

THE
FARMER'S ADVOCATE.

"PERSEVERE AND SUCCEED."

VOL. X. { WILLIAM WELD, Editor & Proprietor. } LONDON, ONT., MARCH, 1875. { \$1 Per Annum, Postage Prepaid. } NO. 3 { Office—Dundas-St., Opp. City Hotel. }

Essays Written for "The Farmers' Advocate."

In offering prizes for essays from farmers on agricultural subjects, we aim at more than one good to be derived from them. Our desire has been to present to our readers the knowledge of practical farmers, rather than the deductions of mere scientists; not that we undervalue the contributions of learned men to the science of agriculture, but the lessons that make deeper impressions are those gathered from experience. We speak as practical men to practical men—as farmers to farmers.

We hold out inducements also that farmers may be brought to think and judge for themselves more than many are in the habit of doing. The wisdom acquired from our own careful observation is seldom appreciated at its true value.

We hope that the consideration of a topic brought before our readers in an essay shall not end with its publication, but that others versed in the subject may in the ADVOCATE give their opinions, whether in favor of the opinions advanced or in opposition to them.

We will briefly review the essays monthly published in our columns:

Fence or no Fence.—This question now occupies no little of the attention of agricultural writers. There can be no second opinion as to the great expense incurred by them. The cost of a fence—making and repairing—is no small item in the farm ledger. The area of ground occupied by fences is another item of loss—much greater than appears at first sight—to those to whom they have almost been taken as a necessary part of farming. And another item, not the least as many farms are managed, is that the strip under and beside the fences is a nursery for weeds and a breeding-place and covert for insects. From this uncultivated strip they are spread in every direction over the fields, and too often a farmer, while he labors with cultivator and hoe to exterminate weeds that are robbing his crops of their food, neglects those that are sowing broadcast their seeds from neglected strips and corners.

While fully aware of the losses thus occurring from the use of fences, we would not do away with them wholly. Remove all fences not absolutely necessary. This will lessen the cost they entail upon us, and keep mowed the grass and weeds from every waste strip and corner, that they be no longer nurseries for weeds and coverts for insects. Divide your arable land into fields of the same number that you design the term of your system of agriculture to be. If a five-year or a six-year rotation, divide the land accordingly. If you have, after deducting woodland, &c., 75 acres arable, and you desire to pursue a six-year system of rotation, you will have 6 plots of 12½ acres each—one for root crops, two for grain, one for green crops for soiling, and two for pasture; or you may pursue another system as best suited to your farm.

We have from time to time pointed out in the ADVOCATE the advantages of soiling. From our own experience we can bear testimony to its great profits. Yet we would always have some pasture and. The stock will be in better health if pastured some hours every day, and the butter and cheese will be of a better quality than if fed altogether in the barn or yard. One-sixth of the farm

might in many cases be enough for pasture, and then two-sixths might be for soiling and hay.

Finally we would say, keep up no unnecessary fences; reduce the losses attending them as much as possible. Destroy all weeds, not only among the crops, but in all waste places. Public property, also, "the Queen's highway," is often the greatest nursery for weeds, the pest of the neighborhood. This should not be so. Wage unceasing war with your great enemies, the weeds. —S.

Orchard Grass.

In the January issue, you have a full description of this valuable grass. We now give you the accompanying cut as a representation of it. It requires



to be sown as timothy. It matures the second year, but remains as a permanent grass. It grows in strong tufts, and stands better in drouth than any other grass; it grows earlier in the spring, and makes a more rapid growth after being cut. The fact that our best farmers who have once tried it, are sowing it more extensively, speaks as highly in its favor as any remarks we can make. It is but recently introduced in America, and is not yet in general cultivation, but is gaining fast in favor.

It has been cultivated for many years in Europe, and is much prized there, and known under the name of Cocksfoot. When sown alone, it requires about two bushels of seed per acre; the seed is

light, weighing but 14lbs. per bushel. It would be well for farmers to try a little of it at first; larger supplies can be procured when you find out its value.

Seeds.

WHEAT.—There is a great complaint from many parts of the Dominion that spring wheat is not promising remuneration. We well knew that this is too true. Attempts are being made by many to introduce and find out more valuable varieties. For our part we have, at far greater expense than heretofore, tried to procure some variety that might answer better than the varieties we have in cultivation. We sent one person to the Eastern States to enquire about some there; we sent another person to the eastern part of Canada, where we heard of a variety that was succeeding; we went to Michigan ourselves to gain information on spring wheat there—but up to the present we have found nothing that we can as safely recommend as the Red Fern wheat. Last year we sent out Stone's white wheat to try, but, with only two exceptions, it has proved a total failure. Two of our subscribers have raised some, and will sow it, and believe they can raise it to good results. Perhaps, in a few years, that wheat which nearly all have abandoned as useless may bring a fortune to one or two persons that may acclimate it. Of course there is labor, and risk to run. The farrow wheat we sent out last year has, in most cases, given good satisfaction. The milling quality is condemned by some, but the extra yield has made up for any deficiency in price. This season we introduce to you the Red Fern wheat. This wheat has been raised from one plant that had three heads. It was found some years ago on a field of Fife wheat. It grew so much better, and filled better, than the Fife wheat, that the three heads were preserved and sown, and the produce re-sown. There is as yet but very little of it, and what makes it rather bad is that the grain was found in a locality where Canada thistles abound. It has been allowed to become mixed with oats and barley, and other foul seeds, so that it requires a vast amount of labor to make it fit for seed. However, we have, at a very heavy expense, purchased, and by dint of cleaning and re-cleaning, and picking, shall now introduce this to you. In doing so, we feel confident that we send to you a spring wheat that will give you greater satisfaction than any other in the country. It has been tried by persons that test seeds for us. The heads are long, some of which measure six inches in length. It is bearded like the Rio Grande. The grains are much shorter, plumper, and of the best milling quality. The straw is stiff, will stand better than any other variety, and is less liable to rust; in fact, it may be claimed rust proof. It has grown well on light soils, while on heavy and rich soil no spring wheat will equal it, as it will stand better, resist the rust more, yield better, and make a first-class quality of spring wheat. We advise every one of you to try a little; it will soon increase. This has now been tried by five of our reliable subscribers. Thus we are prepared to stake our reputation in introducing this to you; in fact, we will warrant it to give general satisfaction. There may be more wheat of the same kind, for all we know, in some of the States, or even in Canada, but we cannot find out

about any like it or equal to it, and we have made enquiries from hundreds of sources to ascertain about it.

BARLEY.—The California barley appears too coarse. We know of no better variety than that in general cultivation.

PEAS.—We have nothing special in this class this year. The Mummy peas sent out last year are being raised by some. The great advantage of continual bearing commends them for some purposes. We disposed of our stock in small quantities last year, and have no stock for this, as our little stock was divided into very small lots, and sent widely over the country. They were condemned by some, as they were much injured by the pea bug.

OATS.—In this cereal we believe we have a more valuable variety to introduce than ever before. The Black Polands, or Westwell oats, although of excellent quality, and have carried off the prizes at the Provincial Fair every year, still they are not liked by farmers for general cultivation. They are too late in ripening. The Angus Polands shell too easily; the Main, or Tartary, are well liked—still many wish for a change. We have now some white Main oats, that were raised from imported seed; they are well liked where they have been tried. We also have some black Poland oats, raised from imported seed. But the variety that appears destined to come into general cultivation is the Emporium, imported from Australia, and which have been well tried on various soils. They are white, having a thin skin; are longer, but not so round as the Angus, but have a good kernel and weigh well. They grow on one side, somewhat like the Main oat; they are free from the long beard, so objectionable in the common varieties; they yield as well as any other varieties, and better than most kinds; they surpass all others in resisting rust and in stiffness of straw. Parties that have tried them prefer them in every respect to any other variety. They have been tried by the side of each American and English variety that we have heard of in our country, and are admitted by all who have seen them to be the most profitable and best oat to raise. We introduce this oat to you without any hesitancy, feeling sure that you will like them, and that your neighbors will want to get them from you for seed as soon as you have them to spare. There is one little defect—there is among them an occasional black oat, which we are not able to separate without hand-picking, and we have not time for that.

Two new grapevines will be introduced this year, both of which are highly spoken of. One is named Lady—a white grape; the other is a purple grape. Very great advantages are claimed for both. We can only give you such information about them as we can collect.

The Downing gooseberry, of which we spoke in our last issue, is, we believe, the best ever yet introduced into Canada.

ORCHARD GRASS.—In our January issue we gave a long account of this valuable grass. What speaks more in its favor than any remark of ours is, that farmers in Canada that have once tried it are applying for it in greater quantities. We would advise you to get a little to try. After you have given it a fair trial, we expect you will be like others that have tried it—require more.

A correspondent states that he has frequently known rats to empty a vessel of oil, kept for the use of barn machinery, by introducing their tails into the vessel through a comparatively narrow opening, withdrawing the oil as it adhered; licking it off, and repeating the process as long as any of the oil remained. Another relates that he witnessed a party of rats in their filching operations, carrying off hens' eggs. One of the party grasped the egg with all four paws, and turning on his back was dragged away by the tail up a flight of stairs by the rest of the party.

Winter Farming in England.

From an Essex Farmer in M. L. Express.

A long and severe frost has interrupted cultivation, but enables us to cart manure to land intended for table peas. Our mangold land was manured and steam-plowed before the frost. The steam-plowed land absorbs and filters the water much more completely than the horse-plowed—more water runs off the surface of the latter. Our sheep (folded on stubble to be prepared for peas) have been fed with pulped roots, mixed with meal, cake, malt-culms, bran, hay, straw, chaff and cake. The cattle are fattening under cover; so are some old worn-out ewes. This morning, owing to the rotten state of the heavy land, the sheep are removed to the Italian rye-grass for a few days. We have an abundant supply of mangold and kohlrabi; also plenty of clover-hay to sell, provided we can get £5 10s. to £6 per ton. We invariably breed our own sheep—a cross between Lincoln or Cotswold ram, and dark-faced Suffolk or Hampshire-Down ewe. The hoggets are sold fat at about twelve to thirteen months old. Our wheats are late, but they do not appear to have suffered from frost. I am glad to see that Mr. Smith, of Woolston, has come down from the old-fashioned ten peck of seed per acre to the four peck. Thin sowing is becoming more the order of the day. Thousands of larks saved their lives by an extensive shedding of the leaves of my cabbages. I was glad that they had food, for their lives are valuable to me as insect consumers.

The Canadian Dairymen's Convention.

Was held in Ingersoll on Wednesday and Thursday, the 10 and 11 of Feb'y.

Professor Bell, of Bellville, and the well known X. A. Willard, delivered able addresses, of which we shall in other parts of the paper give an abridged report. We attended for a short time; much valuable information was given. Perhaps the most important subjects treated on, while we were there, were the coloring of cheese, and the size of cheeses. The hall was lined with placards of Annatto for sale. Annatto has been for years drilled into our Dairymen until it begins to smell too strong; this has been done perhaps to effect sales of the stuff, more than for the benefit of dairymen. We think it may be advantageous for dirty dairymen and accidental causes, to use Annatto; but from our own experience with cheese, we think it decidedly injurious, and the system should be abolished. We conversed with the gentleman whose cheese took the first prize in England, the past year; he used no Annatto; his cheese was made in Canada. If we go to nine-tenths of the grocers in Canada at the present time, we will find colored cheese of a third class; much of which ought to be condemned as unfit for human food.

Our uncoloured cheese is sold for foreign consumption being of good quality. If we were about to establish a factory, we would not use Annatto if we could make good cheese. If we could only make 2nd. class cheese, we would color it. The cost of using the liquid Annatto, as shown to us is, nearly double the cost of using the pure seed Annatto, and it is far more injurious.

