, soft web head stall on my colt and tie him up to the manger for 2 or 3 hours per day, and then let him have the range of the box to walk about in. All the hay and grain is put in this box, and the colt in order to get his food, is obliged to stand over with his head elevated, which has the tendency to raise him on the shoulders, throws his chest well forward and teaches him to stand square upright on his feet, which habit he never forgets in after-life, and it adds 50 per cent. to the beauty and value of the horse. The stable must be kept clean, and be well bedded with good dry straw every day. Never put your stable in a low wet spot, and never

keep your colts nor your horses in a dark stable, nor a close one. The light and the fresh air is as essential to the horse as to the human family. Your slides for ventilation, should be elevated 3 or 4 feet above the body of the colt or horse. The colt requires gentle handling through the winter, a good rubbing with a wisp of wadded pea straw would be good for him, but never permit the curry comb to come in contact with the tender skin of a colt. For feeding the first winter, take two bushels of good oats, half bushel of shelled corn, 8 quarts of flax-seed, mix well together, boil in clean water and kettle, 4 quarts of the mixture every 4th day, which will make about 8 quarts after being well boiled, then administer this mixture in one quart doses every night and morning, with a small quantity of good clean timothy hay, well shaken up with the fork to quite clear it of all dust; your colt only wants 4 lbs. of hay during 21 hours, divided night and morning. If he leaves a handful, give him less next time. Be sure not to over-feed. Good, well cured corn stalks are very fine for your colts. Remember never to feed your colts turnips or carrots in the fall or winter. In the spring, when the weather gets warm, 2 or 3 carrots a day will not do any injury. By this process, I can grow the colt which would have been scarcely 15 hands on the ordinary way of starving and freezing our young colts through the long Canada winter, around the straw stack or pawing up the snow to procure a nip of dead grass, to 15 hands 3 inches or 16 hands. Observe the difference in the well cared for colt, and the one neglected. The former grows round and plump, head and tail up, eyes bright and lively, hair short, smooth and glossy, ribs oval round like a barrel, press him on the side the animal is hard, solid, firm, strong in every respect, a young horse full of snap, and of great endurance, with plenty of "go-aheadiveness." This is also good treatment for the second and third year, only increase a third each year according to age. By far the greatest number of our farmers winter their colts out-doors in the cold and snow, leaving them to eat any thing they can get. The farmer reasons in this way: they make better horses, they get tough and strong: but the fact is they get poor, lousy, and weak, their heads are constantly to the ground, consequently they drop low in the shoulder, the tops of the shoulder spread wide apart, what we call low and thick; one or other of the feet is stuck out to permit his mouth to reach the ground, the tail becomes heavy and hangs down as if there was no life in the animal; starvation, hunger, and weakness press in its ribs, they give way; the colt becomes slab-sided, out of shape, and I think ruined. A large amount of sickness and death is caused by neglect or over exertion in some way. There are two things I have great objection to; the first is a very poor colt or horse; and my second objection is to a very fat colt or horse. Both are abominable in my sight, but I like the animal in good order, nice condition, sleek and smooth, in fact I may say well cared for.

WM. HARDY.

Paris, Co. Brant, Jan. 4, 1865.

Economy in Winter Feeding of Farm Stock.

To the Editor of THE CANADA FARMER:

SIR,—The short crops of last season made the wintering of sixty head of cattle, twelve horses, and one hundred and eighty sheep a matter of serious reflection to a farmer. My first thought was that I must sell off a portion of my stock, and at a great sacrifice. The next suggested that if I could by any means save the great waste of fodder that takes place in our farm yards, by the ordinary system of feeding, and make coarser feed palatable to the stock, I might succeed in my object. My first step in this direction was to purchase the prize "straw-cutter," at our last Provincial Exhibition (the most perfect machine for the purpose I have ever seen), made by Mr. John Watson, of Ayr, C. W., price \$40. This proves as good an investment as I have ever made. It is driven by two pairs of horses (or oxen), attached to a "horse-power," and warranted to cut a ton per hour. To it I have attached a straw-carrier, which conveys the cut stuff wherever I require it. My horse feed is equal parts of hay and oat straw, with a quart of bran for each horse.

I next tried the experiment of putting peas through the "cutter." This I found succeeded to perfection. All my pea-straw was cut into sheep feed without breaking a pea, thus saving the labour of threshing with a flail. With the aid of this straw-cutter I now have great hopes of wintering my stock without difficulty. I feed in troughs with cross staves one foot apart to prevent the cattle throwing out the feed with their noses.

ERINDALE.

Toronto Township, Jan. 23, 1865.

The Dairy.

Composition and Character of Milk.

A RECENT number of the *Quarterly Journal of Science* contains a valuable paper on the above subject by that eminent chemist, DR. AUGUSTUS VOELCKER. The substance of the essay, simplified and greatly condensed so as to render it readable and instructive to the general public, we give as follows, and bespeak for it a careful perusal:—

Milk ranks among the most important alimentary materials which nature so abundantly supplies for the nourishment of man and animals. "Distinguished by a just combination of flesh-forming and fat-producing elements, with the saline which are best adapted for preserving the solution of the solid materials; remarkable for the facility with which the digestive system appropriates its nourishment; time-honoured as the support of helpless infancy; symbolical of mildness and sweetness, its very simplicity would seem a claim to its exemption alike from suspicion or enquiry; but, alas! for the materialism of the age, its value may be represented by so many pence, its mildness is perverted by adulteration, and the food of babes is too often suggestive of chalk and water with a judicious thickening of brains and treacle." It is fortunate that science can enable us to test the qualities of this invaluable fluid, and thus form a proper estimate of its worth.

Milk is the secretion derived from the blood supplied to the mammary gland of the female animal, of the class mammalia, and is never produced in any quantity until after parturition. Its density is greater than that of water. Cows' milk, of good quality, has a specific gravity of about 1030; human milk, 1020; goats' and ewes' milk, 1035 to 1042, and asses' milk, 1019, compared with water at 1000. The chemical reaction seems to be in a measure dependent upon the food—Carnivora giving milk possessing an acid reaction, and Herbivora an alkaline milk. It may be separated into cream, which consists of oil globules, formed by their envelopes of casein (curd), enclosing the fats of butter, curd or casein, albumen, milk sugar, and mineral matters, consisting chiefly of phosphate of lime and magnesia as bone earth and salts of potassium and sodium, with some oxide of iron.

CREAM varies in composition according to the circumstances under which it is produced. Dr Voelcker obtained the following results from the analysis of four different samples:—

	I	II	III	IV
Water,	71.40	64.89	56.50	61.67
Butter, (pure fatty matters),	18.19	25.40	31.57	33.43
*Casein,	2.69	7.61	8.44	2.62
Milk Sugar	4.08	1.56	1.56	1.56
Mineral matters, ash	0.59	2.19	3.49	0.72
	100.00	100.00	100.00	100.00
*Containing Nitrogen,	4342

Cream is lighter than milk, but slightly denser than pure water, consequently it sinks in distilled water. No 1 was skimmed off after standing for 15 hours, and was found to have a specific gravity of 1.0191 at 62° Fahr. The specific gravity of two other samples of cream, which stood 48 hours, was 1.0127 at 62° Fahr. and 1.0129 at the same temperature. Rich cream has a lower specific gravity than thin cream mixed with a good deal of milk, such as the sample analysed under No. 1. No. 2 may be taken as representing the composition of cream of average richness, it then contains about one-fourth its weight of pure butter. These differences in the composition of cream fully explain the variable quantities of butter which are produced by a given bulk of cream. On an average, one quart of good cream yields from 13 to 15 ounces of commercial butter. When very rich in fat it will yield rather more. Mr Horsfall states that a quart

of cream yielded 1 lb. of butter when the cows were at grass, and 22 to 24 ounces when they were housed and fed on rape, cake, bran, and other substances rich in oil. The portions of cream which rise first are thin, but rich in fat. This is due to the rupture of some of the oil globules during milking, and subsequent agitation to which milk is exposed. The light, fatty contents thus liberated naturally rise quickly to the top of the vessel in which the milk is set.

Good and pure milk differs mainly in the proportion of cream present. The appearance may not be much varied, except in extreme cases, consequently, for the determination of the quality, more reliable tests are required than the mere inspection of the fluid. The micro-copic examination of milk in health and disease has thrown much light on this interesting subject. "It must be some consolation to those who delight in miserable anticipations of dreadful mysteries in their daily food to know that we possess a method of detecting, with absolute certainty, those combinations of 'brains, chalk, and starch,' a haunting suspicion of which makes the morning and evening meal distasteful." Without denying that such adulterations exist, Dr. Voelcker affirms that he has never met with an instance. Impurities arise from a diseased condition of the animal, and the absence of ordinary caution and cleanliness in milking and the arrangements of the dairy. Globules of pus and blood discs are occasionally found. "It will not be thought that the microscope should be the companion to the breakfast-table; but in all cases where there is the least cause for suspicion, its revelations are infallible, and set at rest the doubt that is worse than certainty."

The prevalent system of adulteration, the author contends, consists in the admixture of water. The cow with the iron tail never fails to meet all the demands that the milk-man may receive. This practice is now-a-days made no secret of by parties in the milk trade. "So honestly, indeed, is the practice indulged in that we know of more than one dairyman of tender conscience who professes to supply milk of undoubted quality for the consumption of invalids and babies, while the robust are treated to an attenuation of the most unsubstantial kind." Besides the intentional dilution of milk, there is a natural dilution dependent upon the derangements of the secretive function by the food, as is the case when such matters are supplied as distillery waste, bran mashes, grass from irrigated meadows, mangold tops, and acid slops, obtained by allowing barley meal, cabbage leaves, and other vegetable matters mixed with a great deal of water to pass through the lactic acid fermentation. The effect of such food is to induce the secretion of a large amount of water, and thus of necessity a poor quality of milk. Dr. Voelcker's experience leads him to conclude that a specimen of milk is rich when it contains 12 per cent. of solid matters, and about 3 per cent. of pure fat; any thing above this is of extra rich quality. Good average milk contains 10 to 11 per cent. of dry matter, and about 2½ per cent. of pure fat. It yields from 9 to 10 per cent. of cream. Poor milk, whether naturally or artificially diluted, contains 90 per cent. of water, and less than 2 per cent. of pure fat, and yields only 4 to 8 per cent. of cream. Instruments more or less trustworthy have been invented, whereby to ascertain the quality of milk. All of them require skill and judgment in their manipulation. The specific gravity of milk is an important test of its quality. The lactometer was never intended to indicate the relative richness of good samples of milk, but to point out whether samples of a fair or doubtful appearance had been watered, or where naturally of a defective composition; and this purpose it satisfactorily fulfils.

Experiments were recently instituted in the author's laboratory for the purpose of ascertaining the influence of dilution upon the specific gravity, and the quantity of cream thrown up. Water being the

standard at 1000; cream 1012 to 1019, and good milk 1.0320; the temperature being always 62° Fahr.

The following results were obtained:—

Pure milk at 62° Fahr.	Specific gravity.	Per centage of cream in bulk.
" " and 10 per cent. of water.	1.0320	11 1/2
" " " 21 "	1.0315	10
" " " 30 "	1.0305	9
" " " 40 "	1.0290	8
" " " 49 "	1.0190	6
" " " 60 "	1.0160	5

Experiments made upon milk after being skimmed gave the following:—

Skim milk.	Specific gravity.
" " with 10 per cent. of water.	1.0350
" " " 20 "	1.0321
" " " 30 "	1.0285
" " " 40 "	1.0248
" " " 49 "	1.0210
" " " 60 "	1.0180

From these investigations it appears:—

1. That good new milk has a specific gravity of about 1.030.
2. That skim milk is a little more dense, being about 1.034.
3. That milk which has a specific gravity of 1.025 or less, is either mixed with water, or is naturally very poor.
4. That when milk is deprived of about 10 per cent. of cream, and the original volume is made up by 10 per cent. of water, the specific gravity of such skimmed and watered milk is about the same as that of good new milk; this circumstance, however, does not constitute any serious objection to the hydrometer or "lactometer," as milk skimmed to that extent cannot be mixed with water without becoming so blue and transparent, that no instrument would be required to detect the adulteration.
5. That when unskimmed milk is mixed with only 20 per cent. of water, the admixture is indicated at once, by the specific gravity of about 1.025.
6. That for these reasons the hydrometer or "lactometer," which gives the specific gravity of milk, is well adapted for detecting the admixture of water, or to show an unusually poor quality of the unadulterated milk.

Cheddar Cheese.

CHEDDAR CHEESE made in Morris, Otsego county, by F. W. Collins, was exhibited at the State Fair at Rochester, and was awarded a first premium, and pronounced by gentlemen familiar with English Cheddar in every respect equal to the very best. We believe Mr. Collins is the only extensive manufacturer in this country, and finds a ready market at 40 cents per lb. This cheese, known in market as Cheddar cheese, is made in Morris, Otsego county, N. Y., after the plan of English Cheddar.

Process of Manufacture.—Warm all the milk at all seasons to about 90 degrees before introducing the rennet. A curd is thus produced of proper consistency to make one cheese at that heat. Use calves' rennet, soaked in cold water, with plenty of salt to preserve it. When the curd becomes solid, and the whey commences to separate, cut the curd each way with a long knife, leaving it in blocks of an inch square, then leave it half an hour for the whey to separate and the curd to toughen; then break the curd carefully with the hand, so as to help the separation of the curd from the whey, gently moving it for twenty minutes, and increasing the heat to 96 degrees. The process of drawing off the whey now begins. The milk is heated by steam and the same degree of heat through the season. Keep the curd gently moving in order to retain all the cream or richness in the curd. In from one to two hours the curd will be sufficiently dry to receive the salt, which is an ounce to every five pounds of curd. It is mixed in the vat, and when sufficiently cool lift it into large hoops, and put it under press for half an hour; it is then removed and ground (in a mill for that purpose) into particles as fine as Indian corn; it is then put into small hoops and pressed two days, turning them once in the time. When taken from the hoops they are inserted into scalding brine to form a rind which is impervious to flies. If the curd is sufficiently cool it obviates the difficulty of the sticking to the stringer. The weight to be applied is 1,000 lbs. to every 20 lbs. of curd. Anato is used for colouring inside and out, and is mixed with butter for the outside. This cheese is sold in market at wholesale for 40 cents per lb.; size of the dairy 30 cows, and will produce about 250 lbs. each.—*Journal of the N. Y. State Ag. Soc.*

A Fine Herd of Ayrshires.