One of the most experienced dairymen, informed us that he had felt the injurious effect of colored cheese on several occasions. Another dairyman informed us that the liquid Annatto had cost him between \$100 and \$200; the past year, this coloring had cost him five cents per 100 lbs. of cheese. If coloring is to be continued, and perhaps to suit some markets where the people are not aware of the deception, coloring to some extent may be followed until people find out the real facts of the case. Coloring by using Annatto in the seed, ap-

pears to be about half as much, as when using the liquid. One enterprising American dairyman that attended the Convention, informed us that he used the seed, he found it much purer, and far less expensive. We inquired of him how he used the seed, he gave us the following receipt that he used to advantage. Take two pounds of potash, one pound of sal soda dissolved in two gallons of boiling water, add to this three and a half pounds of Annatto seed; let it stand six hours, then strain.

One tea cup full of this is sufficient to color 1,000 lbs. of milk, this coloring of cheese cost him one and a quarter cent per hundred pounds; the price of the seed is 30 cents per pound.

We do not think it would be well to abandon coloring at once; but gradually use less and make more pure unadulterated cheese.

The discussion of the question of the care of cheese tended to show that profit would accrue to cheese makers, if they would make smaller sized cheese. This may be as plainly shown by the fact, that the Hon. D. Reesor has been in the habit of selling cheese as Stilton, the principal difference is, that these cheeses are made of a size that families can purchase a cheese and consume it without loss by drying, as must be the case when a family would take a large one. Thus Stilton cheese has commanded 17 and 18 cents per pound, while the large cheese have been selling at 12 cents; the quality of the curd is the same, the Stiltons have been ground a little finer in the curd; have had a little more acid added to it; in fact the contract to make these cheeses has been given to dairymen and the price paid for it at the factory is only the common price for common cheese; the size and name has added the additional 6 cents per pound. It would be well for any one about to commence, to be careful about getting the right sized hoops and presses; we would say to our subscribers, do not think of purchasing any large, old press, hoops, or boxes, even at half price; if you can sell them at that figure, we would advise you to sell at once, as we are well satisfied that those that make small cheese, will have the advantage over those that make large ones. There are some markets that may require large cheese, and highly colored; but our opinion is, that the best customers will prefer a small cheese, and that without any disceptive coloring in it.

Culture of a Farm of Poor Sandy Soil.

The following extract from the "London Agricultural Gazette," of the report of a committee of the Royal Agricultural Society of the Maulden Farm—487 acres of light sandy soil—contains a good lesson for our Canadian farmers. It cannot be too persistently impressed on our minds that good management, even more than a naturally fertile soil, can make farming remunerative. "On the successful cultivation of the green crop the status of the farm depends even more than on that of its wheat or barley, whether the interest of the landlord, of the tenant or the laborer be considered. The permanent fertility of the land, the profit of the field, and the labor in which, according to the wise man, so much profit lies, all hinge more on the extent and excellence of the green crop than on any other single feature of the farm." On the Maulden farm were 70 or 80 acres of kohlrabi, a clean and even crop of some twenty imperial tons to the acre:—

"The great average crops must be put down to good management in the case of Maulden, and not to the original fertility of the soil, which is naturally a poor sand and hot gravel. No doubt the question of agricultural merit is difficult to solve when it lies between the skill which by labor and good management makes a difficult but naturally well stored soil produce its utmost, and the enter-

prise and confidence soil produce far be undertake the opportunity that their decision. E ing so much as by food that artificia artificial manure produced by the e is when the store full that a phosph best return—the into active use fo it, would have ren the other ingredi not naturally pre or two is insuffic In the case of a den Farm, it is t the home-made d a heavy bill for s or nitrates. Mr. while his annual paid for superph 'artificial' food v and the beans an he consumes, am The 2,000 loads o he annually appl applied almost w They go to main food on the after farm is thus mad

"Of the green are a few acres in May and June there are a few a for the latest spr are ready. The almost only gro sown, pretty mu be sown, at int May, two or thr drilled in rows 2 received a heavy The rye and tare with a certain e in drought, the the kohlrabi an cession which k fattening stock, th thirds of the ba ley is the sort a clover or with l stubble is plow The whole of the Browick Red is the quarter, wh half-dressing o again come rye except when ve lowed by kohl we once knew, more than gard providing the w herd—justifin especially in a Swedes and tur

Some membe finding fault w ject in the last whom do not merely sign " received, mere nize space, an exclude other tur, to which the writers w manufacturers terest is ours, believe to b Grange syste have aided in We believe th wish it every do not devote terest, thoug to become Pa fits from it v

prise and confidence which makes a poor but easy soil produce far beyond its utmost; and those who undertake the office of judge ought to have every opportunity that can be given them of guiding their decision. Here it is not by artificial manuring so much as by large consumption of purchased food that artificial fertility is best conferred. No artificial manure is so complete as that which is produced by the consumption of farm produce. It is when the storehouse of the soil is already pretty full that a phosphate or a nitrate will make the best return—the added ingredient then bringing into active use fertilizing matter, which, without it, would have remained effete and useless. When the other ingredients of a complete plant food are not naturally present, the artificial addition of one or two is insufficient, and remains without result. In the case of a poor sandy soil like that of Maulden Farm, it is therefore better policy to enrich the home-made dung by added cattle food than by a heavy bill for superphosphate or ammonia salts or nitrates. Mr. Street has found this out, and while his annual manure bill does not exceed £50, paid for superphosphates for his green crops, the 'artificial' food which he consumes, his cake bill, and the beans and peas of his own growth which he consumes, amount to at least £100 per annum. The 2,000 loads of farm manure and earth which he annually applies are thus highly enriched, and applied almost wholly to the green crop quarter. They go to maintain the production of that cattle food on the after use of which the fertility of the farm is thus made almost wholly to depend.

"Of the green crop quarter after wheat there are a few acres in rye and tares to be plowed up in May and June for transplanted kohlrabi; and there are a few acres in mangel wurzel every year for the latest spring keep before the rye and tares are ready. The kohlrabi, which is the main and almost only green crop, is, however, generally sown, pretty much as an early Swede crop would be sown, at intervals all through the month of May, two or three pounds of seed per acre being drilled in rows 22 inches apart, on land which has received a heavy dressing of well-made manure. The rye and tares, white clover, the pasture fields, with a certain extent of cabbages to eke them out in drought, the clover stubble, a few early turnips, the kohlrabi and the mangel wurzel, are the succession which keep cows and sheep, breeding and fattening stock, throughout the year. About two-thirds of the barley crop—Hallett's Pedigree barley is the sort adopted—are sown down with broad clover or with Dutch, and one-third of the barley stubble is plowed up for winter beans or for peas. The whole of this is followed by wheat—Banham's Brown Red is the only kind sown—a portion of the quarter, whatever needs it most, receiving a half-dressing of farm manure. After the wheat again come rye and tares. Tares are preferred, except when very dear, as catch crops, to be followed by kohlrabi, which, from being the rarity we once knew, for experimental use upon little more than garden scale, here usurps the office of providing the whole winter feed of the flock and herd—justifying the confidence thus placed in it, especially in a dry season such as the past, when Swedes and turnips have generally failed."

Patrons of Husbandry.

Some members of the Order have written to us, finding fault with the remarks made on the subject in the last issue of the *ADVOCATE*, many of whom do not give their names for insertion, but merely sign "Granger." We publish the letters received, merely abridging them, as we must economize space, and not, by inserting them in full, exclude other matters of importance to agriculture, to which our paper is mainly devoted. To the writers we say, we do not take the part of manufacturers against farmers. The farmer's interest is ours, and every measure we advocate we believe to be for their good. We support the Grange system as a farmers' organization, and we have aided in the introduction of it into Canada. We believe that much good will result from it, and wish it every prosperity. At the same time, we do not devote the *ADVOCATE* wholly to their interest, though we expect the best class of farmers to become Patrons. We expect the greatest benefits from it will be from their social meetings, and

their discussions on subjects of agriculture, and that from general improvements and better management there must be good results. We do not expect permanent advantages will be gained by farmers by extensive trading in general commodities. Contributions sent us, which are likely to promote any good or carry out any improvement, will be always received with great pleasure.

Why should there be any clashing of interests between manufacturers and farmers? We do not think it a judicious policy to array class against class. While we, at all times, uphold the rights and just claims of farmers, we do not wage war against others, and certainly we cannot in justice be said to support manufacturers in opposition to the farmer's rights and interests.

Napanee, Ont., Feb. 8, 1875.

SIR,—You will confer a favor by giving the following statements space in your valuable paper, in reply to Mr. Dunnington's questions in the February number of the *ADVOCATE*.

Firstly, I am a patron of a Grange; secondly, I have been a merchant for a number of years; and, thirdly, I am at present a farmer. I merely mention the above to convey the idea that I am at least partly qualified to answer his questions.

First—"What is a fair profit for a merchant to make on his goods, and a farmer on his wheat?" With our present credit system, a merchant should make a profit of not less than twenty-five per cent. If everything was sold for cash, fifteen per cent. would do very well.

I do not care to raise wheat for less than twenty-five per cent. profit; but I do think that more wheat has been raised for a number of years, in the older sections of our country, without any profit than with it.

Secondly—"If the Grange movement is fair and honorable, why make any secret of it?"

To condemn the Grange because it is a secret society, would be to condemn every secret society. But to give some of the reasons why it is a secret society justly, we will suppose a case that would be almost an every-day occurrence if it was otherwise. Neighbor Smith belongs to the Grange; neighbor Jones does not. Smith buys a reaping machine for some thirty or forty dollars less than Jones can. If Smith told Jones, the latter would in all probability make it as unpleasant for the manufacturer as he knew how, and would likely give some other person his patronage for the future.

The Grange does not purpose being the means of any such difficulties—hence the great importance of it being a secret order. We have greatly reduced prices from manufacturers and producers of our requirements—in some cases one-half less than we would be obliged to pay if we did not belong to the Grange—and in justice to manufacturers, and the solemnity of our obligations, we keep secret the business of our order.

Is it at all likely, if there was anything unfair or dishonorable in the working of the Grange, that Patrons would allow their wives and daughters to become members?

So far as beauty, respectability and real worth goes, we have a number of ladies (in the true sense of the word) to grace our Grange.

Again, is there anything criminal in secrecy? We are almost every day making expressions that would be better secret. If secrets are honorably kept, peace, virtue, truth and character are preserved. Is every well-regulated family dishonorable because they have their family secrets? The principles of our order are not secret, and the whole community have the best wishes of the Patrons of Husbandry, not excepting agents and middlemen.

One great feature of the Grange is co-operation. It kills monopoly. It is home enterprise. Cheese Factory Associations are co-operations; but perhaps the most perfect is the postal system. What great advantages from this great co-operative system! If every man had to carry his own mail, it would cost a fortune.

Notwithstanding, the Patrons of Husbandry are becoming quite numerous, and their influence is commanding no little attention. We hope to ere

long obtain as many advantages as our brethren in the States, but as yet we are in our infancy.

Thirdly—"Tell us if a man who cheats and lies for the sake of money is morally qualified to be a Granger."

To this I will say most emphatically, No. We have none such. They would be nice associates for our wives and daughters, and ornaments to our order!

Finally—"If agents and middlemen are such villains now, how can we be sure of their honesty when employed by the Grangers?"

Agents and middlemen are just the men we purpose dispensing with. We do not need them. We want to save their commission.

We claim it is much better for manufacturers to send their price-lists and discounts to the Secretary of the Dominion Grange, as they are sent monthly to all subordinate Granges in our Dominion, thereby giving the Patrons of nearly one hundred Granges an opportunity of sending in their orders, accompanied by the cash (as we do a purely cash business), than to have agents or middlemen to sell to all kinds of customers on long terms of credit, thereby paying large commissions and sustaining more or less losses.

In conclusion, I ask your indulgence, as your paper is devoted to agricultural interests, and hoping this may be of some interest to that part of the community. Very respectfully,

W. N. HARRIS,
Overseer of Newburgh Grange.

Schomberg, Feb. 9, 1875.

MR. EDITOR—DEAR SIR,—Allow me to send you a few thoughts suggested by reading an editorial in your widely-circulated journal, headed, "Manufacturers and Patrons of Husbandry."

Grangers have no unfriendly feelings towards manufacturers, but regard them as essential to our interests, and are not insensible to the benefits they have in the past conferred upon us. We hold that agents are often injurious to both manufacturer and farmer. How often is it that agents, too eager to gain percentage, press sales when, to say the least, the prospect of payment is exceedingly doubtful? Let the unpaid accounts of every manufacturer prove this.

The Grangers have drawn no arbitrary lines. We are yet in our infancy, feeling our way. We have no desire to injure any legitimate calling whatever, but seek to promote the best interests of the country. One of the greatest banes to prosperity is the credit system. We then ask the co-operation of manufacturers, merchants, &c., in producing the desired end. This end can be gained by granting to us the profits given to agents and collectors, while we pay cash for all we purchase.

If this co-operation be withheld, we can establish manufactures which shall be under our own control. We have plenty of capital, and as much knowledge of the business as many who have made fortunes by it.

There are other subjects we might touch upon, such as insurance among the Grangers, the want of representation in our Legislature according to our numbers and wealth. These matters, however, and many others, will doubtless, by and by, engage our attention.

We are silently, but successfully, progressing—in fact, from present appearances, there will soon be scarcely a farmer who is not a Granger.

Yours truly, J. M.

Bond Head, Feb. 9, 1875.

MR. EDITOR—DEAR SIR,—In your last issue of the *ADVOCATE* I noticed with some surprise your remarks on the Grange movement. You are, no doubt, better posted than most people, and know whereof you speak when you say that farmers are making quite as much as implement makers are, and have no risk to run. There are many who think different. You have a perfect right to become the champion of manufacturers' rights.

What you mean by interfering with the general trade is not obvious to the writer; but you cannot mean that Patrons should not use their privileges of buying from those who are willing to sell to them at a reduced rate for cash.

Some large firms have responded to our request; some have not. Some remark that the large manufacturing establishments will not have anything to do with us—small ones may. Well, now, who

made those large? The same custom that made them strong can make the weak ones strong.

It is perfectly right for a man of limited means to use all his energies to buy to the best advantage, and sell to the best advantage also; but wrong in the eyes of some for ten, twenty or thirty to unite to do the same thing.

Farmers at the present time deal just where they can, or think they can, do best. We now expect to have one another's experience, and be able to compare notes.

We, as Patrons of Husbandry, are by no means at enmity with any branch of business. It is a free country this, and those who have by united action been benefited will be slow to return to their old habit of remaining out in the cold alone.

Yours, &c., A GRANGER.

Mr. J. Shier writes also to us, combatting the objections made against the Grange system. Our having already given so much space to the subject must be our apology for merely referring very briefly to his letter; and those objections are already taken up in order by our Napanee correspondent. Mr. Shier is, we believe, right in his expectations that "by farmers uniting in the Grange, that union so desirable for the promoting and maintaining of farmers' interests will be best secured."

Correspondence.

SIR,—In the FARMER'S ADVOCATE I see an enquiry from a subscriber, desiring to know whether tamarack posts will last well or not. I cut them green 15 or 16 years ago, and put them in the following spring. The fence is still standing. I think such posts, when used green, last longer than dry ones.

W. K. R.
West Flamboro', 1875.

SIR,—In sending you the subscriptions of three new subscribers, at their request, I send the names of the office-bearers of the Louth Agricultural Society for the present year:—President, John Renton; 1st Vice-Pres't, F. M. Carpenter; 2nd Vice-Pres't, Jacob V. Spohn; Secretary-Treasurer, Jonathan Davis; Directors—Frank Gubel, Joseph Oliver, Wm. McCaLder, Alex. Young, Wm. Brown, Arch. Jarvis, F. S. Jarvis, A. N. Taylor, James Jardine, sen'r; Auditors—Jos. Rymal, M. P.; W. Findlay, jr.

JONATHAN DAVIS.
Mount Albion, Feb'y 5th, 1875.

SIR,—Will you be kind enough to give me some information as to the best wind-break for orchard or field, and the best time to plant them.

THOS. FOSTER.
Humber, Feb'y 6th, 1875.

[We think the common white cedar is, on the whole, the best for Mr. Foster's purpose. It is very hardy, grows readily and rapidly, and is at all seasons a good wind-break. They are easily procured, and at very little expense, as they can be had for the trouble of digging in many parts of the country. We have planted them at different seasons, and have generally been successful. In May and early in June we have transplanted them from the bush, and they grew freely. Last August and September we transplanted some, and they appear very promising. We always mulch them to protect them from the summer and autumn droughts and the frosts of winter. A strong sod lapped over the roots, the green side turned under, we now use for such mulch, and we find it answers very well.—Ed.]

An amateur gardener, of Kings Co., N. S., wishes to know the method we would recommend for preparing scions for grafting cherry trees, and a recipe for grafting wax. The wax we have used is made as follows:—Take rosin, 3 lbs.; tallow, 1 lb.; beeswax, 1 lb. Pulverize the rosin, and dissolve it over a gentle fire; then add the tallow

and finally the beeswax. Stir well and pour it into cold water, and work it so as to take the water out of it. When using it, it is well to grease your hands.

The scions for grafting we cut in February or early in March, and store them in a box placed in the cellar, till the time for grafting.

SIR,—As a farmer who has followed the business all my life, and as a reader of your valuable monthly, I drop you a line on the agriculture of this county, which, I think may be interesting to some of your readers, as it is seldom that any communications reach you from this quarter.

The winter of '73-'74 was a very severe one on grains and meadows in consequence of the scarcity of snow, and the yield has been very light in this section. Spring grains have succeeded well, and especially barley, of which a large amount is grown.

What we want here is a railway to transport our grain to the St. Lawrence, and also to eastern and western markets. We have a line running from Perth to Smith's Falls, there connecting with the Brockville and Ottawa Railway, but the cost on freight is so high that there is no inducement to visit our market. Barley sells in Perth at 80 cents per bushel, and in Kingston, only 60 miles distant, the price is \$1.10.

I would like to see the Grange system adopted in this county; I am confident that we want something of the kind to help the farmers. If you will, I will try to keep you posted on general matters in this county.

Yours respectfully,
T. D.
Perth, Feb'y 17th, 1875.

E. Whitby, Feb. 11th, 1875.

Mr. Editor,—I receive your paper regularly, and am glad to see so noble a work for the benefit of the farmers. Many farmers think they know everything, but they are greatly mistaken.

I sent you three subscribers last year, and we are so well pleased with it that I send you now eight subscribers additional.

Send the ADVOCATES right on to Raglan P. O. Wm. Thompson.

Mr. S. Marshall, King Co., who is as he says one of our first subscribers, has sold his young bull Accident, for a high price to Mr. McCrea of Iowa, who is taking with him four Short-horned bulls and two draught stallions.

J. B. Isherwood Esq., Maple Hall, near Stockport, who has for some years subscribed for numbers of our paper, for his tenants in Cheshire, state that they consider it the best Agricultural paper they have seen, and are always anxious for its arrival.

We cannot give insertion to correspondence of parties who withhold their names from us. We have received a letter from Carlingford, and another from Lobo, and we have no means of knowing who the parties are. While thanking our correspondents for their communications, we must request of them to be brief in all their letters as our space is not without limits.

The value of the ADVOCATE as a medium of correspondents on topics of interest to farmers is more recognized every issue of our paper. From almost every part of the Dominion we have contributions, and even beyond its limits. We insert to-day a communication from a gentleman of Adrian Michigan, U. S. whose name we have had the pleasure to place on our list of regular correspondents. Our paper is now rich in the correspondents of practical men, and will be happy to insert correspondents from others who have not yet written for us. It is only necessary that they be succinct, practical, and to the point.

We need scarcely say that we do not hold ourselves responsible for all the opinions of our correspondents.

The high price of farm hands in this county Lenaure, is agitating the farmers a good deal, and has been a matter of discussion by some of the

clubs. It was the question under consideration at the last meeting of the "Lenaure Club" and the following are some of the leading arguments, for, and against the price paid.

Mr. Edson Walker, was the first speaker, and said his opinion was, that the farmers had paid too much for the quality of help hired. There was not discrimination enough between good and poor laborers. Two men will often claim the same wages, because it had been made a sort of standard price; yet there might be and often was \$10 per month difference in the value of their labor.

There were men to whom he would be willing to pay \$25 per month, while then in many others who would hardly earn their bread. With some of the farmers it was about all they could do to pay their hired helps, and taxes from their seasons farming.

W. J. Jones said it cost a large amount to support the fashions, and style of the day, and our young men and women, who work but for their living, must have high wage so they can keep up with those who have money.

He argued with Mr. Walker that there was not difference enough in the price of skilful and unskilful labourers; and that too much had been paid for the quality of labor received. W. H. Colvin said; he thought if we were all expecting to hire out by the month on the farm; there would be a little different argument by most of the speakers, and the effort of the clubs cuts down the wages of their helps was bearing down a little hard. If any man earned his money, it was a good farm hand, who was called in the morning at 4 o'clock, and put fourth till 9 o'clock, at night and all for \$20 per month. The trouble was not so much the price paid, as it was the management of the farm, that men could not make farming pay.

Mr. J. A. Rodgers, asked why it was that we could hire only *drone*s to work on the farm? It was because all active energetic young men, could find other employment that would pay better.

Hired girls in the house, have to work hard all the time and practice close economy, to earn enough to cloth themselves, with no hope of laying up a cent.

Mr. C. W. Jones thought the trouble was, that farmers paid too much the going price, without requiring a certain standard of work to earn a certain price. Laborers should be encouraged to qualify themselves for their business and earn promotion by an effort of success. He would not lessen the wages but improve the helps.

Mr. Martin Bowerman believed as Mr. Colvin did, and that wages were low enough for good men, but he did not mean these "tramps" that came along. It costs just as much to breed a poor hand as a good one; while one earns his wages, and the other does not earn his bread.

C. W. Holmes said he too thought there was not distinction enough made, between first and second class helps. The president said he had paid last year \$27 per month for one hand, and found him a cheap hand at that. He knew his business, was trusty and faithful, young men should be encouraged by good wages to become efficient workmen. A high standard of labor should be required, and so long as other enterprises offer greater inducements than the farmer, we shall be troubled to get good helps.

Adrian, Mich. Feb. 9th, 1874.

The Apiary.

Wax and the Honey-Comb.

Comb is made of wax, and when new is very white, and pure wax. The wax is a secretion of the body of the bee, and formed only when the bee is richly provided with food, like fat in the higher order of animals, but with this difference, that while the fat grows upon the animals without their knowing it, the production of wax is entirely optional with the bee.

It is fully in the power of the bee to make wax or not to make any. But if they are put into a new hive have without any comb before they can store away any honey, in order to produce wax the worker-bee takes in considerable more pollen and honey, but of which constitute their food, than is necessary to appease hunger. These materials are thoroughly digested and pass into the blood, from which it is secreted of wax, in form of thin white scales, between the segments of the abdomen. As soon as the secretion of wax has commenced, the bees begin at once to use the wax

flakes for the building always the centre of the hive, they will they are usually built

Now, if the ready-made comb only clean out commence filling and brood. By you assist them live in a short

It takes about one pound of wax ought to be worth twenty-three cents per more than 2,000 same time but

I save all the bees; if it is worth twenty-three cents per the sunshine, bees carry it to reason to be building.—Col

Voices

An acquaintance Bee and her intention to her believe that I within this hive have what and but these reports much as what

How cold a perfect comb this season.

lessness, if warmth, and together. O temperature, outright. If they could

keep one another these few must be in another much heat enough weather of the more the colder the those on the ever they unless they on the inside below them and as soon they change the cluster, colder it is animal heat, we must change share. A combs, generated by the hive, us, provided much milder

ture is such we keep in of course, low, much through the tion is exact are in health tinues. The sanitary state the hive; if crement, he and if ther among us, f portion to th me that the than low te is large eno the hive, th treme cold the most tr You who ha

flakes for the construction of comb. This comb building always begins at the top of the hive to the centre of the cluster of bees, and if it be a frame hive, they will commence at the top-bar, and if they are supplied with guide combs, they will usually build the comb straight in the frame.