Our readers will remember that the State Agricultural College and Mr. E. S. Moore, of Three Rivers, have recently purchased some fine Ayrshire stock from the herd of Mr. Peters, of Southboro', Mass. We give below some statements concerning Mr. Peters' herd, which we clip from the *Rural Advertiser*:—

Mr. Peters has twenty-seven pure Ayrshire cows, and weighed the milk yielded daily by several of them from the 15th to the 25th of June, ten days. The produce of six was as follows:—Jean Armour, six years old, calved May 20th, an average weight of 54 pounds. Her milk was set separately for three days, and the cream from it produced upwards of six pounds of butter of the finest quality. Corslet, five years old, calved June 3rd, an average weight of 38 pounds per day. Duchess, five years old, 35 pounds per day. Miss Miller, six years old, calved April 7th, 36 pounds per day. Queen, eight years old, calved February 1st, 31 pounds per day. Nineteen cows, whose ages range from two to eight years, and whose period of calving extended from December to June, averaged 32 pounds each. The milk from eighteen set for one day, gave twenty pounds of butter. Most of the milk is usually sold at the farm. None of the cows were milked more than twice a day, and all, with the exception of three, travelled a mile and a half to pasture and back again every day. Excepting the first named, which had two quarts of corn and cob meal per day, none of them had anything in addition to pasture feed. Mr. Peters has recently sold two two-year old heifers and a cow, at \$150 to \$200 each. They are the first females which he has allowed to leave his herd.—*Western Rural.*

COWS MILKING THEMSELVES.—I know for a certainty that cows sometimes do suck themselves. The proper remedy—the one used in the Vale of Black Moor, in the county of Dorset—is a headstall with spikes in the nose-band.—W. F. RADCLYFFE, Rushton, in *Collage Gardener*.

THE BITER BIT.—A shopkeeper purchased of an Irish woman a quantity of butter, the lumps of which, intended for pounds, he weighed in the balance and found wanting. "Sure it's your own fault, if they are light," said Biddy in reply to the complaints of the buyer; "it's your own fault, Sir; for wasn't it with a pound of your own soap I bought here that I weighed them with?"

SAXON CHEESE.—The following method makes a wholesome and palatable cheese much used in Saxony:—Boil large white potatoes, remove the skin and mash them fine. Add a little salt. To five pounds of potatoes, add one pound of sour milk, and mix thoroughly; cover and let it stand undisturbed four or five days, according to the season. Knead it out into balls, and put in a cool, airy place to dry. They may be covered with a piece of old lace, or thin muslin, to keep them from insects, and admit the air.

COWS ROBBED OF THEIR MILK.—In reply to your correspondent "J. J. T.," and your answer to his query, I beg your insertion of the following fact:—About eight years since I had a cow which somewhat suddenly ceased to give more than the smallest quantity of milk. After nights and days of watching, we found she was regularly milked by two strong pigs, whose wonderful condition at the time was a mystery to us. I do not know anything about hedgehogs milking cows, and never heard of such a thing.—Trent, in *Collage Gardener*.

EXTRAORDINARY TENACITY OF LIFE IN A COW.—A correspondent of an Australian paper writes:—"On the night of the 4th August last, a milking cow of mine, with a rope about ten yards long attached to her horns, suddenly disappeared from her young calf, and not returning within a day or two, it became quite evident that she must have got tied up by the rope in a certain treetop scrub where she calved. A search was instituted, and continued for fourteen days without success. On Monday the 10th September, however, I saw the cows with which the missing one usually ran, looking rather remarkably into one particular part of the scrub—the supposed prison of the missing cow. I at once penetrated the scrub, and, to my sudden surprise, discovered the long-lost cow tied up by the rope, as it was supposed; she was still living and standing, but a perfect skeleton. Thus she survived for thirty-nine days without a drop of water, as the spot where she stood did not even hold surface water and without food except the treetop, within her reach, which it seems she devoured—even the roots. The poor thing is, as may be expected, a miserable spectacle at present, but, I am glad to state, gradually recovering."

Sheep Husbandry.

Sheep Ailments.

SHEEP PULLING THEIR WOOL.—E. J. Keith of Cedar Rapids, Iowa, and Daniel M. Stevens of South Avon, N. Y., inquire what will cure this. Weak mercurial ointment rubbed in small quantities with the end of the finger on the skin in a few places where the wool is pulled, will put an end to the pulling. Take the common mercurial ointment of the druggist shops and rub it down with say five or six times as much lard, and then use a piece of the size of an ordinary chestnut at one dressing. If necessary repeat this after a week. This might be safe under any circumstances, yet in case of a winter rain, or a very severe storm of any kind soon after applying the ointment, we would recommend that the sheep be kept under shelter.

As there is such a dread of the very name of mercury, we recommend experiments with the following applications:—1. Lard mixed say half and half with turpentine, and used in the same way, and considerably more freely than the mercurial ointment. 2. Sulphur and lard with or without turpentine. 3. Tobacco ointment, made by boiling fresh tobacco leaves cut fine in lard (at the rate of an ounce of the former to a pound of the latter) until it becomes friable. 4. A strong decoction of tobacco would doubtless answer the same purpose, but it would discolour the wool more than the preceding applications, and would, to a certain extent, wash out the yolk. Will some of our intelligent correspondents try these several remedies and report progress? We shall have them tried on our own sheep should occasion arise.

Dipping a sheep all over in a strong decoction of tobacco summarily cures them of wool pulling, as we know by experiment, but this would be rather an unsafe procedure in winter owing to the danger of taking cold—and would have a very disagreeable effect on the appearance of the whole fleece. This last result would not follow the necessary amount of tobacco ointment, and we have no doubt whatever that it would be found a certain remedy. It is also an excellent dressing for irritable ulcers: and we trust that quantities of it will be prepared and kept on hand for use by our sheep farmers when the tobacco crop reaches the proper condition next summer.—*Rural New Yorker.*

"STUFFLING, SNEEZING AND COUGHING."—Jane Crouch, Newton, Jasper Co., Iowa, wishes to know the "cause and cure" of the above symptoms in sheep. The cause is cold—caught by some unusual exposure. If the sheep is in good condition, and the cold is not very severe, it is not usual to do anything but take good care to guard it against further exposure by proper shelter. If the sheep is thin, or the animal attacked is a teg, the matter is more serious. The favourite prescription among farmers is to give it a tablespoonful of tar or daub its face and nose with tar; we can bear evidence to the efficacy of either remedy.

THOUSANDS OF SHEEP have been lost in Interior California from cold weather. They were sheared too late in the fall.

TWELVE SHEEP belonging to D. K. Chase, of Calais, Me., were killed by a dog one night last week. He had paid seven dollars each for them the day before.

A PROLIFIC EWE.—Mr. Chick, of Stratton, has a ewe which has just brought no less than six lambs, five of which were alive at the time, and four are now doing well. During the last four years this sheep has had no less than fifteen lambs, having brought threes in each previous year.—*Dorset Chronicle.*

CALVES WITH SHEEP.—It is well known, perhaps, to most of our agricultural readers, that late calves, when they come to the barn in the fall, will, if confined in yards with older animals, frequently sicken and become debilitated. Being weaker and small, they are usually shoved about, and deprived of their due share of food, and in consequence, fall away rapidly. Now I never allow animals of this description to associate or be confined with larger ones, but put them with my sheep, where there is no danger of their doing or receiving harm. Sick calves, I have observed, often pick up and devour with avidity the hay and straw from among the sheep dung. It is medicinal, and I know of no article that has a more immediate and salutary effect in restoring diseased calves to health than sheep dung. And I have practiced this usage for many years, and have never lost an animal, though I have had many sick when they came to the barn.—*Germantown Telegraph.*

SHEEP SHEARING BY MACHINERY.—This seeming impossibility was exhibited before a large collection of ladies and gentlemen at the late San Francisco Mechanics' Fair, by Jenkins' Power Sheep Shearer, a beautiful and most ingenious little machine, invented for that purpose, with which the inventor stripped off the fleece of an old gentleman sheep in less time than it used to take an energetic foreign mining tax collector, in some of the mining countries, to strip the coat from a repudiated celestial, and that did not use to take very long.—*San Francisco Mining Press.*

SHEEP WORRIED BY DOGS.—On Saturday night some dogs attacked a flock of sheep belonging to Mr. Robert Barber, of Guelph, killing twelve and worrying two others so badly that they cannot live. Mr. John Kirkland, a neighbour had one sheep killed the same night. The owners of the sheep watched on Sunday night and as expected the dogs returned, but although shots were fired at them they managed to escape into a swamp. The owners of the dogs, it is thought are known, and steps will doubtless at once be taken to have the brutes destroyed and to recover damages for the sheep.—*Guelph Herald.*

THE TIGER AND THE TASMANIAN SHEEP FARMERS.—A Tasmanian paper, the *Cornwall Chronicle*, states that Mr. Quinn, who is employed by Dr. Grant, of Launceston, at a fixed salary and £3 per skin, to protect the Woolnorth flocks from the ravages of the native tiger, lately brought up ten skins, thus netting £20 in addition to his regular pay. The tiger is a most destructive foe to sheep. Though not very swift, it is untiring in its pursuit, and invariably follows its victim until it secures it. The tiger is such an epicure that it "turns up its nose" at "cold mutton," and declines to dine more than once off a sheep as long as he can secure another from the flock. The extent of havoc that ten of these bloodthirsty animals would consequently make in the Woolnorth flocks in a year would be a serious item to deduct from the profits of the station.

MARKING SHEEP.—David Street, of Ohio, gives the following directions:—I first used turpentine, linseed oil and lamp black, stamping my initials on each sheep; in a few weeks not a mark was legible. I next tried boiling tar, keeping it hot by placing the vessel containing it in a kettle of coals. This was legible until the fleece was removed. I tried Venetian red and linseed oil, which soon became obliterated. Lastly I tried coal or gas tar which makes a distinct and durable mark. Mark ewes on the side, wethers on the shoulder, and bucks on the rump. Sometimes stamp with my initials cut in a block of soft wood; also use a stamp cut in a circular form, making a ring; and when in a hurry use the large end of a corn cob, making one, two or three spots near together. By marking sheep of different sexes on different parts of the body, it facilitates the assorting of a flock. Last spring, marked all my breeding ewes with copper labels, bearing a number stamped upon the face, suspended from the ear by a wire ring; but several of them are now missing, having been torn loose.—*Tucker's Rural Annual.*

BROWSING SHEEP.—Nelson Young, South Addison, Steuben Co., N. Y., writes us that several years ago he experimented in browsing sheep in winter, and that "he found if they could have plenty of hemlock they would eat no other that he could give them." Since then, "whenever his sheep are kept from the ground a week at a time by snow, he has attempted to provide them with hemlock." He says:—"It would have done you good to see my sheep meet me last winter when I drew the first hemlock top into the yard. Though they had plenty of first-rate hay and poorly threshed straw, they devoured the hemlock with avidity." Mr. Young thinks it keeps his sheep healthy, and that if they have plenty of "fresh cut and thrifty hemlock" they will not eat more than two-thirds as much hay. He says his lambs come late, and that "he does not know how it will do for ewes that suckle lambs."

Sheep confined to dry feed soon learn to eat hemlock: as above described, and they undoubtedly obtain a degree of sustenance from it—but whether as much as a third, as our correspondent supposes, we are hardly prepared to say. We have known sheep killed by eating hemlock when it was given them in large quantities after a long confinement to dry feed—but this never need happen, because it can be given more frequently, or more sparingly at first.

We should be glad to hear immediately from farmers who have used other kinds of browse for sheep, giving the results of their experience. If the present winter proves a severe one, there will be great need of eking out the feed of our domestic animals in every possible way. DR. RANDALL, *A Rural New Yorker.*

Correspondence.

Use of Wind Power.

To the Editor of THE CANADA FARMER:

SIR,—I, perhaps, am somewhat lazy, and also somewhat avaricious, and want anyone or anything that I can get to work for me without board or pay to do so. I have thought that I might make the wind help me by saving my firewood, and even threshing my grain but I am afraid to try him unless I can find out how to keep him in some sort of subjection. You seem to know almost everything; now, cannot you tell me how to contrive the sails that they will adapt themselves to the force of the wind, so as neither to be carried away with it or be carried round by it so fast as to set my proposed mill on fire? I think that I can remember something about such sails in the Old Country, but do not know how to learn anything about them, except by troubling you on the subject. Any information will much oblige your subscriber and constant reader.

MOLA VENTOSA.

ANS.—We quite approve of the endeavour to enlist the wind and every other material agency in the service of man. The best thing our correspondent can do, provided he can afford the outlay, is to obtain a self-adjusting wind-mill from the Mills Brothers, Marcellus, Onondago County, N. Y. They exhibited several working specimens at the State Fair held in Rochester last fall, and we were highly pleased with their performance. They seem admirably adapted for pumping water, sawing wood, churning, and driving machinery. The wings will adjust themselves during heavy gales of wind, so that the motion is uniform at all times. The frame and all, except the wings, is made of iron. We do not know how these mills would answer for threshing grain.

If our correspondent wishes to try his own mechanical ingenuity in the construction of a wind-mill, perhaps the following extract from "Farm Implements," by J. J. Thomas, may be of some service to him:—

"In all wind-mills, it is important that the sails should have the right degree of inclination to the direction of the wind. If they were to remain motionless, the angle would be different from that in practice. They should more nearly face the wind, and as the ends of the sails sweep round through a greater distance and faster, they should present a flatter surface than the parts nearer the centre. The sails should, therefore, have a twist given them, so that the parts nearest the centre may form an angle of about sixty-eight degrees with the wind, the middle about seventy-two degrees, and the tips about eighty-three degrees.

"In order to produce the greatest effect, it is necessary to give the sails a proper velocity as compared with the velocity of the wind. If they were entirely unloaded, the extremities would move faster than the wind, in consequence of its action on the other parts. The most useful effect is produced when the ends move about as fast as the wind, or about two-thirds the velocity of the average surface.

"The most useful wind is one that moves at the rate of eight to twenty miles per hour, or with an average pressure of about one pound on a square foot. In large wind-mills, the sails must be lessened when the wind is stronger than this, to prevent the arms from being broken; and if much stronger, it is unsafe to spread any, or to run them."

Commendation of the Canada Farmer.

WE have received from time to time, in the course of correspondence, very flattering references to THE CANADA FARMER, scarcely any of which, through excess of modesty on our part perhaps, have been transcribed to our columns. It is well, however, that our reader should occasionally be informed what is thought of this journal, especially by agricultural authorities. We therefore venture to publish the following communication from the Hon. David Christie, from which it will be seen that so competent a judge as Douglas, of Athelstanford, expresses himself in very high terms as to the general character of THE CANADA FARMER, and particularly in reference to its illustration of one of the beautiful Short-horns bred by that gentleman.

Mr. Christie says:—"I send THE CANADA FARMER regularly to my friend Mr. Douglas, of Athelstanford, Scotland, and as his opinion of it may be interesting, I transcribe it from a letter which I received from him to—"

"Many thanks for THE CANADA FARMER; it is a very well got up newspaper, and contains a lot of news and advice on agricultural subjects."

"Referring to your illustration and notice of the 'Queen of Athelstan,' he says:—

"The portrait of the 'Queen' is very creditable indeed, and the notice very flattering."

"The good opinion of such a man as James Douglas is worth having, not merely on account of his position, but because he is very cautious in bestowing commendation."

In this connection it may be as well to state that in addition to "honourable mention" from time to time, some of the leading agricultural journals of Britain have copied original illustrations from our columns. Thus the Model Poultry House given on page 126 of No. 8, was transferred to *The Field* newspaper, with a strong commendation of the general plan of the building. The Bee-hive, illustrated on page 101 of No. 7, appeared in the *Agricultural Gazette*, and *Gardners' Weekly Magazine*, with the accompanying descriptive article. A subscriber to one or other of the last named journals, cut out the article, and enclosed it to a relative near this city, requesting him to order from Mr. Scott, one of his lives, which was accordingly dispatched per express to Britain. Such evidences of appreciation and usefulness are highly encouraging.

QUESTIONS ABOUT SUPERPHOSPHATE.—A Canadian Farmer wishes replies to the following questions. We have numbered them for convenience of reference.

1. Suppose a farmer has eight acres of land, on which he wishes to raise turnips and carrots, and has only a sufficiency of barn-yard manure for four acres, and superphosphate of lime for the other four acres; which is the best way to apply the manures; to spread the barn-yard manure over all the eight acres, and then the phosphate, so that the two will be mixed together, or to put the barn-yard manure by itself on the one four acres, and the phosphate on the other four acres, each kind by itself?

2. What is the proper quantity of superphosphate to apply to an acre?

3. What is the proper way to apply it, to sow it broadcast just before you lay up the drills, or to scatter on the tops of the drills, before or after sowing?

4. Is superphosphate of lime merely a stimulant, or is it a permanent manure?

5. Is bone-dust a permanent manure, and if both these manures are permanent, which of the two is most so?

ANS. 1. It is best to spread the barn-yard manure over the whole field, and then add the superphosphate; unless, indeed, our correspondent wishes to test the comparative effect of the two fertilizers.

2. The "proper" quantity per acre, is that which will make the land yield the largest crops of which it is capable, and we have heard of quantities being applied that are quite startling. Something depends upon the state the land is in. A barrel (about 200 lbs.) will produce very perceptible effects on ordinary soil, but we believe the manufacturer recommends as much as two barrels per acre to be applied. Of course allowance is to be made in such a case as our correspondent proposes. Less would do if added to a previous dressing of barn-yard manure.

3. Both methods are adopted. Care should be taken to incorporate the superphosphate with the soil, as it is of so concentrated a nature, that it ought not to come into direct contact with plant roots.

4. It is a permanent manure (in a comparative sense,) if really good, and its effects will be observed for many years after its application.

5. Bone-dust is a permanent manure also, but we cannot say which will last the longest. Our impression is that the superphosphate will act the more quickly of the two, but whether the bone-dust will out-last it, is a point we are unable to determine.

TOWNSHIP SOCIETIES.—"A. M. D.," of Mara, says:—"I believe the fact to be, that the Township Societies are to the Provincial and County Societies, what the twigs are to the tree, the life of them. They are the societies of the million, and although as a general thing not as well managed as they might be, still no doubt they are progressing more or less, and by good management might do a great deal more good: one item of good among many others, is the facility with which they spread information on agriculture, through the means of your valuable CANADA FARMER, at a cheap rate by their united efforts."

THE PORTRAIT OF "GOLD DROP."—In reply to an enquiry on this subject, we may state that we have not forgotten our promise. The portrait will appear before long.

SMUT IN WHEAT.—On this subject, "A. M. D.," of Mara, writes:—"In fifteen years' experience I have not found fifteen grains of smut in my wheat. My method is to thoroughly clean the seed wheat; if the wheat is not good, I blow away the half of it with the fanning mill; if it is good, not so much, &c. This I consider the best preventative of smut, and also the best way to prevent any kind of wheat from running out, so soon in this country, as it generally does. Drainage, deep ploughing, and thorough manuring, are the next best preventatives. Wheat growing over a stone where there is not sufficient earth to nourish the grain in its growth, is likely to become smut, although the straw will grow."

DRAWING OF PROPOSED HYDRAULIC STUMP MACHINE.—We are much obliged to our correspondent "J. S. J. P.," of Morrison, for the trouble he has taken in preparing a drawing of a plan by which he thinks hydraulic power may be applied to the extraction of stumps. It certainly looks very well on paper, but as "the proof of the pudding is in the eating," so the proof of the stump machine is in the pulling. When a machine of this principle shall be put in successful operation, we shall be glad to give publicity to the fact, and to have an illustration of it prepared for our columns. Meantime, as the drawing sent represents an ideal machine, and engravings are costly, our correspondent will accept our acknowledgments, and excuse the non-appearance of his communication and sketch.

INSPECTORS OF SHEEP.—At the late Provincial Exhibition "Another Exhibitor" writes:—"In reply to Exhibitor in a recent number of THE CANADA FARMER, in respect to excluding Leicester at the late Provincial Show, I beg to state that I was present in the room where the Board met, and I heard the President and Secretary appoint two of the judges to be inspectors of sheep, and instruct them that they were to exclude all those which they considered had not been sheared according to the rules of the Association. I was an exhibitor myself, and I think I never saw judges strive more to do the thing that was right, and to maintain the dignity and honour of the high position in which they were placed. They were very closely watched by the spectators on all sides, and Mr. Exhibitor may rest assured that justice has been done, and that the judges gave a thorough and impartial judgment."

A FRUITFUL ISABELLA VINE IN A COLD CLIMATE.—"Wm. King" writes from Bristol (Pontiac):—"I see some remarks in the last FARMER about the laying down and protection of grape vines during the winter. I have no great experience in grape cultivation, but I may state that I have one 'Isabella' vine which nearly covers the south side of my kitchen. It grows in a dry, light and deep soil, and has the full benefit of light and air. I find it to be a gross feeder and it is liberally supplied with soap-suds and liquid manure from fowls' dung when growing. This vine has borne fruit for four years, yielding from two to three hundred clusters of excellent grapes, ripe about the middle to 20th September. At the end of November, or before heavy snow, I lay it down, covering it with a little straw and a few boards over that. The snow soon covers all up safe and snug until Spring. Bristol is in N. lat. 45.30, and you may form an idea of our winter from the state of the thermometer, which I note for January, 1865." [The noting ranges from 29° above to 30° below zero.]

CANADA THISTLES GOT RID OF EASILY.—"John Vipond," of Ste Marthe, writes:—"About twelve years ago, I bought from a Frenchman, a farm which was covered with thistles from one end to the other. I set to work in earnest to destroy them, thinking it would be very hard work, but by proper management for five or six years, I came out victorious. All that I did with the land was to do justice to it. I never plough my land more than three years. In the third I seed with grass seed, then leave it in meadow one or two years, then pasture one or two years as the case may be. Any one that follows this plan a few years will find very little cause of fear about the Canadian thistle. The real cause of trouble with the thistle, is too much ploughing and bad farming."

HEDGES.—On this subject, "C. P.," of Kingston, writes:—"I have had considerable experience (in England and this country,) with hedges, for fifty years. The thorn of this country, and which I believe is a native of Canada, makes a strong fence, and is not injured by the severity of the winters. I found the English thorn stand the winters well, but it was much affected by a small black insect, which caused a kind of blight, and injured it materially. I had several acres fenced with both kinds for thirty years. The Canadian Thorn does not make so close or thick a fence as the thorn generally used in England, but is hardier and not subject to blight. I raised my own plants from the seed. The snow should be trod down about the bottom of the hedge, otherwise the mice frequently make nests under the crust and peel the bark off the plants, thereby destroying them. I consider holly makes the best hedge in England. I have tried it in this country, it grows very luxuriantly in summer, but will not stand the winter. The best hedge I have seen in Canada, was made with cedar. It was strong and thick, no animal would browse or destroy it,—a great advantage."

HAWTHORN HEDGES.—"W.C.S.," of Haysville, says:—"Your correspondent, 'Farmer,' in No 1, vol. II. is quite mistaken when he says that the hawthorn is useless for fences on account of the severity of our climate. We have about two miles of thorn hedge planted in our neighbourhood. About forty rods of said fence or hedge has been exposed to the road since last spring, and was quite sufficient to turn bush cattle. If 'Farmer' was in a field enclosed with hedge when the thorn is in bloom, he would think that he was in a more Southern clime. What a beautiful retreat the hedge is for our small birds to build their nests and raise their young. The Canary, linnet, &c., are the best agents to destroy the weevil, midge, grub, &c., which injure so many of our crops. Again, what shelter for stock, both from the heat and cold. I shall write again on the best plan to raise the hawthorn, &c. &c. THE CANADA FARMER is a complete success."

[Ans.—We hope our correspondent will soon fulfil his promise, as we know our readers will be impatient to hear of the method by which he has succeeded in making two miles of thorn hedge.]

The Canada Farmer.

TORONTO, UPPER CANADA, FEB. 1, 1865.

Sheep Husbandry and the State of Agriculture in Scotland.

We observe in a recent number of the *Hawthornshire Courier*, a very full and interesting report of the East Lothian Farmers' Club, on the expediency and practicability of extending sheep culture, with a view of diminishing the growth of grain, particularly wheat, which at the present low price is considered, upon most soils, to be unremunerating. Among the company were several of the leading agriculturists of that renowned district: Messrs. Skirving, Douglas, Hope, Sherriff, Sadler, Smith, &c.

The average price of wheat is now lower in the British markets than it has been for the past thirty years, while in mutton and wool there has of late been a constant and considerable advance, in which all other kinds of fresh meat have more or less participated. It has, therefore, become an important question, not only with the farmers of the Lothians, but also of the greater part of the British Islands, whether grazing more and cultivating less, will not be their true policy for the future. The impression generally seems to be that as the system of free trade gets into full operation, the home market will be more or less glutted with grain from America and the continent of Europe, that prices will consequently rule low, and that as fresh meat from abroad can only be imported in small quantities, the British farmer should devote himself more for the future to the rearing and fattening of stock. In other words, a large portion of the present arable land of Great Britain and Ireland should henceforth be converted

into permanent pasture. And we learn from various sources that this process is slowly but certainly going on.

The East Lothian Club, with slight differences of opinion, seemed to agree that under existing circumstances, and with a reasonable regard to the future, pasturage might be extended, and grain culture abridged with certain advantage. Mr. Hope, however, thought that with reasonable rents, and the modern appliances furnished by steam culture, that wheat could be profitably raised on suitable lands at forty shillings a quarter, (five shillings per imperial bushel.) East Lothian has a peculiarly dry climate, with, in many places, a strong clay soil; conditions not the most favourable for grazing purposes. The amount of land in permanent pasture is very small, seldom comprising more than the surroundings of the homestead. In the ordinary rotation, the artificial grasses are allowed to continue only one year, but two and even three years are now recommended on suitable soils, and with special preparation. Poor, wet clay land, that has been subjected to grain crops from time immemorial, it is well known, requires a large outlay in draining, cultivation, and manures, before it can be profitably laid down to grass, or, indeed, before it can be made to yield a good return of grain. Such land is always the most difficult to manage, and yields the smallest profit, (if profit be at all obtained,) to the cultivator. The impression we get from the reading of this report, is that the club considered that sheep husbandry might be extended with much advantage, with the present prices for wool and mutton compared with those for grain.

The sheep in the Lothians are generally of mixed breeds, and a cross of the Cheviots and Leicesters appears to meet with common approval. The Cotswold blood, and that of other southern breeds, appears to be rather extensively diffused.

The system of "high farming," as it is termed, has its limits, and may be pushed to an unprofitable point; but the error committed by most farmers lies in the opposite direction. This is as true of the new, as well as of the old world. Cultivate less and better, has almost everywhere more or less application. The rent of arable land in Scotland, is now certainly disproportionate to the price of grain, particularly of wheat; and we hear of new leases being taken in several counties at a reduction of ten, fifteen, and twenty per cent. from previous terms. Similar information comes from the highly rented portions both of England and Ireland. Whether the present very low prices of grain are to be regarded as permanent, is a question that cannot be positively decided, as many unforeseen disturbing influences may arise. The British farmers, however, seem generally to expect low prices as the rule of free trade in corn; and the country, perhaps, was never more contented and prosperous as a whole, notwithstanding the depression of the cotton trade, than at the present time.

New York Cheese Manufacturers' Association.

The first annual meeting of this body was held at Utica, on the 11th and 12th ult. Notwithstanding the prevalence of a great snow storm which rendered travelling tedious and difficult, the attendance was large, numbering from two to four hundred, many persons being present from other States. The great attraction, doubtless, was the opportunity of gaining information and laying plans in reference to the now popular and widely spread factory system. Shortly after the meeting opened a discussion arose on a resolution moved by a member for the sake of drawing out opinions:—"That native cows are the best and most profitable for dairy purposes." The mover of the resolution acknowledged himself undecided as to which was the best breed. He had experimented with various kinds, but with no satisfactory result as yet. One speaker strongly recommended crossing

Durhams on native cows. These he had found the best milkers. Alderkeys were good but hard to keep. Ayrshires were fine milkers, but he preferred the Durham grades. Another speaker urged grade Devons as preferable to all others. Finally Mr. Wetherell, of the Boston Cultivator, made a very sensible speech urging that no breed had been found adapted to all localities, and that the cow must be selected with reference to adaptability to the farm on which she was to be kept. In the best dairy districts of Massachusetts the Durham grades were preferred to all other breeds. But the pastures were rich, and in winter good English hay, corn-fodder, shorts, and meal were fed liberally. Animals with large frames would not do well on poor feed, or meagre forage. Adapt your cow to your farm was the best rule.

Discussion was next had on "The best manner of organizing factories." The question was whether factories should be based on the company system, or whether private individuals should establish them. Various difficulties were stated as attendant on the associated plan, and the preponderance of opinion was very plainly on the side of the individual method of management.

On the evening of the first day's session, an able and interesting address was delivered by N. A. Willard, Esq., Agricultural Editor of the Utica Herald, and one of the most competent men in the United States to handle the subject of cheese making in its varied aspects. Mr. Willard's address cannot be fairly dealt with in a brief notice, and we propose giving our readers the benefit of its more important passages at some future time.