Now, if the swarm of bees are supplied with ready-made comb in frames, it will not build any, but only clean out the old comb and repair it, and commence filling it immediately with honey, pollen and brood. By supplying them with old comb, you assist them very much, and they will fill their hive in a short time.

It takes about twenty pounds of honey to make one pound of wax, and according to this rule wax ought to be worth \$5 per pound when honey is worth twenty-five cents. But wax only sells for thirty cents per pound. I have sold in five hives more than 2,000 pounds of honey, and during the same time but ten pounds of wax.

I save all the comb I can and give it back to the bees; if it is white comb, I stick it in the boxes; if it is a worker brood comb I fit it in the frames; if it is comb which I cannot use in the boxes or in the frames, I put it in a shallow box and set in the sunshine, and as the sun melts the wax, the bees carry it back to the hives, and I have every reason to believe that they use it again for comb-building. —Cor.—Bee Keepers' Magazine.

Voices from the Bee Hive.

INTERPRETED BY M. QUINBY

An acquaintance for several years with the Queen Bee and her numerous subjects, and a close attention to her and their teachings, lead me to believe that I can faithfully report what is done within this hive. There can be no doubt that bees have what answers them the purpose of language, but these reports will give what is seen quite as much as what is heard.

How cold the weather is? No man unless he be a perfect coward, will be afraid of stinging at this season. Indeed, it is the fault of his own carelessness, if he ever gets stung at all. We love warmth, and the colder it gets the closer we cluster together. One of us, exposed alone at freezing temperature, would soon grow stiff, and then die outright. If a half dozen were grouped together, they could endure it longer, as they would help to keep one another warm, but the heat created by these few bees would amount to very little; we must be in a large cluster in order to help one another much. The bees of a full colony create heat enough to allow us to withstand the coldest weather of this climate, for a short time at least; the more there are of us, the warmer we are. The colder the weather, the denser we cluster. But those on the outside have the worst of it, whatever they may do, their backs will be cold, and unless they can change places with some of those on the inside, they must drop, and expose the next below them to the cold air. We understand this, and as soon as those on the outside become chilled, they change places with others on the inside of the cluster, and so matters are equalized. The colder it is the more we must eat to keep up the animal heat, and food must be close at hand, and we must change places so that each one can get his share. A family of us clustered between the combs, generate no little heat, which is confined by the hive, consequently the air which surrounds us, provided our hive be properly built, is very much milder than that outside. If the temperature is such that we can change places frequently, we keep in perfect health. Our food being honey, is of course, liquid, and if the temperature is not too low, much of the watery portion of this passes off through the pores of our bodies, and the solid portion is evacuated in the dry state. As long as we are in health, this natural condition of things continues. The bee-keeper can readily know our sanitary state, by examining the bottom board of the hive; if he finds one single drop of liquid excrement, he may be sure that one of us is sick, and if there are several drops, there is trouble among us, for the liquid excrement will be in proportion to the amount of disease. My physicians tell me that they know of no other cause of diarrhoea, than low temperature, and that when the cluster is large enough to sufficiently warm the interior of the hive, the disease never occurs. But in the extreme cold weather! yes, there is where we have the most trouble, especially if it is long continued. You who have stoves, can warm not only yourselves,

but the air round us, which is constantly getting cool from contact with the cold sides of the hive. When it is so cold that the evaporation can not take place through the pores of our body, no matter where the hive may be, then disease appears. In the old box hive, in the open air the sun would shine upon it for the most of the day, and the little warmth that would strike through the sides together with what we could make ourselves, keep the interior warm enough to allow us to change places frequently and to keep in perfect health. People should consider the temperature in shading the hives; I know that fewer bees are lost on the snow when the hives have the full sun, than when they are shaded. In your living rooms the air is full of vapor; you do not notice it until the out door air cools the window glass, so that the invisible vapor condenses upon it; now the same thing takes place in the hive. When the external atmosphere is very cold, the air of the hive comes in contact with its sides, moisture is condensed, and even the combs that are not kept warm by the clustering of bees upon them, become so cold, that the moisture that our bodies give off to the air of the hive, condenses upon them. At first the moisture is in exceedingly small particles, but they increase in size and number, and finally run together, and form drops large enough to run. A comb kept moist in this way will finally mould. If the cold continues, these drops freezing upon the outside combs, or fall upon the bottom, and freeze there, and if the opening of the hive be small, it may freeze there, cutting off all ventilation, as a consequence of which we are all smothered. When the outside air is at 50° we have no trouble, for then the vapor passes off through the small openings, and a very small cluster will safely pass the winter at that temperature which would fail in the open air. If we are housed pray do not make us too warm, and above all, let us be quiet. If we are in a warm place, the least excitement among us creates much heat. I know of an instance, in which one of our families were placed in a room, and so close that not a bee could escape. So long as it was quiet, they were comfortable and happy. But some children had a frolic in that room, and their noise so excited the bees that the whole family of them was ruined. If those who find it necessary to move hives from a cool to a warm situation, would be careful of their movements, and not disturb us with the least jar, we will be all the better. Many stupid or indifferent people undertake to keep bees, who have not the least idea of what we want. We are always willing to give all the honey we do not need for winter, but such people do not know how to allow us to give it to them. Pray tell all who do not like bees, and who do not care enough about us, to study our ways, and understand our nature to let us alone. Such persons who do not begin right, and who do not know enough to stop when they are wrong, but will persistently follow their own way, must not complain, if we do no more for them than we can help, and if, when we see them going wrong, we will use the only language they will understand—a sting—to remind them that they are not treating us properly.—American Agriculturist.

Which is the Best Form of Tile?

Any one who has observed how sensibly the friction of the banks retards the velocity of the adjacent water in rivers—a slight curve in the bank producing an eddy or counter-current, and a bend causing such an accumulation of drift-wood as to obstruct the stream, causing it to overflow its banks and cut a new channel—will be convinced that a tile drain should be as straight and smooth as it is possible to make it, and that the form of the channel is not a matter of indifference. The history of tile-draining shows a gradual improvement in the form of tiles used. Had any of the preceding forms fully answered the purpose, there would have been no new forms designed, for each improvement in form has required more expensive machinery, and its introduction has been opposed by the very class it was designed to benefit. It is a common saying that "necessity is the mother of invention," and the common idea is that inventions are made to supply the demand of the people when the best inventions are in advance of public sentiment. It is probable that the first form of tile used was the brick tile, molded similarly to our slop brick, and laid flat side up; after this the

horse-shoe tile, having the same internal and bearing surface, but being much lighter. The next improvement devised was the sole, laid beneath the horse-shoe tile. Following this was the D tile, which resulted in an effort to combine the sole and horse-shoe tile in one piece, and made the use of a con suspended in the die necessary. The objection to these forms is that the sand flows to the sides and gathers in the angles, rendering them liable to become obstructed. All forms having an internal flat bottom are discarded by engineers and persons of long experience in tile draining. A current of water that would spread itself over the flat bottom, and move slowly along, without power to move any sediment, would in the round tile form a current that would carry the sand with it. Many who considered this laid the flat side up, thus obtaining a semi-circular grooved channel. The next step towards perfection was making the bore of the D tile round. The flat bottom being still retained—not for the benefit of the farmer—not to facilitate laying in the trench, but because it was difficult to mould it without a flat bottom with the machinery then in use—stronger machinery, more power and stiffer clay must be used to make a cylindrical tile. Manufacturers find it difficult to make a straight tile of this form. On account of the excess of clay on the flat side, and the tiles being laid on that side to dry, the upper side dries much sooner, and the tiles are warped, so that when laid on the flat side in the trench they form an undulating channel, and have a



V-shaped opening between the ends of the tiles. Eventually these depressions fill with sand, and the channel becomes in about as bad a shape as can be conceived for the flow of water. To obviate these defects, many lay this form of tile on the side, with the flat bottoms first on one side and then on the other, forming a series of lateral curves, thus making a better joint and a much better channel.



Various methods have been tried by tile-makers to prevent this warping. Some make them thinner on the flat side, which weakens them, and makes them more liable to crack in the burning; others make them nearly square, so as to have an equal amount of clay on each side of the bore. Experience in manufacturing has determined that if there be one flat side, the tile should be a regular polygon. Of all polygonal forms, there is none better than the hexagonal for the following reasons: They will set to better advantage in the kiln, and bear transportation better than other polygonal forms. They are readily packed, so as to leave no interstices, bearing upon the whole of their exterior surface, and like wedges one against the other, so that they cannot vibrate. Tiles are seldom broken by pressure, but generally by concussion from vibration.



Nature has taught us, in innumerable ways, that the form which combines the least weight with the greatest strength is the cylindrical form. Tile of this formdry with less liability to warp, burn with less breakage, rest to better advantage in the kiln, are better to lay in the trench, and will bear transportation better, than any other form. When piled or packed for transportation, they naturally assume a compact position, and bear upon each other a' six points in their circumference. Abundant evidence might be offered that the round tile is the best form of tile. If the objections to other forms are well founded, they are not trifling. If we would excel in our work, we must pay close attention to details. A perfect work has every part perfect.



GEO. S. TIFFANY.

Garden, Orchard and Forest.

Successful Plum Culture.

It appears to be a settled fact that plum culture is at length to be a success in this country, in spite of the continued opposition of the curculio. This enemy does not seem likely to be vanquished, but we are learning how to circumvent his operations cheaply and effectually, as applied to commercial orchards, so that fine plums are no doubt shortly to become abundant in the markets; and the wholesale growers are quite willing that the little Turk should continue for all time to deter common people from growing this fruit, as the prices will thereby rule enough higher in the markets to more than compensate for the labor of fighting off the insects from large orchards.

Five or six years ago one or two enterprising fruit-growers near Chillicothe, O., commenced planting Damson plum trees on the clayey hill lands of Ross county, setting two or three thousand the first year, and more the second and third, till now it is reported there are not less than fifteen thousand of the trees in orchards in that vicinity. Part of these have borne fruit the past two years, and the owners are highly pleased with the growth of the trees and their product thus far. They are mostly of the variety known as the Shropshire Damson; but there are some of the large kind of plums also grown in the vicinity. There are some smaller orchards of Damsons and Prunes, and also pretty large ones of the Wild Goose plum in other places of Southern Ohio, promising to be quite successful. All of these are depending on the jarring method of protection against the curculio; but more about this further on.

At the late meeting of our State Horticultural Society we had an account of the successful experience of Messrs. C. & J. Brown, of Huron county, near Norwalk, O. They commenced four years ago last spring, planting at that time two thousand plum trees, on good, loamy soil, one-third of them Lombard, and the rest Orleans, Imperial Gage and other leading varieties. They have since planted three thousand more, making five thousand in all. The trees first planted grew finely, and the Lombards especially commenced to bear the third year, and last year they bore an immense crop, some of the trees as much as two bushels each of fine fruit—quite too much for their good—the whole 700 trees averaging fully a bushel each. The other varieties also bore some, so that the sales were very little short of a thousand bushels, and the prices from \$6 to \$7 per bushel at wholesale.

HOW THEY CATCH THE CURCULIOS.

These gentlemen have invented a curculio catcher which is considered superior to that of Dr. Hull or any other that has been described, though operating on the same plan as that of Dr. H. and others. It consists of a frame of muslin, about eight feet in diameter, in the form of a wide cone or hopper, the lowest point near the middle; and under this is a tin can or slide, into which the beetles roll after falling from the trees, and are kept till the orchard has been gone over, or it is convenient to empty them out for cremation. This apparatus is mounted on a pair of light wheels, with a cross-bar handle for pushing it along; and in the front part of the canvas is a slit, which opens by means of a lever connected with the handle, so as to let the body of the tree pass in, then it closes around the same while the tree is jarred.