The first business transacted on the second day was the passage of resolutions to the memory of the late Jesse Williams, of Rome, N. Y., the father of the cheese factory system. A warm eulogy had been pronounced upon him at the close of Mr. Willard's address the previous evening. "Through him," said the speaker, "millions have been added to the permanent wealth of the country, and yet, modest and unassuming, he claimed none of the honours pertaining to a splendid achievement, and a grand success. Stricken down by paralysis, almost on the eve of the meeting of this convention, we miss here his presence and his counsels. He has passed away universally regretted."

A member introduced the question whether it was desirable to feed whey to swine, or to the dairy cows. Opinions favourable to both methods were expressed, but the majority advocated giving the whey to the cows. One speaker said his cows gave five pounds more milk per day by feeding whey to them. He adds to the whey when sour, one bushel of bran to thirty cows, and thinks he can keep one-third more cows on the same pasture by feeding whey in this manner. Another member stated that in Herkimer County they make from whey one pound of cheese cheaper than one pound of pork. He found it difficult to make many cows eat the whey. Several testified that after a trial of feeding whey to both cows and hogs, they deem it better economy to give it to the cows.

Much debate was had on the price to be charged for manufacturing cheese during the present year. The opinion seemed to be generally entertained that the factory system, would not pay this year at less than 1½ cents per lb. Heretofore one cent has been found sufficient, but the advance pleaded for is doubtless rendered necessary by the rise in prices generally in the United States. A committee was appointed to report on this subject which recommended ten per cent. on sales, exclusive of boxes, salt, annatto, bandages, &c. After much discussion on this report, it was resolved, "That this association recommend the adoption of a per centage on sales as the factory system, leaving the amount of per centage to the agreement of the parties interested.

Mr. Fish, of Herkimer, offered a series of resolutions intended to embody the chief points of the factory system of cheese manufacture. No discussion arose on them, as the order of the day required the

reception of reports from the several factories in operation during the past season. As these resolutions give a sort of *multum in parvo* statement of the chief points in factory management in the estimation of an experienced dairyman, we transcribe them in full:

"Resolved.—That the principal points to be observed in constructing a cheese factory for economy and convenience, are: access to a plentiful supply of cold water; perfect and speedy passing off of all refuse slops from the buildings, that the air may not be impregnated with bad odours, to secure the greatest amount of room with the least amount of roofing and other building material.

"Resolved.—That the maximum distance of carrying milk to a factory depends upon the ability and pecuniary interest of the patron, 3 to 6 miles not being an impediment to the manufacturer.

"Resolved.—That the shape and weight of cheese to meet the present market, should be at least half as thick as wide, and not to exceed 100 lbs. in weight.

"Resolved.—That the true interest of the patron as well as the manufacturer demands that due attention should be given to delivering milk sweet and free from all impurities that induce putrescent influences.

"Resolved.—That heat being the primary agent in bringing liquid atoms into solids at a proper temperature, also a powerful agent in liquifying solids at a high temperature, strict attention should be given to a mild, uniform heat in all its uses in making and curing cheese.

"Resolved.—That a minute division of curd after coagulation is essential in the process of cheese-making.

"Resolved.—That a gang of thin, highly polished steel blades is the best tool for sub-dividing curd in the tub.

"Resolved.—That the proper time to divide or cut the curd after coagulation is an important point to be determined, to avoid waste of quantity, and materially affecting the quality of cheese, and the best test of its readiness for separating the fluid portion is its appearance of being brought to a perfect solid or organic unity.

"Resolved.—That it is expedient to colour curd to meet the best demand.

"Resolved.—That Jones' extract of annatto is the best colouring now in use for cheese.

"Resolved.—That a minute subdivision of curd is essential in the process of working curd.

"Resolved.—That no other property can be substituted for the cow's stomach to insure success.

"Resolved.—That a solid texture of cheese is improved by pressure longer than 24 hours.

"Resolved.—That a curing room should be constructed to avoid all external influences at pleasure, with ample ventilation.

"Resolved.—That a temperature in a curing room exceeding 70 degrees is detrimental to cheese in the curing process.

"Resolved.—That the proper treatment to improve the milking qualities of our dairy stock is a judicious cross of our best milkers with other good milking families of good thrift and physical constitution, with the habit of good keep and excessive milking.

"Resolved.—That permanent and reliable milking qualities are not to be found in any special breed, but in particular families of different breeds."

A minute detail of operations at the Munsen (Ohio) factory was submitted, together with brief reports of twenty-five other factories. Further reference to these must be postponed.

The accuracy of the lactometer as a means of detecting watered or adulterated milk was discussed at some length. Some contended that its indications could not be fully relied on. Others took the opposite view. One speaker urged that the lactometer failed only when not properly constructed. Another said a lady requested him to state that it was important in using the lactometer that the milk be always tested at the same temperature. Some valuable suggestions on this point will be found elsewhere in our columns in a digest of a scientific paper on milk, by Dr. Voelcker.

Great ambition was manifested to produce an article equal to the famous Cheddar cheese. Some of the best samples of it had been ordered from England, and are to be placed on exhibition in Utica. Mr. Ellison, of Herkimer County, was willing to place himself under bonds to produce as good a sample of American made cheese as the best Cheddar which should come over. His opinion of New York grass was very high. It would make cheese of the best flavour and highest quality

The Rural New Yorker expresses disappointment at the results of the first annual meeting of the association, and thinks there was too little real legitimate work done. Be this as it may, we cannot but regard the comparison of views on the different points of interest, and the mutual stimulus given in a most important branch of national industry, as most valuable ends accomplished, and we shall rejoice when our farmers are sufficiently awake to their true interests to hold a Canadian Cheese Manufacturers' Convention.

Toronto Gardeners' Improvement Society.

The annual meeting of the above named society was held in the Agricultural Hall, on the 24th ult., Mr James Fleming in the chair. Among those present were Messrs. Gray, James Forsyth, G. Tattle, S. Turner, Geo. Vair, Geo. Leslie, jr., W. Higgins, A. Pontey, J. E. Smith, Shuter, &c. We make extracts of interest from the annual report:—

SECOND ANNUAL REPORT OF THE TORONTO GARDENERS' IMPROVEMENT SOCIETY.

In presenting this the second annual report of your Association, your Committee have pleasure in calling your attention to the following features worthy of notice, namely:—

That you have had an increase of members who have joined your Society, and also that there has been an increased attendance of the gardeners at your meetings, showing that your efforts thus far have been appreciated by them.

There has been a perceptible interest taken in your meetings, not only by gardeners, but by several scientific gentlemen, who expressed themselves in terms favourable to your Association, and on one occasion, namely, at your last annual meeting, Professor Buckland was sufficiently interested in you to favour you with an address, the subject of which was the "Relation of Science to Horticulture," which lecture was, from the very lucid manner in which it was given, well calculated to interest and instruct those present.

Your Society subscribed for fifty copies of THE CANADA FARMER and distributed them to outside members (not gardeners) of your Association, thereby enabling you to purchase other periodicals more than you would otherwise have been able to do, and distribute them among yourselves for perusal.

[The report goes on to mention some of the principal subjects discussed during the past year, on the cultivation and preservation of fruits, flowers, and vegetables.]

One very pleasing feature of your meetings has been the exhibition, from time to time, in their season, of various flowers and fruits, and your committee would recommend the continuance of this practice, perhaps to the extent of once or twice during the season, making a rather extensive display, and admitting the public to see it.

We would take this opportunity of informing any one wishing to subscribe for THE CANADA FARMER, that by doing so through the Association they can get the paper for the same price and at the same time confer a pecuniary benefit on the Society; such application can be made to J. Fleming & Co., seedsmen, Yonge street.

Your Committee have also to say that your Treasurer presented them with a report of your financial matters, and they have great pleasure in saying that they found the balance in favour of the society, there being a small surplus of receipts over the expenditure.

In closing, your committee would suggest that some change be made in the subjects brought before the meetings from time to time, whereby a more extended view of some particular branch of Horticulture or Floriculture may be taken, rather than the simple detail of growing some particular plant or plants.

The election of officers was then proceeded with, and resulted as follows:—President, Alexander Pontey; Vice-President, S. Ashley; Secretary, J. Forsyth. After a vote of thanks to the retiring officers, the meeting adjourned.

FARMERS' CLUB IN GLENVALE.—We are glad to learn that a Farmers' Club, for the improvement of stock and the discussion of agricultural matters, has been organized in Glenvale, township of Kingston. The following are its officers: Henry Robinson, President; Robert Gibson, Vice-President; and Joseph O. Davidson, Secretary. Twenty members were enrolled at the meeting for the formation of the Club.

Our Agricultural Exchanges.

NEARLY all the agricultural journals with which we exchange, begin the year with new volumes, and we ought in courtesy to have presented our compliments to them in an earlier issue. The *Country Gentleman* which, without meaning anything invidious, we put at the head of the list, has entered on its twenty fifth semi-annual volume, and is as usual replete with life, vigour and first-class talent. It is issued weekly, and contains a digest of news beside agricultural matter. The *Rural New Yorker* is also a weekly, very ably conducted, and has in addition to its agricultural contents, not only a summary of news, but a well chosen variety of family reading. The *Genesee Farmer* a monthly, holds on its way, and is full of solid, valuable, practical information. The *American Agriculturist*, also a monthly, is almost an encyclopædia of useful hints. The *Maine Farmer* combines the general newspaper with agricultural and family reading. So does the *New England Farmer*, which we are glad to see revived, after a period of suspended animation. The *West Weekly Herald* has a valuable page devoted to the farm and garden, under the editorial charge of X. A. Willard, Esq. The *Working Farmer*, *Rural America*, *Canadian Farmer*, *Sorgho Journal*, *Ohio Farmer*, and last but not least, the *Prairie Farmer*, are also valued exchanges. The *Michigan Farmer*, a monthly magazine, was superseded five months ago by the *Western Rural*, an able, spicy weekly, and the *Valley Farmer*, also a monthly, published at St. Lewis, Mo., has given place to *Columbia's Rural World*, a semi-monthly. They are all welcome visitors to our sanctum.

The U. C. Fruit Growers' Association.

THIS Association held its annual meeting at the City of Hamilton, on the 18th January, 1865. The following officers were chosen for the ensuing year. President, His Honour, Judge Logie, Hamilton; 1st Vice-President, T. H. Graydon, Esq., St. Catharines; 2nd Vice-President, Chas. Whitlaw, Esq., Paris; Fruit Committee, Rev. A. Dixon, Port Dalhousie; Robt. N. Ball, Esq., Niagara; A. M. Smith, Esq., Grimsby; W. Holton, Esq., Hamilton; Chas. Arnold, Esq., Paris. Publication Committee, the Secretary, W. F. Clarke, and J. A. Bruce, Esq.

The President was requested to call a special meeting on the 23rd day of June next, for the purpose of examining and discussing strawberries and cherries, such meeting to be held in the County Council Chamber, in the City of Hamilton.

Some discussion was had upon the propriety of offering a prize of a silver fruit basket, for any new seedling fruit that should prove worthy of general cultivation in Canada, but the matter was laid over to the next meeting.

Some excellent Diana grapes were exhibited by Mr. Arnold, and a choice collection of apples. It was decided to hold the fall meeting of the Association at Paris.

Flax Movement at Norwood.

AFTER the routine business of the Asphodel, Belmont and Dummer Agricultural Society had been transacted, a discussion took place on the subject of Flax Culture, which issued in the passage of the following resolutions:—

"That in the event of any one deciding to erect the necessary machinery within the bounds of the Society, the members individually pledge themselves to grow from 2 to 5 acres each, for three successive years.

"That the following gentlemen be appointed a Committee to carry out the views of this Society by agitating the subject, holding meetings, and enlisting the interest of the community, and obtaining the consent of others to join with in introducing its general cultivation, viz: Messrs. P. M. Grover, T. Birdsall, R. E. Birdsall, Job Harphries, Robt. Harrison, Thomas Howson, John Pettigrow, Jas. Greenbanks, Wm. E. Roxburgh, and Donald Cameron."

OLD Mr. Booth has left the world-renowned Warlaby Estate to his nephew, Mr. Thomas Booth, of Killerby.

WE beg to call attention to an interesting letter in another column, on Salmon Breeding.—Australia is being stocked for the first time with salmon. Why should not Canada be re-stocked?

A Universal Horticultural Exhibition is announced to be held next spring at Amsterdam, under the patronage of the Queen of the Netherlands, opening towards the middle of April; and an International Congress of Botanists and Horticulturists will be convoked at the same place and time.

THE HAMILTON AGRICULTURAL CONVENTION.—Action condemnatory of the proceedings of this Convention has been taken by the North Riding of Oxford, Welland County, and other Agricultural Societies. Especial disapprobation is expressed of the attempt to oust Hon. D. Christie.

FLAX PULLER.—We are informed that a party is bringing out a machine this season for pulling the flax plant. It is warranted to do the work of 4 men. The price will be moderate. Should this invention succeed it will reduce the labour of pulling to a small affair. Two neighbouring farmers could combine and purchase one for their joint use.

SALE OF THOROUGH-BRED STOCK.—We beg to call attention to the advertisement of Mr. John Suell, in another column, announcing a sale of stock to take place at his residence near Brampton, on Wednesday the 15th inst. A number of valuable cattle and sheep are to be offered, and all who wish to improve their herds and flocks will do well to avail themselves of this opportunity of doing so.

CHOPPING MILL.—Messrs. C. H. Waterous, & Co., of Brantford, advertise elsewhere in this issue, a Patent "Champion" Chopping Mill of their manufacture. It is intended for grinding corn-meal, corn-cobs, oats and all kinds of feed, and also for crushing and pulverizing bones. Every farmer who can afford the outlay should have a mill of this description. Ground feed is far more economical than whole grain. The saving thus effected, added to the value of the time consumed in going to and from a grist mill, and the toll taken, would soon pay for a chopping mill, the cost of which is \$10.

Agricultural Intelligence.

Officers of Agricultural Societies for 1865.

We give below lists of the Officers of Agricultural Societies for the current year, so far as they have come to hand, and shall be glad to publish more so soon as we obtain them:—

CITY OF TORONTO ELECTORAL DIVISION.—Jas. Fleming, President; Col. Denison, 1st Vice-President; Alderman Strachan, 2nd Vice-President; William Edwards, Secretary.

WELLAND.—J. H. Price, President; Edward Jones, 1st Vice-President; Samuel Clark, 2nd Vice-President; Alexander Reid, Secretary; John Rannie, Treasurer.

PELHAM.—Samuel Beckett, President; Samuel Rice, Vice-President; Zachariah Wilson, Secretary; W. A. VanEvery, Treasurer.

EAST MIDDLESEX.—James Johnson, President; G. Watkin, 1st Vice-President; Mr. Evans, of Nissouri, 2nd Vice-President; J. Stills, Treasurer, J. W. Lester, *Pro-lypse*, Secretary.

DARLINGTON.—M. Jones, President; M. Porter, Vice-President; R. Windatt, Secretary-Treasurer.

BLANSHARD.—John Robertson, President; D. A. Robertson, Vice-President; W. N. Ford, Secretary; E. Long, Treasurer.

FRONTENAC.—Jas. Gibson, President; Jas. O'Reilly, 1st Vice-President; John Willmot, 2nd Vice-President; Isaac Simpson, Secretary and Treasurer.

QUEEN.—John Pipe, President; Wm. Benham, jr., Vice-President; James Laidlaw, Secretary and Treasurer.

PRINCE EDWARD.—W. Ross, President; D. Barker, Vice-President; Mr. Cavin, 2nd Vice-President.

DERBY.—E. V. Bodwell, President; Malcolm Smith, Vice-President; R. T. Williams, Secretary and Treasurer.

SOUTH ONTARIO.—John Shier, President; Mr. Elliott, of Pickering, 1st Vice-President; John McGill, 2nd

Vice-President; George Robson, Secretary; Charles Roberts, Treasurer.

WHITBY AND EAST WHITBY UNION.—J. B. Bickel, President; John Ratcliff, Vice-President. The Secretary and Treasurer re-elected.

HENTINGDON.—Mr. Schuyler, President; Mr. Henderson, Vice-President; Peter Macfarlane, Secretary-Treasurer.

NORTH RIDING OF OXFORD.—S. W. Sawtell, President; John Dunlop, 1st Vice-President; Hon. Geo. Alexander, 2nd Vice-President; William Grey, Secretary and Treasurer.

EAST ZORRA.—A. B. Cook, President; Grafton Smith, Vice-President; Robert Campbell, jr., Secretary and Treasurer.

YORK TOWNSHIP.—William Jackes, President; Wm. Lea, Vice-President; Phillip Armstrong, Secretary-Treasurer.

GARABRANA.—John Dobbin, President; Jas. Milne, Vice-President; John Dixon, Secretary and Treasurer.

MOUNT FOREST.—Peter J. Bell, President; J. J. Carson, Vice-President; William Bentley, Secretary and Treasurer.

EMILY.—W. Cottingham, President; John Bailey, Vice-President; A. McQuade, Treasurer; J. Cooper, Secretary.

ASPHODEL, BELMONT, AND DUMMER.—P. M. Grover, President; Francis Birdsall, Vice-President; W. E. Roxburgh, Secretary; John A. Johnstone, Treasurer.

COUNTY OF GREY.—Samuel Saunders, President; G. Harkness, 1st Vice-President; Jas. Brown, 2nd Vice-President; Thomas Gordon, Secretary; Robert Patterson, Treasurer.

GRANTHAM.—Joseph Depotty, President; Chauncey Yale, Vice-President; Thomas Keys, Secretary; Geo. May, Treasurer.

COUNTY OF HALDIMAND.—David Thompson, President; E. S. Martin, 1st Vice-President; William Kellam, 2nd Vice-President; Jacob Young, Secretary and Treasurer.

BRANT.—Richard Rivers, President; James Eckford, Vice-President.

HAMILTON, TOWNSHIP OF.—John Baptist, President. John Eagleson, Vice-President; Wm. Alcorn, Secretary; A. J. Burnham, Treasurer.

ORS.—J. H. Hopkins, President; William Thorne Vice-President; William Boynton, Secretary and Treasurer.

ST. VINCENT.—W. F. Livingstone, President; W. Whitelaw, 1st Vice-President; E. Clarke, 2nd Vice-President; John Albery, Secretary; D. L. Layton Treasurer.

GREENVILLE.—James Miller, President; Charles Rowe, 1st Vice-President; Wm. Byers, 2nd Vice-President; Samuel Reynolds, Jr., Secretary; Walter D. Dickinson, Treasurer.

HALDIMAND (WEST BRANCH)—Jacob Young, President; Alex. W. Thompson, 1st Vice-President; Wm. Hurssell, Secretary; C. L. Hudson, Treasurer.

WELLINGTON (SOUTH RIDING)—W. Whitelaw, President; Wm. Phin, 1st Vice-President; Joseph Parkinson, 2nd Vice-President; George Murton, Secretary and Treasurer.

Crop Items.

We find in some of the Annual Reports of Agricultural Societies, brief references to the crops of the past year which are of no little interest. Below are some extracts of this kind.

QUEEN.—In taking a retrospective glance at the past year you will call to mind the very unfavourable opening of the season, cold, wet weather prevailing up to about the middle of May, and the severe drouth that followed could not but have a very damaging effect upon the crops, which will no doubt fall short of an average yield. Your directors would submit the following estimate of the yield of the crops for the past year: Fall Wheat is not extensively grown but will yield about an average of 25 bushels per acre, Spring Wheat not yielding more than about 12 or 14 bushels. A much greater breadth of Fall Wheat has been sown last fall. Barley has been grown to a considerable extent during the past year, with a yield of say 25 bushels per acre, and when the high prices that ruled for that grain during the fall is taken into consideration, will render it probably the most remunerative crop of the season. Oats and Peas may be considered below an average. The ravages of the midge are still felt, but not to such an extent as last year (1863). Potatoes may be considered rather above an average crop, but after being stored away in some cases the rot appeared. The breadth of turnips sown in the Township is on the increase, but the season has not been generally favourable, the dry weather having prevented a sufficient plant from being obtained in a number of cases, and when an early plant was obtained a blight

in the month of August very seriously affected the crop, but from the breadth sown the quantity of turnips will not be less than former years. Your Directors, in connection with this part of their report, would state that a number of farmers in the Township during the past year have been using artificial manures on the turnip crop. Cox's Superphosphate of Lime where tried has been found worthy of recommendation. The Hay crop will fall far behind an average, and the shortcoming of the straw in the grain crop will add anxiety and care to the farmer in wintering his stock. The price of stock has ruled exceedingly low during the season. Pork, however, has commanded a high price, but it is not raised to that extent as to improve the financial position of the farmer.

DROUGHT.—Owing to the great quantity of rain which fell at the breaking up of the winter, the spring work was considerably retarded in some localities and the severe drought that set in when moisture was most required for the hay crop, caused a very light one to be gathered in, and also prevented the grain crop generally from producing even an average quantity of straw, and what is of more immediate necessity to the farming community that yield of bushels per acre which all look to as a return for the labour and energy expended in the cultivation of the soil. It is estimated that fall wheat on an average will not produce more than fifteen bushels per acre, and spring wheat twelve bushels per acre. Barley, oats and peas are also a light crop, and the samples of fall grain were not equal to last year, while the samples of spring grain were better. The ravages of the midge do not appear to have been so severe or so universal. It is a great relief to the agriculturists' anxiety respecting the food for the winter, taking the short yield of hay and straw into consideration, when we find in the number of entries for turnips alone nearly double this year, being 41 against 23; the more remarkable as the unusual dryness of the summer caused serious apprehensions for this root. In some localities it was attacked by an army of caterpillars, devouring the entire leaves in whole strips across the field, and ultimately the bulb ravaged to a limited extent. The show of fruit was considered excellent last year, but this year it was fully as good in quality, and entries more numerous.

HALDIMAND.—“Your Board look upon the past year as one of the worst for the farmer, that has passed for the last, at least half century. All kinds of grain roots, as well as grass, have failed, in consequence of the long drouth—and wheat by the midge. The farmer has depended upon his crops to pay his demands, of which there are many. These crops all failing, and the prices so low, it is certainly deplorable. We might ask what can be done? Your Board would recommend not to despair altogether—try again, would be our motto. If we prepare our ground properly, procure the best and purest grain for seed, make proper drains to carry off the surplus water, sow in proper time, keep good fences to protect the crops from being destroyed by unruly cattle, we do our duty as farmers. We should then put our trust in Him, who is the author and giver of all good.”

EAST ZORNIA.—There was little improvement to note in the exhibition of live stock over former years, but in the hall it was the best collection and display of the township's products and industry ever exhibited by the Society. This was probably due to the change of location, and the larger accommodations afforded. The exhibition of roots in the field was almost a failure, there being less competitors than prizes offered. This might be attributed partly to the unfavorable nature of the season, and partly to indifference; and unless some change be made in the system to render it more acceptable, and induce a larger competition, it would be advisable to discontinue this branch of operations.

[Don't give it up, gentlemen, by any means.—Ed. C. F.]

COUNTY OF WELLAND.—The season was exceedingly unfavourable in regard to the production of everything connected with agricultural pursuits, the ravages of the midge being excessive and the long-continued drouth during the summer, affecting to an unparalleled degree, every species of crop.

EMM.—From the long continued and severe drouth in the early part of the season, it was thought that the crops would be almost a total failure, but the genial and copious showers that followed, brought them on with astonishing rapidity, so much so that they are considered a fair average crop in the township.



The Value of Winter Pears.

Is there any one of our readers who has an orchard of fine varieties of winter pears? If there be, we would strongly advise him to send his fruit to the New York market without delay. We have just received a letter from a gentleman, who says:—“We have been sending a few bushels of Lawrence and Beurre Gris d' Hiver pears to New York, the former brought sixteen dollars and the latter twenty dollars per bushel, and sold to dealers at that.” Will it pay to grow winter pears for market at such prices? What would be the revenue from ten acres of bearing trees? We plant standard pear trees twenty feet apart each way, ten acres would contain over a thousand trees. Surely a tree would soon be large enough to yield a bushel of pears, and that would be enough to make the orchard produce from sixteen thousand to twenty thousand dollars. What would such an orchard be worth per acre? If any thing like such prices can be maintained for winter pears, the man who has the soil suitable for their growth, in the right climate, and will inform himself how to grow them, need not ask what he shall plant. The fruit referred to in the letter quoted above was grown near Rochester, N. Y., and surely we have in Canada, climate and soil as favourable as that in the vicinity of Rochester.

Winter and out-door Gardening.

To the Editor of THE CANADA FARMER:

SIR,—Nothing more strikingly illustrates the difference between the climate of Great Britain and our own, or more clearly demonstrates the stubbornness and intractability of our Canadian winter, than the directions we meet with in English Almanacs and books on gardening concerning the horticultural operations proper to the months of January and February. For example, one popular almanac has (among others) the following directions for January:—

“Sow in mild exposures, for a succession, a few early frame peas, Sandwich and Windsor beans, short topped radishes, lettuces, carrots, onions, spinach and curled parsley, protecting them from the frost by mats or straw. . . . edge-beds, form new flower-gardens, and shelter from frost, tender evergreens. Plant, snow-drops, crocuses, &c.” Again, in February we are told to “make ready the ground intended for early crops,” and in favourable weather to continue to sow, every fortnight, peas, beans, onions, and a variety of other vegetables as directed in the calendar for the preceding month. These directions we shall all be thankful if the weather permits us to put into practice during the latter half of the month of April? Probably “in mild exposures” some of us may be able to sow some few seeds in a hot-bed or cold frame as early as the first of April with some prospect of success.

It is, however, in the floral department of horticulture that the most difference is to be seen and felt, especially in cottage gardens and windows. Of course those who have abundant means and professional gardeners at their command feel the difference of climate less; but no amount of wealth or skill can make the snowdrop or the mezerion bloom either in our fields or gardens in February, or gladden our eyes with the dark, glossy leaves—“wrinkled and keen” of the holly, illuminated with its “clustered berries bright.”

Discouraging as this comparison of our horticultural prospects with those of England may at first sight

appear, Canada has nevertheless her own peculiar advantages. If our winters are stubborn and our springs cold and uncertain; our summers are prolific and glorious, and our autumns most bounteous and resplendent. We have, moreover, the power of turning even the dull, dead months of winter into a means of horticultural advancement, if we have but the will and resolution to do so. While

“Earth is dumb, and Spring imploring waits
The Sun's advancement through the vernal gates,”

we have time to review the gardening work of the past year, and its results; and in the light of its experience and those of former years to form our plans for the coming season. To use the words of a favourite volume, “Thinking in time is a most necessary part of gardening work, though not always easy,” and at this time of the year when

“The wintry West extends his blast
And hail and rain doth blow;
Or the stormy North sends driving forth
The blinding sleet and snow;”

and all is inactivity in the vegetable world, we have time to excogitate and form plans for improving our little garden domains. Let us consider what has been done, and what improvements we wish to make, and make notes for future use, that we may not forget what should be done when the time comes for action. Some of the readers of these suggestions have gardens varying from a quarter of an acre to an acre, in the cultivation of which we hope they feel a deep interest. They may wish to form new, dry walks, to re-arrange the flower-beds, to put in a tree here, a shrub there, and yonder to form a rustic fence or trellis work for climbing plants, roses, or morning-glories, or the graceful and elegant *Canairensis*. They have also currant and gooseberry bushes to be pruned and trained; perhaps some old ones to grub up and replace with new slips or young bushes. There are also fruit and ornamental trees to be planted or pruned. It is also advisable to settle beforehand what crops are to be cultivated, when to sow them and where. The mode of culture should also receive consideration. Such a crop failed last year. Was it from the want of better cultivation, from improper treatment, or from unsuitability of soil? Let not one or two failures dishearten the cultivator; but in the light of agricultural books and serials, and of his own practical experience, let him study the subject and try again.

But all these things demand careful thought, and the laying down beforehand of well considered plans Method and timely consideration, are as valuable to the gardener as to the farmer or the merchant; and perhaps the more necessary in the case of small cottage gardens in order to the more judicious economy of every foot of space.

It is worth while to bethink ourselves that in a few weeks hot-beds and cold frames will come into requisition, and it is wise to look after the old frames and see that they and their glazed covers are in good repair and ready for use. Many can economise a little by making these things for themselves, and “a penny saved is a penny gained,” as poor Richard says? But in such a case there is the greater need to take time by the forelock, and during the winter prepare for the spring. We may be permitted to suggest that an old box, with two or three glass lights properly arranged on the top so that water will not lodge on it, will be found very useful as a protection for plants during the frosty nights of spring. If the box be small, it is better to have the front (to face the south) also glazed.

These preparations and the pruning of trees, and shrubs, (we take for granted that the garden fence is in good order) and the completing of a well-organized plan of operations, are all that can be done in the interests of out-door gardening for the next six or seven weeks at least. But if this time be improved in the manner we have suggested, it will not have been spent without profit.

HOLLY TREE.
Cobourg, Jan. 20, 1865.