The jarring is done with an implement in the form of a crutch, about eight feet long, the head covered with rubber to prevent bruising the bark, and care is taken not to strike, so as to do mischief in that way. It is carried on top of the "catcher," and operated by the same man that runs the machine; or, if preferred, another man or boy goes along and does the jarring.

The Messrs. Brown inform me that in going over their orchard of 2,000 trees the past season, they used three of the machines, one man to each, and they jarred the whole of the trees twice each day. One active man with the machine can jar 600 trees in four hours, or nearly at the rate of three a minute. Of course when the trees become large it will take a longer time, as several branches will have to be jarred separately. The jarring was commenced as soon as the young fruit was out of the calyx (in May), and was performed once a day at first; then twice a day as soon as the curculios appeared numerous, and continued for a couple of weeks, by which time they almost entirely ceased to be found—the whole number of jar-

rings being only thirty. It may be, however, that as the orchards grow older the jarring will need to be continued somewhat longer; and in localities where there are old peach or plum orchards in the vicinity, the insects may be more troublesome.

M. B. BATEHAM.

Hot-Beds.

Select a site having a good aspect, south or south and west, secured from the chilling blasts of the north and north-east. Dig a pit as you would for storing roots, of such dimensions as will give you what plants you need—say five and a-half feet in width and from eight to twelve in length. Such a size is most convenient, as it is easily covered and uncovered. Let the pit be one to one and a-half feet in depth. The hot-bed is often made on the surface without digging a pit, and, if the ground be not sufficiently dry, it is better to do so; but, if dry, there is, in the bed being sunk, the advantage of the surrounding soil assisting to preserve within the bed a more equal temperature and desirable moisture.

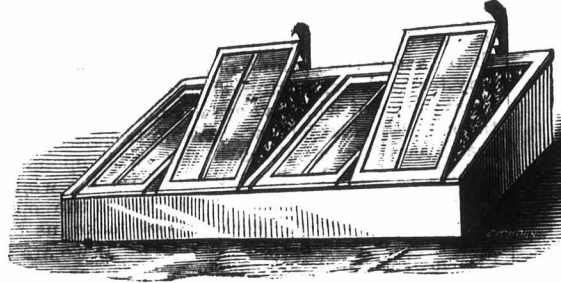
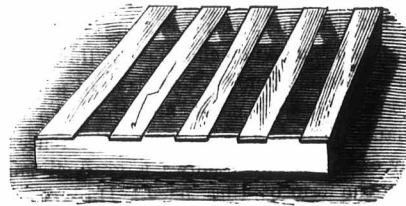


Figure 1.

Having prepared the site, the first requisite is a good supply of strong manure. The best is that from the horse stables. It readily acquires the required degree of heat for forcing vegetation. Lay down this manure in a heap, loosely, near the place marked out for the hot-bed, and after a few days it will be in a fit condition, having begun to ferment. Make a frame for the bed of inch or inch and a-half plank, a rough, strong box, open at top and bottom. Then commence making the hot-bed by first shaking up the manure with a fork thoroughly, and then putting it in successive layers on the whole surface of the bed. Lay layer upon layer to the height of two and a-half or three feet. Every layer is to be beaten down with the fork, and the outside trodden down compact. Having thus made the bed, cover with the glass frame and close it till the heat begins to rise. Then lay on about six inches of rich, clean garden mould. To have it fine, we put it through a wire sieve. The seed may be sown when the earth becomes warm. The condensing on the glass of the steam arising from the bed, will be a good indication that the proper time has arrived, and this is generally in twenty hours or so. Care must be taken to give the young plants plenty of air when they are up, but not to such a degree as to chill them.

Figure 2.
HOT-BED OR COLD FRAME.
See Fig. 1.

A cold frame differs from the hot-bed in not having the heat of a bed of manure for forcing the seeds into early vegetation. It is a frame with a sash placed on a bed of light, rich earth, in a part of the garden having a southern aspect, screened from the cutting air of the north and north-west. The cold air being excluded by the frame, and the

heat from the sun retained, the earth becomes warm, and an earlier vegetation is promoted. Not having the artificial heat of the hot-bed, it is not so early, nor should the seed be sown so early—not earlier than late in April. It will be necessary to water occasionally, and to admit air when the day is warm and bright.

Figure 2 represents a frame with laths nailed across it. By means of this simple device, beds may be easily covered with boughs of evergreen or other shade, to retain in the earth the moisture so necessary for vegetation. They may be kept covered till the young plants make their first appearance. After that light is unnecessary, but not before. Seeds are frequently sown in pots in the house, and do well with care. It is better to have a rim of moss in the box, or anything that will retain the moisture, and by this means keep the pots

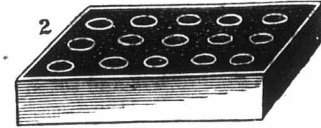
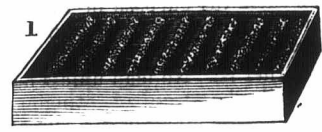


Figure 3.

and earth moist. Figure 3 represents such a box with pots. Figure 4 represents the seeds in a box. They are sown, as seen, in even rows. We have generally transplanted young seedlings from the hot-bed, as soon as they would bear removal, into a nursery bed, rich, mellow, and shaded from too much exposure; the plants thereby become hardier, and make more and better roots. The additional trouble and time are well paid by the better growth of the plants.



Before sowing seeds in the hot-bed, see that it is of the proper temperature. For this, we put a dibble to the bed, and when it is taken up, the heat in the bed is known from the heat of the dibble.

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Peach Culture in Delaware.

Dr. Stewart's System of Peach Culture.

PLANTING.

He prefers fall planting, in rows twenty feet each way. Advises that the plow shall run twice in each furrow, and throws up subsoil from the crossing. Fills the hole with top soil slightly above the level of the field. Places the tree upon this mound, and piles the top soil a foot over the roots; during the winter it will settle to a level with the surface.

CUTTING BACK.

Cut off the tree to the height of a walking-cane, after it has put forth in the spring, but do not wound or depress its vitality while struggling for existence; allow it to get a start, and new roots to form, before subjecting it to the shock of decapitation. He applies a shovelful of strong ashes close around each tree every spring, until the third or fourth year; also, as much more to the hills of corn between the trees, which crop by this treatment improves annually, whereas, by the usual practice, the corn crop deteriorates, and the trees are robbed, but do not manifest it until the fruiting season demands a special effort.

He has observed that the ashes produce no sensible effect upon the trees until the second year; but its effect upon the corn is distinct in a few days.

Soda refuse is worthless as a substitute for this purpose, and unless the ashes yield 12 per cent. of salts of potash, more should be used. Some that he has tested only yielded 4-11ths of 1 per cent.

MULCH.

He mulches his trees with coarse manure close around the trunk in the spring; applying it in April after the buds swell and blossoms appear, but before the peach moth deposits its eggs. Immediately thereafter it should be "tied" to the tree by throwing a furrow towards the tree on two opposite sides, or by shovelling the surface soil so that the mulch embraces the stem a foot

above the level of the finding its way to the of the earth barred by in the manure, where birds, or the grubs hard bark, and suffer confidence in barkin peach tree is subject not "have worms."

During the first trained to assume the open head. He then of the trees, removing enabled to plow close of the cutting. The two years, turning the After two years the trimmed as before, a ing the furrows toward with the two previous ting back and plow years.

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KEEPING

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The bud on the put forth to antic necessary, and doe of its native count is projected beyond wrappings of vege speedily to respon

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This system is physiology of the any specific to ins success upon the elements and the and plow.—Rura

We regard th Sun, as both se say, however, th the importance o important, also, well-defined plan caricature natur gent observer:— "Farmers ho

above the level of the ground. The peach moth, finding its way to the soft bark below the surface of the earth barred by the mulch, deposits its eggs in the manure, where they either fall a prey to birds, or the grubs are unable to penetrate the hard bark, and suffer the consequence of misplaced confidence in barking up the wrong tree. The peach tree is subject to many disorders, but it need not "have worms."

PRUNING.

During the first years the trees should be trained to assume the form of a wine glass with open head. He then cuts back two opposite sides of the trees, removing all the bearing wood, and is enabled to plow close to the trees in the direction of the cutting. The orchard is thus plowed for two years, turning the furrows towards the trees. After two years the uncut sides of the trees are trimmed as before, and the plowing follows, turning the furrows towards the trees at right angles with the two previous years. This system of cutting back and plowing is alternated every two years.

The trees ordinarily present the appearance of being planted on mounds, whereas really on a level with surface soil. By following this system of mulching with manure, and the use of ashes around the trees, the feeding roots do not extend beyond a few feet from the tree; the system of plowing also brings the top soil to the tree, and roots which extend into the poor soil beyond have always been observed to turn back to the manured circle around the trees. This is on the principle of manuring in the hill, instead of enriching the whole ground, which is virtually impracticable in this State.

KEEPING BACK THE BUDS.

In the fall, remove the earth with a spade from around the trees, but do not expose the roots, and cut a drain from the basis thus formed around each tree into the dead furrow beyond. This basin is filled up in the spring and the mulch applied, which tends to further retard the flow of sap as the season advances.

The bud on the peach tree is an excrescence, put forth to anticipate the season, and is not necessary, and does not exist in the longer season of its native country, Persia. But there the germ is projected beyond the bark, and enclosed in its wrappings of vegetable tissue, in order the more speedily to respond to the advance of the season.

The less the projection and the thicker tissue envelopes, the less the danger from late frosts and climate irregularities. It can hardly be said that when the temperature is below zero any bud is safe; but, even then, the possibility of maintaining a higher temperature of the germ, under the protection of the bud, depends on its size and thickness, and this is upon the vigor of the tree in its efforts to mature, even during winter months. In proportion as a tree is vigorous, it, like an animal, has a higher temperature than the air in winter; but when weak from insufficient nutrition it has less ability to resist cold—and not only the germ in the bud, but the whole fruit spur is frequently destroyed.

A small deficiency in the element of nutrition will turn the scale, precisely as the death of a dozen old persons in a hospital is determined by a few degrees reduction of temperature in the night, while fifty in the same ward survive, being more vigorous.

It has been demonstrated by a successful fruiting of an orchard during the past seven years, without a single failure, that the foregoing system offers every inducement of certainty of crop to those who choose to adopt it.

This system is based more upon the peculiar physiology of the peach in our climate than on any specific to insure the fruit, and depends for its success upon the application of proper nutritious elements and the judicious use of the knife, mulch and plow.—*Rural New Yorker*.

Shade Trees.

We regard the following, from the *New York Sun*, as both sensible and timely. We wish to say, however, that while there is no doubt as to the importance of planting shade trees, it is very important, also, not to overlook the necessity of a well-defined plan or system—one which will not caricature nature, and cause regret to the intelligent observer:—

"Farmers hold various and widely different

opinions in regard to the value of shade trees upon the farm. Much, however, depends upon a man's early life, associations and education, all of which have their influence in forming a taste and love for the beautiful in nature and otherwise. Some men can neither see nor admire anything except from a utilitarian point of view, and this, perhaps, in its most circumscribed aspect—a tree to them being worth only what it will fetch for timber or firewood. These utilitarian notions are far too common in all new countries covered with heavy timber, and the habit which is first formed through necessity becomes so fixed and universal that barrenness of landscape frequently follows, where an opposite result might have been secured without cost to the original owners of the land. The first generation of farmers destroyed that which the next two or three restore only in part, and at great expense of time and money. But as these are by-gone follies in the older States, we have only to take care of what is left of the old landmarks, and put out new trees whenever they are likely to be valuable or useful; and in doing so the subject of shade trees upon the farm should be considered as carefully as their value as timber, or for the fruit which they may produce.