CHINESE PRIMROSE.—The conservatory has been gay for more than a month with these beautiful flowers. They vary in colour, from white through nearly every shade of red, some are striped and others merely sprinkled with red on a white ground; and although they have been in bloom so long, they seem likely to continue in flower for a month to come. One reason why these lovely flowers are such great favourites with the amateur, is found in the fact that they are so easily cultivated. The seed may be sown in Spring in a gentle hot-bed. As soon as the plants are fairly started they may be pricked out into thumb-pots, and will require only to be kept watered and set away in a shady place, with a couple of shillings as they increase in size, to pass safely through the summer. In the fall they should be re-potted

into six-inch pots, filled with soil composed of half sand and half fresh loam, and when the flower stalks make their appearance, watered with weak manure water. When the flowers are passed, the plants will require less water, and will need only to be kept in a cool, shaded place during the summer. In the autumn they should be re-potted into larger pots, and when done blooming the second time thrown away, and their places supplied by a new collection of seedlings.

Grape Vine Culture.

BY W. S., OF WOODBURY.

No. II.

HOW TO PLANT.

THE vine is invariably planted in rows, and it is best to run them east and west. There has been much controversy as to the proper distances to plant. We think the rows should not be less than four feet apart, and not more than six. Five feet would be a good medium, thus affording ample space to cultivate. The distance apart in the rows depends on the system on which it is determined to cultivate, which varies from two to ten feet. The first two years, on any system, each vine should be trained to a single stake; consequently, as many stakes, from 5 to 7 or 8 feet high, should be ready prepared as there may be vines to plant. Any ordinary material will do. Cedar would last longest, but young shoots which can be had in the bush, of any kind of hard wood, from 1 to 1½ inches diameter, are very suitable, and a man can easily cut down and prepare several hundred in a day. The holes should be dug from 12 to 24 inches deep, and about 3 feet in circumference, the stake then planted at the north side, the soil filled in again and pressed in slightly with the foot to within about eight inches of the surface. Set the plants on the soil thus filled in, spreading out the roots in their natural order; then again filling in the soil to a depth of from four or five inches. The plant should



FIGURE 3.

be set in a slanting position. When the soil is filled in most carefully and thoroughly about the roots, leave a hollow basin in the form of a ring round the edge of the hole, leaving the stem surrounded with a little mound, which will shed the rain and throw the moisture to the extremities of the roots where it is wanted. The soil remaining is to be made into a neat little heap beside the stake, at the north side of the plant, and to be levelled in at the end of the first season. Fig. 3 shows the vine newly planted, and

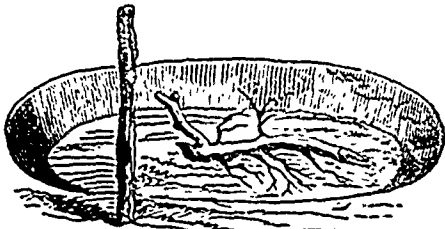


FIGURE 4.

Fig. 4 the slanting way in which it is to be placed in the ground.

In planting, fresh manure or decomposing organic matter must not be allowed to come in contact with the plant under any circumstances whatever. The work should be most carefully and thoroughly done, and the most scrupulous neatness observed. Do not tread down the soil very much, that is, not with a man's whole weight; the soil must be worked in among the roots, and no vacancies left, with the hand. The roots must not be exposed to the sun and air but

for the shortest possible time. A mulching of short litter or some refuse matter is almost indispensable in keeping the ground moist around the roots during the droughts of summer, and as a protection from winter frosts.

CULTURE, PINCHING, AND PRUNING.

During the summer the laterals or side branches which spring from the axils of the leaves should be pinched in to not more than one joint. Whatever is

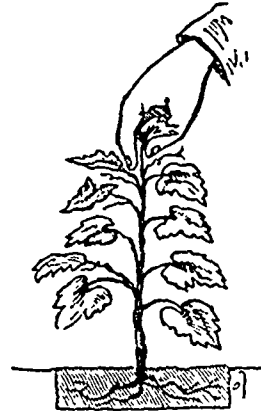


FIGURE 5.

is allowed to grow beyond this is merely robbing the stem; and it is a primary object to produce a strong stem. Pinching is rapidly accomplished by the thumb and forefinger of the right hand. But if the vine should grow very luxuriantly, the laterals had better be allowed to extend to two or three joints, otherwise the main buds would be apt to burst; and it is well known that if the main buds are destroyed there would be no fruit next season. One new leaf only should be left on each joint at the time of stopping. After the middle of August the vines may be allowed to grow at will. See Figure 5. Fig. 6 shows a young shoot of the current year with a lateral (B) springing from the base of the leaf (L). This lateral should be pinched off at the cross line. If removed entirely or too soon, the bud (C) will be apt to push and destroy the prospects of fruit the following season. A little well-rotted manure may be spread on the surface around the plants in the fall and forked in in the spring.

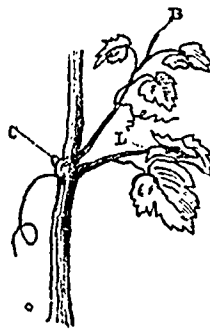


FIGURE 6.

The ground during the summer months should be kept thoroughly clear of weeds, and at least after the second season no other crops of any kind should be suffered to occupy the vineyard. As we shall have occasion to speak of the various parts of the vine, we therefore here give a sectional view of a full-grown entire plant, with the names of the various parts. Fig. 7. This is essential to a correct understanding of the whole subject.

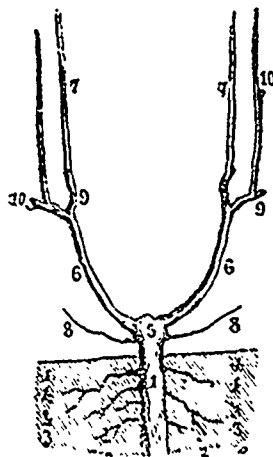


FIGURE 7.

- | | |
|-------------------|-------------------|
| 1. The Stem. | 6. The Thighs |
| 2. Foot Roots. | 7. Bearing Wood. |
| 3. Side Roots. | 8. Ground Shoots. |
| 4. Surface Roots. | 9. Spurs. |
| 5. The Head. | 10. Buds. |

For many reasons, the work of pruning is best done in the fall. 1st. It is then done better than it

can possibly be in the snows and frosts of winter; and 2nd, if done soon after the dropping of the leaves, the organizable matter which would otherwise be distributed among the shoots and buds of the entire vine is accumulated in the shoots and buds left after the pruning, thus materially strengthening the plant. Moreover, vines pruned in the spring bleed very much, tending to their serious injury.

It must be particularly noticed that the grape vine bears its fruit on shoots of the current year's growth, which spring from buds on shoots of the preceding year's growth. It is, consequently, the life of this plant to keep it closely pruned. All secondary shoots should be cut away and the main stem shortened to

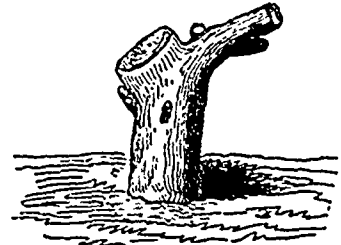


FIGURE 8.

an extent depending upon its character. Under any circumstances, the plant, at the time of setting, must be cut back to two eyes, and as soon as they have a few leaves, rub off the upper one as close as possible to the one left; the remaining shoot must be carefully protected, and when it exhibits symptoms of lying over, must be tied up to the stake. Fig. 8 shows the plant properly pruned immediately after planting.

During the first season little can be done but to keep the ground loose about the plants, and mellow and free from weeds. It will be better to be tied up, and if a little liquid manure be applied while growing, it would be of much service. If the weather be very dry when it is applied, remove the surface soil to a depth of two or three inches, giving at least a paillful to each plant. Such an application will last over a fortnight in the very driest season, and be much preferable to a frequent sprinkling. Care must be taken to work or puddle the soil as little as possible.

MULCHING.

If abundance of grassy weeds, litter or stable manure, tan bark, saw-dust, or the like, can be obtained, the ground should be thickly covered for about three feet around the stem. This not only keeps the soil moist, but precludes the necessity of stirring by preventing the weeds from growing, and conduces to the healthiness and productiveness of the plant. Before applying mulch of any kind, it will be best to raise the soil around the stem to the depth to which it is intended to lay the mulch, in order effectually to prevent its contact with the plant. This is well illustrated by Fig. 9. But to mulch any considerable

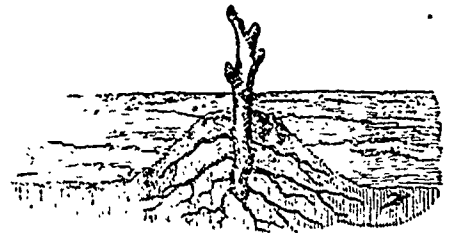


FIGURE 9.

quantity—say an acre—with any of these substances, would cost as much probably as a good manuring, if not more. Some cheap means, if it can be found, is therefore very desirable. One means at once cheap and efficient has been practised largely in the middle and Southern States of America,—that is, to plant in a drill between the rows of vines the Southern field pea or cow pea, a leguminous plant much employed there as a green crop to renovate worn-out soils by ploughing under while in flower. This plant grows in any soil, and endures the severest drouth. It

stalks are as large almost as the tomato vine, and in ninety days produces as much mulch for manure as an acre of green clover of the same character and value, either as manure or food, and hence forms a very valuable and cheap mulch. Cultivate the spaces between the rows of vines with the horse hoe, in the spring, lightly.

About the 1st June open a very narrow furrow with a small plough, drop the peas in this furrow in hills about 3 feet apart, say 12 to 15 peas in each hill, and cover with the plough or hoe, and cultivate a little to keep down weeds. Half a bushel will seed an acre of vineyard, and costs about \$1.50 in Baltimore. During July and August it makes a very perfect shade for the grapes, and early in September, while coming into flower, furnishes a large quantity of litter for mulching and manure for the ensuing winter, and in no way exhausts the soil, because it returns to it more carbon and nitrogen than it abstracts, and it only takes potash, lime, &c., from the sub-soil to return it to the top soil in a state better fitted for the food of plants. The *early black* is said to be the best pea for a northern climate.

WINTER PROTECTION

At the close of the season, the vines left for bearing the following year should be bent down and covered with soil after the manner of the blackberry or raspberry, or covered with any kind of litter such as the above.

PROTECTING FRUIT-TREES FROM MICE.—Now is the time to be on the watch for the field mice. If the trees have not been secured by wrapping a sheet of paper around the stem at the ground and painting it with coal tar, or by placing a piece of tin or stove pipe around them, care should be taken after every fall of snow to tramp the snow firmly around each tree. The mice travel under the snow, and will not dig through when it has been made compact by tramping. Orchards standing in grass, are particularly exposed to the depredations of field mice and will require careful attention.

Poultry Yard.

AN OLD GOOSE.—The Salem (Mass.) Gazette says a young spring goose was exhibited in Salem market by John Bradstreet, of Topsfield, last week, weighing seventeen pounds. This was one of four hatched by an old goose seventy-four years of age. The average weight of the four was fifteen pounds.

COCHIN CHICKS AT BIRMINGHAM SHOW.—The report of the Birmingham Show shows a falling-off of £100 in poultry sales compared with last year. This is, no doubt, to be attributed in a great measure to the holders of birds being unwilling to dispose of their best specimens. Capt. Heaton refused £25 per pen for his two first-prize pens of Buff Cochins, and the gentleman who offered this would doubtless have given a higher price, but Capt. Heaton declined to sell; £15 15s. was also refused for another pair of Buff hens; £10 10s. for a pair of Buff pullets; and £15 15s. for a Buff cockerel, and I have no doubt that many other large sums were refused in other classes. These came under my own notice.—C. F. E., in *Agricultural Gazette*.

ROUF IN POULTRY.—We have received a number of letters lately, describing the swollen face, sneezing, running at the eyes and nose, offensive odour, and all the other symptoms of that pest of the poultry-yard known as rouf. Some of the writers, apparently not experienced poultry-keepers, have asked the name and treatment of the disease.

The best remedies are warm, dry housing, cleanliness, nutritive and somewhat stimulating food and medicines. In our own cases we generally give as medicine some iron and stimulants combined. One of our most successful breeders tells us that he has found great benefit from the use of a stimulating medicine sold by the herb doctors under the name of "composition powder," though why this should be better than any other stimulant we are at a loss to know.

Some of our readers may like to try this remedy, so we insert his directions:—"Bayberry $\frac{1}{2}$ lb., best ginger 2 oz., cayenne pepper $\frac{1}{2}$ oz., cloves $\frac{1}{2}$ oz., all finely ground and well mixed. I have given it at night and in the morning, and those that have been very bad I have sponged with warm water. Of course, I do not send you this as a specific, but as far as my experience goes I have not seen a failure."—Q. The dose would be half a teaspoonful mixed into a cream with a little gum, treacle, honey, or starch. The remedy is worth a trial, but it must be tried in conjunction with warmth, shelter, and dry lodging.—*Field*.

The Household.

Receipts for the Volunteers, &c.

PLAIN IRISH STEW FOR FIFTY MEN.—Cut fifty lbs. of mutton into pieces of a quarter of a pound each, put them in the pan, add eight lbs. of large onions, twelve pounds of whole potatoes, eight tablespoonfuls of salt, eight table spoonfuls of pepper, cover all with water, giving about half a pint to each pound, then light the fire, one hour and a half of gentle ebullition will make a most excellent stew. Mash some of the potatoes to thicken the gravy, and serve fresh beef, veal, or pork, will also make a good stew. Beef takes two hours doing. Dumplings may be added half an hour before the stew is done.

COFFEE FOR A MESS OF TEN SOLDIERS.—The canteen saucepan holds ten pints. Put nine pints of water into a canteen saucepan on the fire, when boiling add $7\frac{1}{2}$ ozs. of coffee, (the ration) mix them well together with a spoon or piece of wood, leave on the fire for a few minutes longer, or until just beginning to boil. Take it off, and pour in one pint of water, (cold) let the whole remain for ten minutes or a little longer. The dregs of the coffee will fall to the bottom, and the coffee will be clear. Pour it from one vessel to the other, leaving the dregs at the bottom, add your ration sugar or two tea-spoonfuls to the pint; if any milk is to be had, make two pints of coffee less; add that quantity of milk to your coffee, the former may be boiled previously. This is a very good way for making coffee even in a family, especially a numerous one, using 1 ounce to the quart, if required stronger. For a company of 80 men, use the field stove, and four times the quantity of ingredients.

PEA SOUP.—Put in your pot half a pound of salt pork, half a pint of peas, three pints of water, one teaspoonful of sugar, half one of pepper, four ounces of vegetables, cut in slices, (if to be had) boil gently two hours, or until the peas are tender, as some require boiling longer than others, and serve.