The contrast between two regions of country, the one with trees judiciously distributed, and the other without them, is sufficient in itself to make any man favor the former. The generally attractive appearance of a country is certainly one of its strong points, and mankind cling to things of beauty quite as tenaciously as to those of strict usefulness and intrinsic value. Nomadic races seldom inhabit hilly, mountainous or wooded countries, for these tend directly to a fixedness of purpose, and a love of one spot which we term home. A rock, hill or tree is an object which clings to the memory of both civilized and uncivilized man. This idea may seem somewhat sentimental, but it cannot be denied that it is very potent in its influence upon nations as well as communities.

TREES ABOUT FARM BUILDINGS.

A goodly number of shade trees about the farm buildings add much to the general appearance of the place, as also to the comfort of man and beast during the hot days of summer. But many make the mistake of planting too many large growing trees near their dwellings, which in time exclude both light and air, and cause the building standing constantly in the shade to become unhealthy. In cold climates, deciduous trees should always be preferred to evergreens, when planted in positions likely to shade the house, because it is only in hot weather that shade is desirable, and in winter all the light and solar heat to be obtained are required for both comfort and health. As a rule, we would say, keep all trees of larger growth at least one hundred feet from a dwelling-house, using the intervening space as a lawn, in which may be planted small-growing trees and shrubs. Evergreen trees should be employed exclusively for ornamentation, or as windbreaks, but never for shade.

TREES IN PASTURES.

It has been frequently urged that trees in pastures encourages laziness in animals, for when such comfortable retreats from the hot sun in summer are at hand, they are likely to tarry too long at these resting-places. While it is true that animal instinct may not be any surer preventative against indiscretions in the dumb brute than in man, still, we believe that in all ruminants digestion proceeds more regularly when the animal is comfortably at rest, than when subjected to opposite conditions. Animals appear to be disposed to seek the cool shade of a tree when the heat is oppressive, and it is cruel, to say the least, to deprive them of this comfort. We have always noticed that animals having a comfortable resting-place during the hottest part of the day would feed later at night as well as commence earlier in the morning; consequently, we fail to see wherein shade trees in a pasture are detrimental to good health or the fattening of animals, as is sometimes asserted. There are certainly two sides to this question, but the more humane practice would be to provide shade, to say nothing of appearances.

TREES ON THE ROADSIDE.

Continuous rows of stately trees along the roadside add much to the appearance of a farm or country. But it is urged that shaded roads remain wet and muddy much longer after heavy rains than those fully exposed to the sun. This is doubtless true, but as an offset we may claim that they are less liable to become dusty, and between the two evils there is not much choice. Deciduous

trees only should be planted along roadsides in cold climates, because they afford shade during the season when most needed, if at all. Roadside trees may also interfere with the growth of crops in the fields adjoining, by shading, as well as by the absorption of moisture by their roots; but as we can scarcely secure anything of value without some loss, perhaps the pleasure derived from passing over a shady road during the hot weather in summer, as well as the beautiful appearance of such highways, more than compensate for the slight losses which they entail.

Gardening and Farming.

Do they not mean one and the same thing—namely, abundant crops produced by ample manuring and by very deep and frequent cultivation? I can detect no difference; the object is to gain the most perfect and profitable development of the plant, whether in flowering or seeding, and this brings me to the consideration of deep cultivation. What should we say to our gardener who allowed his flower pot, without a hole at the bottom of it, to be half-filled with dense, undisturbed stuff clay, and then put into the upper half a few inches deep of friable, manured and cultivated earth? When the rain from the clouds or his watering-pot had saturated and passed through the friable surface-soil, where would it then be found? Why, certainly, in or on the dense, undrained, unmoved subsoil, its only mode of escape being upwards, as vapor through the surface soil, carrying with it to the open air, as latent heat, the warmth that should invigorate and perfect the growing plant—the great British agricultural undrained flower-pot and its contents are thus clearly and indisputably described. There is no idealism or guess-work about the matter; the naked facts stand out in bold and unmistakable relief. The 15,000,000 or more of acres of undrained agricultural flower-pots (for all farmers' crops bloom or flower) exist as a great national mistake and disgrace; and equally blameable is the miserable five-inch agricultural pie-crust—for every one may learn by digging, and every farmer ought to know, that the roots of cereal and other farm crops, and especially autumn-sown wheat, descend deeply, and much beyond the plowed soil, in search of moisture and food, and it is because this subsoil is neither aerated and manured that the wheats "go off" in May. This is also often caused by too thick sowing, and the confused competition of roots. Does not thin sowing and plant room form an essential principle in the gardener's practice? If he desires a full, modern, perfect fruit, how carefully he thins out his fruit in its early stage to prevent undue competition and diminutive results. So does the farmer with his turnips—but why not with his corn, for wheat plants require space? The twenty rods of laborer's cottage garden, deeply cultivated and highly manured by one pig, or 800 pounds of meat made per acre, is an example that may be safely followed on the largest farming scale, provided, of course, the necessary capital can be found. Our country is still not half farmed. It is the maximum crop that diminishes, *pro rata*, the fixed charges of the farm, including manual labor, and, of course, thus increase the farmer's profit. "Where there is a will there's a way," so that when landlord and tenant believe that their capital will pay a larger return upon a diminished area, agriculture will present a more agreeable and more fruitful appearance.—J. J. Mechi, in the *Farmer*.

Manitoba as an Agricultural Country

According to the *New York Independent*, Manitoba, which has hitherto been esteemed chiefly on account of its fur business, has fine agricultural capacities. It is said to be one of the finest wheat growing countries in the world, being a black, alluvial mold, rich in organic deposits, and resting from a depth of from two to four feet on a tenacious clay soil. Some of the fields on the Red River produced forty successive crops of wheat without fallow or manure. The yield has reached as high as fifty or sixty bushels, even under the farming of the native. Last year oats averaged sixty bushels to the acre, weighing over forty pounds to the bushel. One farmer raised 350 bushels of potatoes from seven bushels of seed, and the root crops generally were good. Among the vegetable products successfully cultivated are mentioned turnips, parsnips, carrots, cabbages, melons, beets, pumpkins, squashes, celery, lettuce, spinach, cauliflower and cucumbers.

The Flat-Headed Apple Borer.

From the Prairie Farmer.

Considering the fatality of its work, and the number of valuable fruit and shade trees which it attacks, few insects are more to be dreaded than this flat-headed apple tree borer. Our oak trees die from year to year. Inquire the cause, the answer is: "Oh, they cannot stand the influences of civilization!" Search for it yourself, and you will find that *Chrysobothris* has more or less to do with the death of such trees. The townsman prides himself on the thrifty growth of his soft maples or sycamores, that are to give him the shade from the midsummer sun, adorn his lot, or line the front of his residence. After a thrifty growth of two, three or more years, one of the trees suddenly dies, and others soon follow. The cause is discussed—drought, packed soil, poor nourishment, and a dozen seemingly plausible reasons are conjured up—and ashes, or some other mineral or vegetable substances, are placed around the butt, in the vain effort to save the remaining trees. Pull off the bark, however, and the real cause is readily discerned, for the surface of the hard wood is literally covered with broad, shallow channels packed with saw-dust like castings—channels which *Chrysobothris*, unseen and unheard, has been making, perchance since the tree was

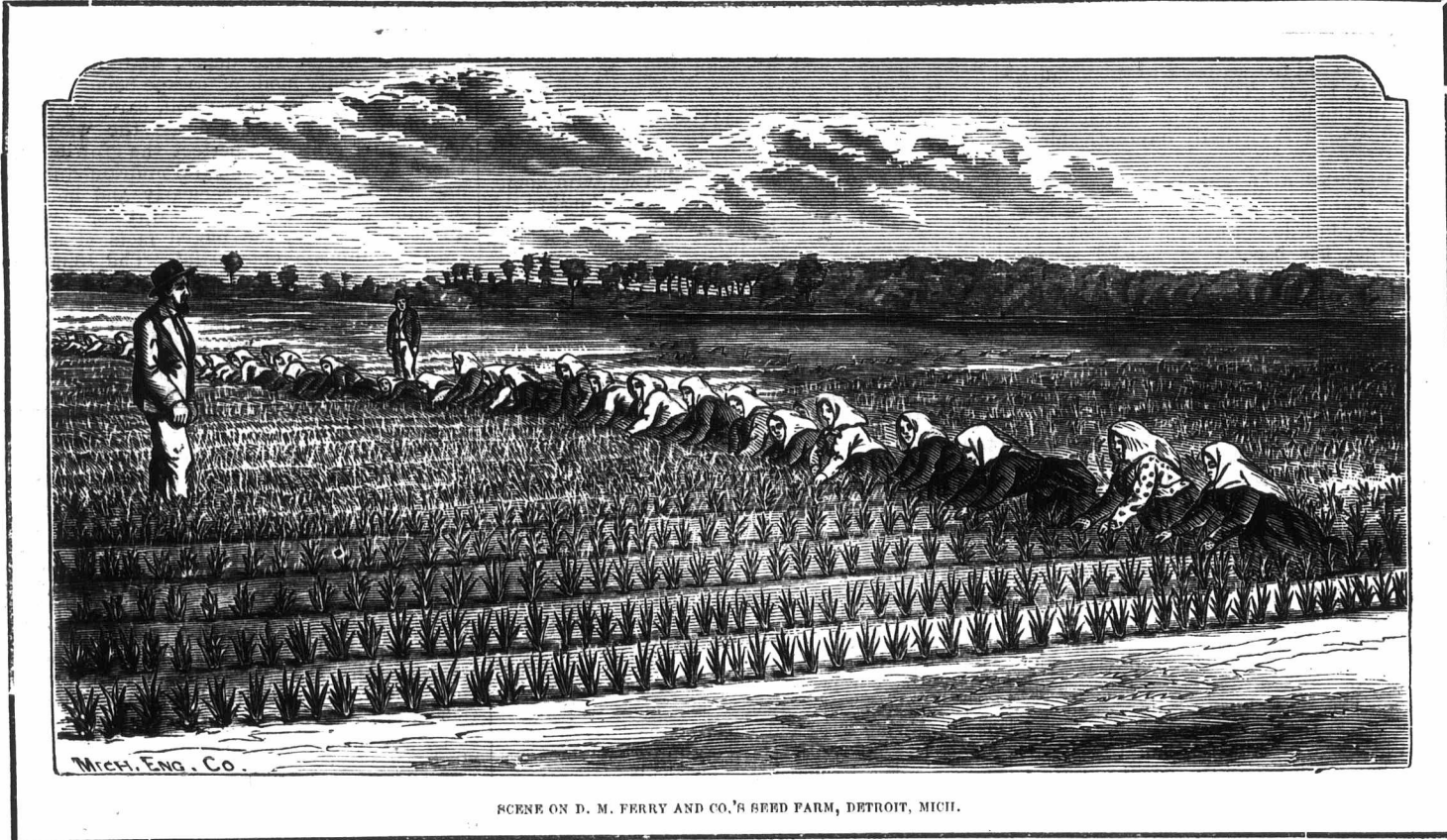
during the latter part of May, and is found all through the summer months. The eggs are laid by the female, by preference, under the loose scales, or within the cracks and crevices of the bark, several of them being not unfrequently found together. The young larvæ hatching from them gnaw through the bark, and feed upon the liber, boring broad and flattened channels, and very soon girdling the smaller trees. When its jaws get stronger, it usually bores into the more solid wood, working for awhile upward, and when about to transform it invariably cuts a passage back again to the outside, leaving but a thin covering of bark over the whole. It then retreats, and after packing the excrement around it, so as to form a smooth cavity, changes to the pupa state. The pupa, at first white, by degrees exhibits the colors of the future beetle, and in the course of about three weeks the latter gnaws its way through the thin bark door, which, as larvæ, it had left, closing its passage-way.

It is a singular instinct this, that teaches the larvæ, which has powerful jaws, to prepare for the exit of the beetle, which has much more feeble ones, and this instinct is most strikingly illustrated when the infested tree is surrounded with some covering, like wire gauze, which is proof against even the jaws of the larvæ. In such an event,

in ivy screens, or as specimens in drawing-rooms, when others happen to be scarce. They are clean, bright and cheerful everywhere; and even if one bloom only is open when gathered, all the others, to the very top of the spikes will open freely with care.

In vases of cut flowers the gladioli are generally improved by good grasses being intermixed with them; for example, we have cutting to put round the sides of the graceful *Millium multiflorum* and *Piptatherum Thomasii*, and for the centre *Panicum fimbriatenuis*. Perhaps the most effective are among the numerous summer varieties, as *Agrostis laxifolia*, which, when introduced neatly among the gladioli, blooms, has all the appearance of long threads of wavy silk, clustering round as a protection to the blooms, and through which they appear to interesting advantage.

Our method of planting is the same as a Devonshire farmer plants his potatoes. The ground is double-dug in winter, and at planting time a trench is taken out one spade deep. The bulb is then put in, covering a little soil over the top, and upon this is placed a good coating of manure and leaf mould mixed, the manure being fresh and warm, as we find that old rotten cheese looking manure brings disease, and does not push the young growth so vigorously and quickly as fresh manure.



SCENE ON D. M. FERRY AND CO.'S SEED FARM, DETROIT, MICH.

first set out. Mountain ash, linden, box elder, beech, plum, pear and peach, alike succumb to its attacks, while the apple is so subject to its injuries that no man who does not understand this enemy, and is willing to give some little time to mastering him, can hope to succeed in growing apple trees in Missouri; and, in reality, the time and money spent in planting young apple orchards in the greater portion of the Mississippi Valley is generally wasted for want of the necessary precaution against this insect. It has been more especially injurious and noticeable the present year, and complaints of its work, with specimens, have, as before indicated, reached me from very many different sources.

ITS NATURAL HISTORY.

The natural history of this borer is thus briefly told. The beetle is very variable in size, and has been described under a number of different names. It is greenish-black or bronze colored, with metallic reflections, and the under side more coppery or brassy. The more characteristic features are two irregular, impressed, transverse marks across each wing-cover, dividing them into about three equal lengths. This beetle, like all the species of the family (*Buprestida*) to which it belongs, is diurnal in habit, and may frequently be found basking in the sun, on the trunks of those trees which it more particularly frequents. It begins to appear

even though the wire touch not the bark, the larvæ will work its way through the latter, and test, in every conceivable way, the resistance of the wire, and frequently succumb in the effort to penetrate it. Yet, normally, this same larvæ would take every precaution not to penetrate the bark.

Whether this borer remains in the tree nigh upon one or two years after hatching, no one has definitely determined. The general impression is that it acquires its full development in a single year. Be this as it may, the larvæ are found of different sizes during the fall, and young ones not much over one-eighth of an inch long may be found in mid-winter. Yet in April and May by far the larger portion will be found either full-grown or in the pupa state, and the above facts indicate protracted and irregular period of egg-depositing, rather than that two years are required for development.

The Gladiolus.

We have no decorative flowers so generally useful as the gladiolus. It can be had in bloom all the summer months, or we might say, from May to Christmas; and besides being a great favorite, it can scarcely be used amiss for in-door decoration, even as rainbows for fire-places, or three-foot spikes

Onion Seed.

In the pages of this journal we have given some accounts of the great centres of different kinds of animals, implements, plants and seeds. The onion is a welcome and well known vegetable to us all, though but few of us know what a large business is carried on to supply us with the little packages of seed for our gardens. Messrs. Ferry & Co., of Detroit, are, we believe, the most extensive growers of onion seed in America. They raised ten tons of seeds on 50 acres of land the past season. The above cut was engraved from a photograph of the work in the field, but the bungling artist had no idea of following the photograph, which is much better than the above cut. This company employ from 200 to 300 women and girls in weeding the ground during the summer and packing seeds in winter. We paid a visit to their seed establishment in Detroit during February, and there we found about 250 women and girls, all as busy as bees. Some were making bags; others assorting and packing seeds. We being more accustomed to logging and clearing land with oxen, considered

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this rather a curiosity. We used to think 50 or 60 men at a bee, with 10 or 12 yoke of oxen, was a great sight, and we also thought that a great amount of work was done when night came. This would only be a one day job on a farm once in a year; but here, in this seed work, 15 horses are employed cultivating daily, when the ground is fit, besides the large amount of help spoken of before. To see a long regiment, or school, of girls, all working in their different departments, is a sight that would astonish most of those that sow from the little packages. As Messrs. Ferry & Co. make a specialty of onion seed on their farm, one would at once conclude that Detroit must be one of the main centres for the onion seed business. They raise many other varieties of seeds, as they have three hundred acres devoted to them. The vast amount of business done by this firm may be imagined when we were shown a bundle of 1,000 letters, which arrived the day before our visit. Some of our readers may wish to procure seeds direct from the growers, but we do not know of any firm that make much of a business of raising garden seeds in Canada. Mr. Otwell, of St. Mary's, raises a few, as also do some others. We presume Ferry & Co. raise more small seeds than all Canadian seed growers combined. We were highly pleased with our visit, and hope to see more of these American establishments.

The Cherry.

The cherry is one of the most healthy and luscious of summer fruits; it is an universal favorite, yet it occupies but a subordinate place in the market orchards of our land, and the supplies mainly come from scattering trees planted originally merely with a view to family use. The region in which this fruit succeeds is extensive; it has been and is a free grower, an early and profuse bearer, and well adapted to bring fruit quickly to settlers in new countries. It has been largely planted in California, where it flourishes, and the cities of that State are better supplied with this fruit than are those of the Atlantic seaboard. The improvements which have been made, and established in extensive and successful operation, whereby our perishable summer fruits may be cheaply and quickly preserved through all the year, render it impossible to glut the markets as formerly, and the production of all varieties becomes a safe and profitable business. With professional fruit-growers the cherry is destined to largely increase in favor, and to rival the strawberry and the peach; and as the production becomes larger and more reliable the market will be steadier and the profits surer.

In ornamental qualities the cherry is hardly surpassed by any other fruit tree, and if a fruit tree is used for decorating the yard or lawn—in point of good taste a questionable use—there is none better. We can heartily recommend, however, its

extensive use as a roadside tree. For this purpose it is well adapted by its rapid growth, its handsome form, and the little care and pruning under which it will flourish when once well started. And why not line our highways with fruit-bearing trees? the shade and the verdure, blossom and the fruit, would refresh and benefit alike the traveller and the land-owner. This is a subject which concerns the whole public; it is a matter fit for legislation, and should receive attention from the Horticultural Societies. A striking feature in the landscape of Southern Germany is the double rows of fruit trees along the highways, which, from favoring heights, spread their sinuous and crossing lines before the eye.

The cherry demands a dry subsoil, and a loose, sandy loam is usually considered best for the surface. West and northwest slopes, if not too much exposed to the sweep of winds, should be preferred to eastern or southern. When started right it

their earliest supplies from more southern latitudes, and their latest from their own.

New Varieties of Grapes.

In this number of the *ADVOCATE* we bring to the notice of our readers two new varieties of grapes. One, called the "Lady," you will find fully described in another part of the paper; the other is called the "Janesville." This grape has been thoroughly tested in the Western States, and has given great satisfaction to those who have raised it. For early bearing, perfect hardiness and rapid maturity of its wood, it surpasses any other variety there cultivated. When other kinds have been totally destroyed by the severe frosts of that country, this grape has come out all right in the spring and borne heavily the following season. It has stood a temperature of 35° below zero with out the least injury. It is a purple grape, and will compare favorably with the Concord in quality, and ripens about the middle of August. We will give one of these vines to any one sending in two new subscribers at \$1.00 each.

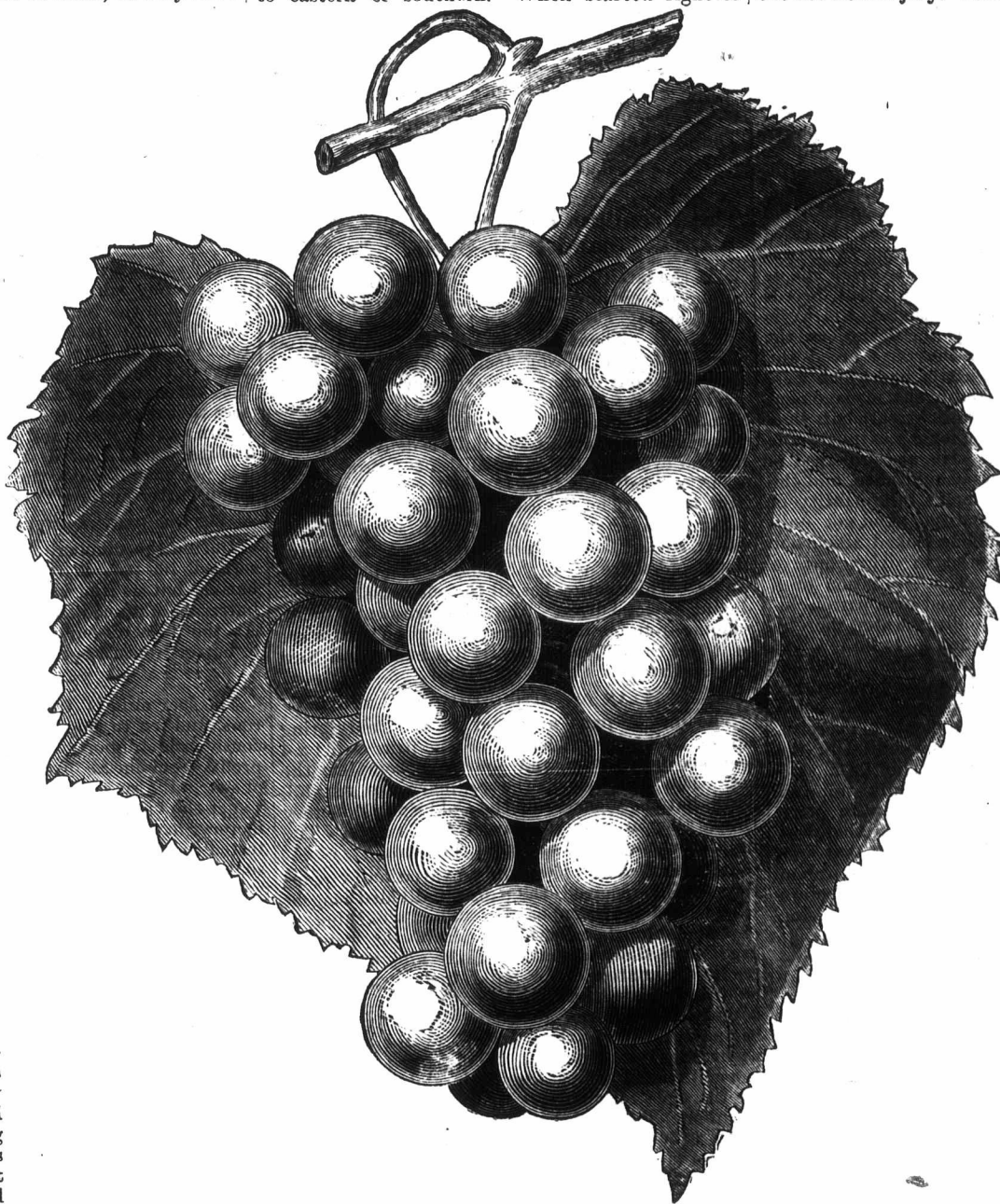
We have no doubt that this grape would prove a very excellent one for the great mass of our readers in Canada to cultivate. This variety is introduced to us by Mr. A. Deadman, the leading fruit grower in this part of Canada, who unhesitatingly recommends it as likely to give satisfaction to those who will give it a fair trial.