TEA FOR 80 MEN—which often constitutes a whole company. One boiler will, with ease, make tea for 80 men, allowing a pint to each man. Put 40 quarts of water to boil, place the rations of tea in a fine net, very loose, or in a large perforated ball, give one minute to boil, take out the fire, if too much, shut down the cover; in ten minutes it is ready to serve.

HOW TO PRESERVE BOOTS AND SHOES.—A gentleman in a communication to the *London Mechanics' Magazine*, says:—"I have only had three pairs of boots (no shoes) for the last three years, and I think I shall not require any for the next three years to come. The reason is, I treat them in the following manner: I put a pound of tallow and half a pound of rosin in a pot on the fire; when melted and mixed, I warm the boots, and apply the hot stuff with a painter's brush, until neither the soles nor upper leather will suck in any more. If it is desired that the boots should immediately take a good polish, dissolve an ounce of beeswax in an ounce of spirits of turpentine, to which add a teaspoonful of lamp-black. A few days after the boots have been treated with the tallow and rosin, rub over them the wax and turpentine, but not before the fire. Thus the exterior will have a coat of wax alone, and shine like a mirror. Tallow, or any kind of grease, becomes rancid, and rots both stitching and leather. But the rosin gives it an antiseptic quality which preserves the whole."

HOME-MADE FIGS.—Peaches, to be peeled, cut in two, the pits taken out. Make a thin syrup of sugar and water, put the peaches in while the syrup is hot, and nearly boil for a few minutes. Then take them out and place in a slow oven to dry. They are said to be better than the true figs.

NOTE BY ED. C. F.—We are indebted to a lady correspondent for the above receipts. She will please accept our thanks for them.

FOR TOOTHACHE.—A little horse radish scraped and laid on the *crest* of the side affected, will, in many cases, it is said, give speedy relief. Another way is to place a little scraped horse radish in the mouth, or the tooth, and just around the gum. It relieves rheumatic pains in the gums and face also. The mouth may afterwards be rinsed with a little camphorated water, lukewarm.

HOW TO KEEP SIRUP FROM RUNNING OVER WHEN BOILING.—Take sweet cream and drop in one drop at a time when it rises; this is sufficient, if the sirup is sweet, and much easier than dipping.

ENGLISH CHRISTMAS PUDDING.—Two lbs. superfine flour; 2 lbs. beef suet; 2 lbs. raisins; 2 lbs. currants; 2 lbs. sugar; 2 dozen eggs; 2 gills brandy; 2 ounces allspice; made into a thick batter with new milk. Boil eight hours.

EFFICACY OF ONIONS.—A writer says.—We are often troubled with severe coughs the results of colds of long standing, which may turn to consumption or premature death. Hard coughs cause sleepless nights by constant irritation in the throat, and a strong effort to throw off offensive matter from the lungs. The remedy I propose has been tried by me and I often recommend it to others with good results, which is simply to take into the stomach before retiring for the night, a piece of raw onion, after chewing. This esculent, in an uncooked state, is very heating, and tends to collect the waters from the lungs and throat, causing immediate relief to the patient. Sliced onion, in a raw state, will collect poison from the air, and also from the human system when taken internally, or externally applied to the arm pits.

Salve for Frost Bites.—The following is the receipt for *Wahler's Frost Salve*, so long known and valued in Germany, but the recipe for which has been kept a secret till recently purchased by the government of the kingdom of Wurtemberg, and made public:—21 oz. mutton tallow, 21 oz. hog's lard, 4 oz. peroxide of iron (red iron rust,) 4 oz. Venice turpentine, 2 oz. oil of bergamot, 2 oz. bole armeman, rubbed to a paste with olive oil. Heat together the tallow, lard and iron dust, in an iron vessel, stirring with an iron spoon constantly till the mass assumes a perfectly black colour; then add gradually the other ingredients, stirring till well mixed. It is applied upon linen, daily, and its effect upon even the most painful frost sore is most extraordinary. In all probability, for other similar wounds it would also be an excellent application.—*Ex.*

Miscellaneous.

Flax Companies.

The successful operation of a company formed in Toronto for crushing flax seed, to procure linseed oil and cake, is an event that justifies congratulation. It is the first step, we believe, that has been taken by an incorporated company in Upper Canada to produce any manufactured article from the flax plant. As an advance, therefore, on any previous enterprise in the same line, we trust it may be the harbinger of further progress.

The Company was incorporated, we believe, under the Joint Stock Companies' Act, cap. 63, Consolidated Statutes, but a statute passed last session, provides better facilities for incorporation, and affords greater protection both to the public and shareholders.

It is hoped that advantage will be taken of this Act to form local companies for the culture of flax, erecting scutching mills, and purchasing crops from the grower at remunerating prices—the subsequent conversion of the crop being managed by the company. But this system to be carried out on an extensive scale, might require a larger amount of ready capital than can be generally contributed in Canada, more especially in the towns and villages; for instance, to supply farmers with sufficient seed to sow one thousand acres, and to purchase the produce at maturity for conversion into fibre, a cash capital of \$24,000 would be required, and this not including the requisite outlay for buildings, conveniences for carrying on the business and machinery. The profits of the company would be the difference paid for the straw, with its cost of conversion, and the price at which in its prepared condition, it is sold to the spinners. By prudent management a company of this kind, at present prices, ought to realize thirty per cent on the capital invested.

But we beg to suggest another mode of carrying out the flax culture by incorporated companies, which shall be essentially farmers' companies, in which the farmers will be the principal stockholders, and by which they will derive larger profits than by merely selling their straw at the flax mill; and this without the necessity of any cash contribution, except a small sum required to be paid in by the provisions of the Act requiring ten per cent. on the capital

stocks. Let us suppose that a company is formed composed of farmers and others, in some given place, with a capital which may vary from \$1,000 to \$10,000 and upwards, the shares of which are fixed at \$50 each. Now, by the method we propose, a subscriber or stockholder of five shares instead of paying in money, will pay in kind, that is with the raw material; the deposit on the five shares will be \$5, but the remaining \$45 will be paid by a certain quantity of flax straw. Suppose by mutual agreement all shareholders should supply the mill at the price of \$10 per ton, it would therefore require the holder of five shares to deliver at the mill premises of the company 4½ tons, which will be equivalent to the payment of \$45. One and a half to two acres would easily furnish the quantity. The profit of the shareholder would be the dividend payable out of the net sales of the seed and scutched flax, less the costs of management and conversions.

Now, an acre of land is capable of producing 500 lbs. of dressed flax, worth 15 cents per lb., equal to \$75; add the value of 10 bushels of seed, at \$1.25 is \$12.50 per acre. From this must be deducted the cost of management and the expenses of the conversion of straw into fibre, which, estimating as high as 20 per cent, would leave a profit of \$70 per acre. Therefore the two acres which enabled him to pay his stock, will give a return of \$140. The ten per cent deposit will necessarily have to be expended in seed, buildings, and machinery, in which he will retain an interest so long as he remains a shareholder.

This resembles a mode of husbandry known on the European continent as the *Melaore* system, and which, we believe, has been advantageously adopted in some of the West India islands in the cultivation of the sugar cane, which like the flax plant, has to undergo a process of conversion in order to render it a marketable commodity. The importance of the flax culture ought not to be overlooked. England is now paying seven and a half millions sterling to foreign countries for the raw material, and would pay as much or more if it could be obtained. If some such plan as we have suggested, in inaugurating companies, is adopted, the culture will become general, year by year, and Canada will soon take a share in this vast trade, which is now principally enjoyed by the people of Russia.—*Com.*

Salmon-Breeding.

To the Editor of THE CANADA FARMER:

Sir,—As you have already allowed me portions of your space for the discussion of the subject of fish hatching, I hope that a few lines more may not be considered troublesome. I must first apologize to "H. P. H." for my remark about the distance to the sea,—it was, as he says, "curt," but I did not intend to be uncivil, which I fear it was. I also wish to correct a slight mistake in my last letter, as it appeared in the FARMER. In it I am made to say that the salmon spends "three months" of his time away from the salt water. What I wrote was, "three-fourths." My own bad writing was of course the cause of this error. Since last writing to you, I have obtained a good deal of useful information on this subject both from England and Ireland, and everything I can learn confirms me in the belief that a most productive source of wealth is neglected so long as the great fish pastures of Lake Ontario and its tributaries are left unstocked with salmon. As to brook trout, I do not see the value that is to be expected from them, except as a source of amusement to the angler; and indeed I have my doubts as to the great utility of the hatching process. When the fish are not migratory, and are already reasonably numerous in the waters, careful preservation from poachers and other and worse enemies, would in such cases probably be sufficient. But with salmon it is different. Though once abundant, they have now disappeared from the numerous rivers and streams that pour into Lake Ontario, and yet all that is required for their restoration is some trouble and a little expense. Now salmon is worth—or would be if we could get it—by weight, as much as mutton. In London it has never fallen in price below one shilling sterling (25 cents) per pound. "H. P. H." was therefore mistaken when he quoted it at three pence. No fish equals it for flavour, and I believe, as a wholesome article of food, none excel it. The cash receipts of one Scotch fishery were, in 1862, \$57,000, and this great return

has been principally obtained by artificial hatching; for although originally a great and productive fishery, it had fallen off some ten or twelve years ago to less than half its value. The new system has been now some eight or nine years in operation, and doubtless in a few more years the profits will have again doubled. The money value of the Irish salmon fisheries is about one and a-half millions per annum, and of Scotland nearly twice as much (I mean in dollars). English fisheries are comparatively unimportant, but fish culture is increasing them, and will soon make them valuable. Now these great sums are paid for an excellent article of food, which costs in proportion little or nothing, and the price of which is constantly rising, so far does the rate of demand exceed the increase in supply. But there are difficulties in the way of stocking Lake Ontario, insuperable, I fear, by private enterprise, but which the Government could easily overcome. The expense of obtaining the ova in the first instance must be considerable. The parent fish should be caught at the proper season in some of the streams frequented by them on the Lower St. Lawrence, and there a preliminary hatching establishment should be built, as the eggs cannot be transported with any hope of success until a certain point of the incubation has been reached. They might then, properly packed, be sent to the different private lakes and rivers, where no doubt many proprietors would willingly pay for them at such rates as would in part, at all events, cover the expense incurred in procuring them. This establishment need only be maintained for five or six years, as by that time abundance of fish suitable for the purpose could be taken in all the rivers that had been stocked. Even less time might suffice, as a four-year-old salmon, according to Dr. Buckland, should weigh at least twelve pounds, and a female of that weight would give probably 12,000 ova. The expense of such an establishment would not be great. One competent person in charge, with one assistant, would be a sufficient staff, and at the spawning season the services of a few experienced fishermen would be required for the few days during which it lasts. The cost of the establishment itself, with all apparatus, is not worth mentioning, and I think you must agree with me that the profits to the country from a successful result would be immense. If you think so, will you give insertion to this letter, and lend your assistance to the plan.

F. H. LYNCH-STAUNTON.

Saugeen, Jan. 16, 1865.

NOTE BY ED. C. F.—We quite concur with our correspondent in reference both to the importance and feasibility of some such measures as are urged by him, and we shall gladly do all we can to further the object aimed at by him and others who have favoured us with communications on this subject.

Markets.

Toronto Markets.

"CANADA FARMER" Office, Jan. 25, 1865.

Flour—Market active; No. 1 superfine at \$3 50 to \$3 65 per bbl; extra, \$4 25, superior extra, \$4 50 to \$4 65, fancy, \$4. Full Wheat scarce, with a good demand, selling at 90c to 95c per bushel. Spring Wheat active at 75c to 83c per bushel. Barley very dull at 60c to 70c per bushel. Oats at 35c to 40c per bushel. Rye 60c per bushel. Peas in good demand at 60c to 64c per bushel. Hay—Market well supplied at \$15 per ton. Straw in good supply at \$11 per ton. Provisions—Butter—Fresh, wholesale, per lb., 14c to 17c, retail, per lb., 15c to 30c; in tubs, wholesale, per lb., 17c to 19c. Eggs—Wholesale, per dozen, 14c to 15c; retail, per dozen, 19c to 20c. Hams—Wholesale, per lb., 9c to 10c½; retail, per lb., 10c to 12c. Fitch Bacon—Wholesale, per lb., 8c to 8½c, retail, per lb., 11c. Cheese—Wholesale, per lb., 10½c to 11½c, retail, per lb., 13c to 15c. Lard—Wholesale, 11c to 12c per lb., retail, 15c. Beef in small supply at \$2 50 to \$3 per 100 lbs.; second quality plenty, at \$4 00 to \$4 50, 6c to 8c per lb., retail, \$5 00 to \$5 50 per cwt., wholesale; 8c to 10c per lb., retail. Calves \$3 to \$4 each. Sheep, by the car load, \$4 to \$5. Lambs, by the car load, \$2 50; very good bring \$3 50. Pork \$6 30 to \$8 80 per 100 lbs. Hides (green) lower; per 100 lbs., \$3 to \$3 50, dry hides, 6c to 8c per lb., cured and tanned, 4½c to 5c. Tallow 6½c to 7½c per lb. Wool, 36c. Calveskins (green) 10c per lb.; dry, 16c to 18c. Sheepskins (green) \$1 to \$1 25 each; dry, 16c to 18c. Lambskins 87c to \$1 each. Coal, Lehigh \$10, Scranton \$8, Bituminous \$7 50 to \$8. Wood \$4 50 to \$5 per cord. Salt \$1 80 to \$2 per bbl. Water Lime \$1 50 per bbl. Potatoes in better supply at 35c to 45c per bushel retail.

Apples, \$1 50 to \$2 00 per bbl. Ducks, 35c each. Chickens, 25c to 40c per pair. Turkeys, 75c to \$1 each. Geese, 30c to 60c each. Oil Cake, \$32 per ton, or \$1 75 per cwt.

London Markets, January 27.—GRAIN—Full Wheat, per bush, 85c to 90c. Spring Wheat, per bush, 75c to 80c. Barley, per bu h, 60c to 65c. Oats, per bu-h, 40c to 42c. Peas, per bush, 60c. Corn, per bush, 60c to 65c. Buckwheat, per bush, 40c. Dressed Hogs at \$8 to \$8 75, one lot of extra good brought \$7 00. Provisions—Butter, in kegs, 10c, fresh, by the basket, 16c per lb. Eggs, 20c per doz. Hides, green, per 100 lbs, \$3 to \$3 50, dry, \$7. Calveskins, green, 8c to 10c per lb., dry, 14c to 16c. Skins, 60c to \$1 25. Wool, 35c to 40c per lb; matted and unwashed subject to a deduction of one-third of the weight. Hay, supply large, per ton, \$15 to \$18. Straw, per load, \$2 50 to \$4. Clover Seed has sold at \$7 per bush. Timothy, \$1 62½ to \$2 75 per bush.—*Free Press.*

Galt Markets, Jan. 26.—Flour, \$2 to \$2 25. Full Wheat, 84c to 90c. Spring Wheat, 75c to 80c. Rye, 50c to 60c. Oats, 35c to 41c. Barley, 60c. Peas, 60c to 62c. Eggs, per doz., 12c. Butter, per lb, at market, 14c to 16c. Hay, per ton, \$10 to \$12. Straw, \$5 50 to \$6. Flax Seed, \$1 to \$1 25. Wool, per lb, 43c to 60c. Sheepskins, 80c to 90c. Lambskins, 60c. Hides, per 100 lbs, \$2. Pork, per 100 lbs, \$5 60 to \$8 25. Beef, per 100 lbs, \$3 50 to \$4.—*Reporter.*

Hamilton Markets, Jan. 26.—Wheat, per bushel, fall, 85c to 8c. Wheat, per bushel, spring, 75c to 82c. Barley, do 65 to 60c. Oats, do 35c to 40c. Peas, do 65c to 60c. Rye, do 60c. Corn, do 64c. Flour, per 100 lbs, \$2 50 to \$2 62½. Flour (medium), do, \$2 37½ to \$2 50. Flour (spring wheat), do, \$2 23 to \$2 37. Butter, fresh, per lb, 15c to 20c. Eggs, do, per doz., 15c to 20c. Beef, per 100 lbs, \$3 75 to \$4 50. Pork, do, \$5 75 to \$8 75. Tallow, rendered, \$7 60. Hides, green, (trimmed), \$3 to \$3 75. Hides, do, (untrimmed), \$3. Hides, dry, \$7. Calveskins, per lb, 8c to 10c. Sheepskins and Lambskins, \$1 25 to \$1 50.—*Times.*

Chatham Markets, Jan. 25.—Flour, per 100 lbs., \$2 60 to \$2 63. Wheat, No 1 white, per bu., 85c to \$1. Do., No. 2 do, per bu., 85c to 90c. Do., Red, per bu., 80 to 85c. Barley, per 100 lbs., \$1 25. Oats, 35c to 40c. Beans, 65c to 70c. Potatoes, 31c to 40c. Beef, per cwt., \$4 60. Pork, per hundred, \$5 to \$6 50. Butter, per lb, 16c to 18c. Eggs, per doz., 17c. Hay, per ton, \$10 to \$12. Wool, 40c. Tobacco, per 100 lbs, 3½ to 4½. Sheepskins, 50c to 75c. Lambskins, 37½c to 75c. Hides, per lb, 3½c. Calveskins, in months old, 67½c.—*Planet.*

Peterborough Markets, Jan. 26.—Flour, per barrel, \$4 60 to \$5. Wheat, per bushel, fall, 80c to 85c. Spring Wheat, per bushel, 75c to 80c. Potatoes, 30c to 40c. Barley, per bushel, 60c to 55c. Peas, 60c to 65c. Oats, 40c to 45c. Hay, per ton, new, \$10 to \$12. Hides, per cwt, \$3. Sheepskins, 60c to 80c. Wool, per lb, 3c. Beef, per cwt, \$4 to \$4 50. Eggs, per dozen, 12½c to 15c. Butter, by the firkin, 14c to 15c.—*Examiner.*

Rowanville Markets, Jan. 26.—Flour, per 100 lbs, \$2 to \$2 25. Full Wheat, per bushel, 85c to 90c. Spring Wheat, per bushel, 75c to 82c. Oats, per bushel, 32c to 35c. Peas, per bushel, 60c to 65c. Barley, per bushel, 60c to 70c. Potatoes, per bushel, 25c. Butter, per lb, 16c to 18c. Eggs, per dozen, 16c to 15c. Pork, per cwt, \$5 50 to \$8 25.—*Statenman.*

Brookville Markets, Jan. 25.—Fall Flour, per 100 lbs, \$2 76 to \$3. Spring Flour, \$2 50. Spring Wheat, 90c. Buckwheat, 35c. Barley, per 48 lbs, 60c to 55c. Fall Wheat, 90c to \$1. Potatoes, 25c to 30c. Rye, 55c to 60c. Peas, 60c to 65c. Oats, 35c to 37c. Hay, per ton, \$10 to \$12. Beef, per 100 lbs, \$3 to \$4. Pork, per 100 lbs, \$5 to \$6 50; do prime mess, \$14 to \$16; do mess, \$13 to \$19. Wool, per lb, 30c to 40c. Butter, 17c to 19c. Eggs, 15c to 20c. Lard, 10c. Tallow, 8c to 10c. Hardwood, \$2 to \$2 50.—*Recorder.*

Barrie Markets, Jan. 24.—Fall Wheat, per bushel, 73c to 75c. Spring Wheat, per bushel, 65c to 70c. Oats, per barrel, \$4 to \$4 50. Barley, per bushel, 55c to 60c. Flour, per bushel, 45c to 50c. Beef, per cwt, \$4 to 5. Pork, per 100 lbs, \$5 to \$5 50. Hay, per ton, \$18 to \$20. Butter, per lb, 17c to 20c. Eggs, per dozen, 17c to 18c. Peas, per bushel, 65c to 70c. Hides, \$3 to \$3 50. Sheep (alive), \$3 to \$5.—*Spirit of the Age.*

Montreal Markets, Jan. 25.—Flour, per barrel of 196 lbs.—superior extra, \$4 70 to \$4 90, extra, \$4 60 to \$4 65; fancy, \$4 40. Oatmeal, per barrel, \$4 65 to \$4 80, according to quality. Fishes, per 100 lbs.—First pots, \$5 35 to \$5 37½—a mixed lot bringing \$5 40; inferior, \$5 42½ to \$5 45; pearls, \$5 45 to \$5 50. Dressed Hogs, per 100 lbs.—Sales of averages of 200 lbs and over at \$7 to \$7 15. Cheese per lb.—Good dairy, 9c to 10c.—*Witness.*

Kingston Markets, Jan. 25.—Superfine Flour, per barrel, \$4 45 to \$4 60. Do., per 100 lbs, \$3 20 to \$2 35. Spring Wheat, per bushel, 85c. Peas, per bu., 65c. Barley, per bu., 61c to 62c. Rye, per bu., 60c. Potatoes, per bu., 40c to 45c. Buckwheat, per bu., 35c to 40c. Butter, fresh, per lb, 15c to 20c. Do., by the tub, 16c to 18c. Beef, per 100 lbs, \$4 to \$5. Fresh Pork, per 100 lbs, \$1 60 to \$1. Mrs Pork, \$1 80 to \$2. Prime Mutton, per bbl, \$17 to \$18. Eggs, per doz., 17c to 20c. Potatoes, per bu., 30c to 60c. Hay, per ton, \$12 to \$15. Straw, per ton, \$8 to \$7. Clover Seed, per lb, 8c to 10c. Wool, per lb, 32c to 40c. Pot Ash, per cwt, \$4 50 to \$5. Hides, per 100 lbs, \$3 10 to \$4. Sheep and Lambskins, 60c to \$1. Calveskins, each, 25c to 75c.—*Whig.*

Detroit Markets, Jan. 25.—Flour—Dull, Superior freely offered at \$9 50, without buyers. Wheat, lower, No. 1 white, \$2 74; No. 2 red offered at \$1 73; No. 1 spring, Chicago, \$1 71, without buyers. Barley, \$3 to \$3 25. Clover Seed, \$13.—*Free Press.*

Buffalo Markets, Flour and grains of all kinds dull and nominal. Seeds—Market quiet; Ill. Timothy held at \$6 60, Wisconsin, \$5 75; Clover seed, \$15 to \$15 50. Dried Apples, firm with an active demand at 14c to 14½c. Provisions—Pork dull, with small sales at \$37 to \$38 for heavy mess, and \$30 for light mess. Smoked meats firm—Hams, sugar-cured, at 23c; shoulders, 15c to 20c. Lard quiet, small sales at 22c to 23½c. Dressed Hogs—Market dull at \$13 50 to \$14 for Canada hogs. Petroleum, quiet at 91c to 95c for refined strow and white; Naptha dull at 50c.—*Express,* January 26.

Chicago Markets, Jan. 26.—Flour dull. Wheat dull at \$1 41 to \$1 44½. Corn dull. Oats steady. Dressed Hogs steady at \$13 to \$13 25. Mess Pork dull, offered at \$35 without buyers; Prime Mess declined 1 80c to \$1 00; sales at \$31. Lard 20c to 20½c.

New York Markets, Jan. 26.—Flour—market dull but prices without material change; Canada flour dull at \$9 50 to \$9 75 for common, \$9 80 to \$11 60 for good to choice extra. Rye flour quiet. Wheat, market a shade better. Barley dull. Corn market dull and nominal at \$1 87 for mixed western. Oats rather easier at \$1 03½ to \$1 04. Pork opened higher but closed dull and drooping.

Advertisements.

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Consisting of 24 Numbers, and comprising 384 pages of reading matter. Parties desirous of having their numbers for the past year bound, will please send them to us, securely packed, (pre-paid,) with their name and address on the parcel, together with 30 cents in stamps or otherwise, and they will be returned bound.

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SUPER-PHOSPHATE OF LIME

FOR OATS, PEAS AND BUCKWHEAT.

Letter from Mr. Charles Benoit, farmer for Messrs. Lowe & Chamberlin at Dunham, C.E.

DECEMBER 30, 1864.

GENTLEMEN,—

The barrel of Super-Phosphate you sent me for the farm in the spring of 1863, was used by way of experiment on various crops. An acre of ground which had been in grass for many years, and nearly run out, was ploughed up that spring, and was sown with buckwheat without manure. I took three pecks of the Phosphate and sowed over one-half of the acre. From the time the buckwheat came up until it was ripe, the difference in appearance was remarkable; the colour was dark green; it grew very thick and about four feet tall; while the other half acre was not half so thick or tall, and was in all respects inferior. At the harvesting it yielded 17 1/2 bushels of grain, the other half 12 bushels, being nearly fifty per cent. in favour of the Phosphate.

In the spring of the present year I sowed oats and peas on the same ground without any manure, and the effect of last year's application of Phosphate was as great upon this year's crop as upon that of last year, the growth being fully double that of the other half acre. The extra fodder will alone pay for the cost of the Phosphate. I have not yet threshed the oats and peas, but I am confident the difference in their yield will be equal to that of the buckwheat last year. So you see that as the extra fodder of this year will pay for the Phosphate, the extra yield of buckwheat, and of the peas and oats, are a clear gain of (I think) four times its cost.

I hope you will send a good supply for the farm for next spring, and I intend to get at least two barrels on my own account.

Your obedient servant,

CHARLES BENOIT.

Messrs. LOWE & CHAMBERLIN, Montreal, Proprietors of the Montreal Gazette.

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

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THIS BEAUTIFUL THOROUGH-BRED STALLION

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

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CAPTAIN BUFORD by GLENGOE, out of LEOPARDISS by MEDOCK grandam, KITTY FISHER by MAXWELL'S MOSES; also the dam of Adolph, g. grandam by Cook's (afterwards Blackbum's) Whip; g. g. grandam, Harts' Maria by Craig's Alfred; g. g. g. grandam by Taylor's Belair. The Belair Mare, certified by her owner, Thos. D. Owens, Esq., to be Thorough Bred. All this maternal line were distinguished upon the turf, and of thorough-bred horses.

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

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

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

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

TERMS \$25—to be settled in all cases at first service, in cash, or note, due Oct. 1, 1865; also, groom's fee, \$1.00, payable at first service.

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Toronto, JANUARY 30, 1865.

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Brantford, January 30, 1865.

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They can safely challenge any Manure, natural or artificial, to produce the marvellous results which the use of the Guano will positively ensure.

This manure will give life to the most worn out soil, and is peculiarly adapted to the recovery of qualities lost by land which has been subjected to a successive course of exhausting crops.

The following table, made by R. Osborn, Esq., of Henbury, England, shows the relative profit from the application of different proportions of guano:—

Guano per acre.	Grass per acre.	Hay per acre.	Increase per acre.
2 cwt.	Ton. cwt. 7. 10. 00	Ton. cwt. 2. 7. 026	From use of 2 cwt. guano. 18. 0. 02
4 cwt.	10. 1. 1.20	3. 9. 2.18	From use of 4 cwt. guano. 2.0. 1.22
None	4. 12. 3.12	1. 9. 0.24	

DUNCAN, CLARK & SCOTT,

Lancashire Insurance Co.'s Office,

Church Street, 3 doors north of King Street, Toronto

Toronto, January 30, 1865.

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WANTED.

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

GEORGE LAIDLAW,

Box 398, Toronto.

January 30, 1865

v23-6t

IMPORTANT

SALE OF THOROUGH-BRED STOCK.

THE subscriber will sell by Public Auction, at his residence, 4 miles from Brampton Station Grand Trunk Railway, 20 miles west of Toronto, on WEDNESDAY, 15th of FEBRUARY, 1865, 14 SHORT HORNS, 6 BULLS and 8 FEMALES, and 16 GALLOWAYS, 6 BULLS and 10 FEMALES. Also, a number of LEICESTER and COTSWOLD SHEEP.

TERMS.—\$20 and under, cash over \$20 twelve months' credit by furnishing approved notes, 10 per cent discount for cash.

Catalogues with pedigrees will be sent to persons applying for them. Sale to commence at 12 o'clock.

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January 30, 1865.

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LINSEED OIL MILLS.

FOR SALE,

LINSEED OIL.....RAW.

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ALSO,

OIL CAKE.

The highest market price paid in cash for FLAX SEED.

ESPLANADE ST., SOUTH OF HAY MARKET.

January 30, 1865.

F. A. WHITNEY,

Manager.

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GARDENER WANTED,

TO take charge of my private Grounds—some four acres of lawn, fruit yards, green house, vegetable garden, &c. Must thoroughly understand the culture of grapes, berries, peas, flowers, &c. A single man preferred.

Address applications, stating qualifications, references, wages in U. S. currency, and other particulars, to me, at Rochester, N.Y.

ISAAC BUTTS,

Rochester, N.Y., January 20, 1865.

v23-1t

RED CEDAR POSTS WANTED.

ANY parties having RED CEDAR POSTS eight feet long, and three inches through at the small end, will find a purchaser by communicating with

GEORGE LAIDLAW,

Box 398, Toronto

January 20, 1865.

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Toronto, March 15, 1864.

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