Prize Essays—Contributions.

We regret being obliged to hold over some valuable contributions received for our paper. They are only postponed till our next issue. The essays written on manure, in competition for the prizes we had offered, were some of them so late in coming to hand, that the necessary examinations could not be had. The articles on the construction of a bank barn have been so numerous and lengthy that we have thought it better to postpone the adjudication on them all. One of our subscribers now offers a chromo as a prize for the best plan and description of the fowl house. We wish the plan not to exceed three inches. Some of the plans for barns are unnecessarily large—the plan, it has been remarked, is as large as the barn itself. Contributions should be received by the 15th of March.

Carriage on Seeds.

Many subscribers are inquiring the cost of carriage of seeds to different points. We pay postage on all seeds sent by mail, but we never pay for those sent by express or by rail. The cost by express on the G.W.R. or G.T.R. to Windsor, Sus. Bridge or Toronto, is 25c. for less than 10 lbs.; or will be 50c. to Collingwood or Kingston; about 75c. to Ottawa or Montreal; east of Montreal about \$1. In larger quantities the rate per lb., is per rail, about 50c. per 100 lbs. to Toronto, Sus. Bridge or Windsor; to Montreal \$1 per cwt. for small lots; larger lots are cheaper in proportion. This will give you a margin to estimate on. If sent by a road where there is no opposition, the rates will be doubled.



THE "LADY" GRAPE.

needs no pruning, but if the knife must be used to correct some fault, let the cutting be done in mid-summer. In over-rich soils its growth is wood and not fruit, and it is liable to split open in the trunk and large limbs, decay and die. This is the greatest drawback to its culture in the West, and the remedy is a suitable soil and location, heading low, and applying washes frequently to the bark, which will soften it and permit the necessary expansion.

Owing to its size, close skin and elastic pulp, the cherry bears transportation admirably. It may be carried from the orchards to distant markets in good order, and the season of use sufficiently prolonged. England receives immense quantities of cherries from Southern Germany and from France, which come into market much earlier than those grown on her own soil. So in this country the Northern markets must draw

Stock and Dairy.

Dairyman's Convention.

Prof. Bell, said the subject he had chosen for discussion was "Canada in the Dairy and in the Market," and which, he said, was of the greatest importance both for Englishman and Canadians. He referred to the steady increase in the manufacture of cheese in the Province, and gave some statistics as to the quantity of cheese made, and the number of factories in operation, and also the quantity shipped, which he said was largely in excess of last year, the estimated value of the whole product for 1874 being over \$3,000,000. The Prof. also alluded to the amount which the English market could receive before it would be overstocked, and placed the figures at about 600,000,000 lbs. There was also a quantity of cheese shipped from other countries to the English market, which were imported into that market more as a luxury than for their good qualities. He then gave a description of the different kinds of cheese imported from foreign countries, which were mostly of an inferior quality to the Canadian and American makes. The Canadian cheese had already attained a position in the British market profitable both for the consumer and the manufacturer; and in order to gain a still higher position, Canadians should strive to improve their dairies. He then addressed himself more particularly to the patron, as it was with him the great secret of successful cheese making lay. He referred to the different breeds of cattle, and mentioned the Shorthorns and Ayrshires, and more particularly the latter, as the best for dairy purposes—both the pure breed and the cross with the Canadian cattle, and which were very easily kept. He referred to the management of cows. If cows receive proper treatment, they would amply repay the patron for any extra trouble in the quality of the milk. He also referred to the quality of food that cows should have, and the patrons should see that they had a full quantity of food, and of a wholesome quality. And not only should their food be particularly looked after, but the cows should not be allowed to drink out of filthy or stagnant pools. The reputation of a factory has often been destroyed by a patron allowing his cows free access to filthy water, thereby tainting the milk, which, when put into a vat with good pure milk, would have a tendency to effect the whole. Cows should also be comfortably housed during the winter months, and when weather permitted to allow them plenty of exercise. The proper treatment of cows was essential for the production of a first-class dairy. The Prof. cautioned farmers strongly not to draw milk from an unhealthy cow. Cases of sickness were often known to arise from cheese being eaten that was made of milk that was drawn from a cow that was unhealthy. He also referred to a habit patrons had of skimming a certain portion of the milk before sending it to the factory, for the purpose of making butter. This was dishonest, and it was reducing the quality of the cheese. If patrons wish to make butter as well as supply the factories with milk, they should keep an extra number of cows for that purpose; but by all means be honest in the milk sent to the factory. Another means of injuring the quality of cheese manufactured, and not unfrequently resorted to, was the habit some factories had of seeing how much cheese could be manufactured, out of a certain quantity of milk.

The cheese thus manufactured would necessarily be of an inferior quality, and would bring a lower price, which certainly would not rebound to the credit of the factory.

The question of drawing milk to the factory once or twice a day was discussed, and the twice a day plan advocated on the ground that milk can be better taken care of at the factory than at the farmhouse, and also because if the milk is kept over night cream rises on it, and there is a very strong temptation to remove the cream and so impoverish the milk the only argument for once a day delivered is the saving of expense. The improvement of pasture-land was then urged and a variety of directions given to secure the result. Whether it is the better plan for the dairy farmer to raise his own milk cows or to buy them was discussed, there were circumstances under which the one plan was preferable, and those under which the other was best. The establishment of large breeding farms, for a supply of dairy stock was advocated. Some objections to the cheese factory system were adverted to, such as a scarcity of butter and high price of butchers' meat.

Taking up the second objection first, the cattle farms recommended would do much to provide a better meat supply, and in regard to the latter butter as well as cheese ought to be made at cheese factories. There was considerable butter in whey, which on the present system was lost. There was no reason why a large trade should not be done in butter as well as cheese. Another neglected element in milk was the sugar it contained.—It differed from case or common sugar, was of medical value, and in England sold at eight shillings, (\$2) a pound. It was desirable that experiment be made in this direction. In conclusion, thoroughness in everything connected with the cheese business was urgently insisted on as essential to high success.

The proceedings of the meeting were interesting throughout, and we regret to be compelled by the pressure of other matter to postpone till our next issue the remainder of our report. Corn fodder for milk cows; the size of cheese that will command the best price, in the English market; the coloring of cheese were among the subjects of discussion. These and abridged reports of the other addresses delivered we must postpone.

The Premium Factory Butter—Where and How Made.

At the late Central New York Fair the first premium on creamery butter was awarded to the Cold Spring Creamery, East Hamilton, Madison Co., N.Y. About the middle of September we visited the Cold Spring factory, and it may be of interest to our readers to learn how the butter is made at this factory. The factory is a small one, 28 x 30 feet, taking the milk of only 90 cows. There are nine patrons, and milk is delivered morning and evening, the most distant patron living about one-half mile from the factory. East Hamilton is situated on the east branch of the Chenango River, in a charming valley, with lofty hills on either side. The pasturage is sweet and nutritious, and there is an abundance of clear spring water. This section has all the elements for producing choice butter. The farms are mostly small, ranging from 50 to 100 acres, and the farmers are neat and thrifty, being mostly descendants of New England stock.

PLAN OF SETTING THE MILK.

The Jewett pans are used at the Cold Spring Creamery. The size of the pans are 11 x 4 feet, six inches deep, and four pans complete the set. The pans are of the ordinary size for 150 cows, but the manager of the Cold Spring factory thinks they are not too large for 100 cows. The milk is set four inches deep in the pans.

In order to adapt the pans to variation in quantity of milk received, the pans are divided lengthwise with a partition of tin. This, we think, is objectionable when both sections of the pan are used, since the temperature of the milk cannot be readily regulated. The milk during summer is held in the pans until it is 24 or 26 hours' old, and is generally allowed to sour. When the milk begins to lopper at the bottom, and the cream is wrinkled, it is skimmed. The pans stand with one end butted against the wall, and at this end are the pipes for admitting the flow of water under the milk. The temperature of the water in the spring is 56°, and it is desired to keep the milk at about 60° while the cream is rising. This temperature, Mr. Holmes, the manufacturer, says, cannot be maintained during the hottest weather in summer, since the milk-room, being above ground, and constructed with thin walls, gets heated up, while the large surface of the milk spread over the pans absorbs the heat from the room rapidly, and thus the milk is made several degrees warmer than is desired. In the spring and fall, or during cool weather, a coal stove in the room regulates the temperature, so that the milk stands very uniformly at 60°.

CHURNING.

The churning is done every morning, Sundays excepted, the Saturday's cream being churned Saturday night. The dash churn is used, barrel and a half size, and it is operated by horse power. Mr. Holmes thinks no churn equal to the dash for making a nice grained butter. During the hottest weather the cream in the churn is tempered to 58°; but at the time of our visit, the 17th of September, the temperature of the cream, when the churns were started, was 60°. About an hour is occupied in churning, and when the butter begins

to come the motion is deadened, or made slower, and four quarts of cold spring water is added to each churn. Enough water is added so as to raise the liquid mass to cover the dash, to prevent it striking the cream. Then, just as soon as the butter is formed, the churns are detached from the power, and the butter gathered by hand.

The buttermilk is now drained off, and the butter thrown into a large tub with cold spring water, which it is washed by working it gently with the hand. Washing in two waters thoroughly expels the buttermilk, when it is immediately salted, at the rate of three-quarters of an ounce of salt to the pound of butter.

THE SALT WEIGHER.

Mr. Holmes has a very handy implement for butter-makers, which may be denominated the "butter and salt scales." It is simply a pair of scales so arranged that by placing the butter in a bowl on a standard, and by adding salt to the dish on the end of the scale-yard until the scales are balanced, you get the exact quantity of salt required for the lump of butter. It is arranged so that the scales may be set for salting at the rate of from a quarter ounce to 1½ ounces of salt to the pound of butter. It is a simple and cheap affair, and should be in the hands of every butter maker, as it saves time and trouble in weighing and calculating the amount of salt for a given weight of butter.

The salt is worked through the butter while in the washing tub, the ladle being used for that purpose, when the butter is removed to the cooling vat, or where the vessel holding it may be surrounded with cold spring water, and it remains there until next morning, when it is thrown upon the butter-worker and worked over, and then goes to the packages. The butter is put up in return butter pails, and goes to New York city, and the price received at the factory is two cents less per pound than the highest quotations for fancy butter in New York city.

BUTTER FROM A GIVEN QUANTITY OF MILK.

During the summer, under the system above described, 100 pounds of milk yield four pounds of butter; but as the season advances a pound of butter is obtained from a less quantity of milk. At the time of our visit the ratio was one pound of butter from 23 of milk.

SOUR MILK.

The sour milk is taken away daily by the patrons, and fed to hogs and calves. A question of considerable importance in discussing the relative profits from cheese or butter-making is the value of sour milk for feeding purposes. We endeavored to get the views of the patrons of the Cold Spring factory, inasmuch as the question has been fully tested in their practice. Some put the value of sour milk at 20c. per 100 pounds; and indeed we were informed that at the Union Creamery that price was freely paid by patrons who had occasion to need sour milk for feeding purposes. On the other hand, Mr. B. C. Ackley, an intelligent farmer, who had kept a pretty accurate account of the value of sour milk for feeding purposes, said 100 pounds were worth about 15c., either as a feed for calves or hogs during ordinary years. In this connection we may remark that Mr. Ackley was raising some very fine calves which had been fed, and were being fed at the time of our visit, on sour milk. The milk was quite thick, or loppered, and the calves seemed to enjoy it in this state.

TEST OF BUTTER AT THE FACTORY.

We tested some of the packages of butter at the factory, and found it of excellent flavor and quality. It may be remarked here that, considering the fine sweet feed on which the cows are kept, the abundance of pure, cool spring water, the small herds, the neat farms and their surroundings, the short distance over which the milk was hauled to the factory, we are not surprised at the award of the first prize at the great fair in Central New York.—*Rural New Yorker.*

The Dairy.

The variations in the yield of milk cows are caused more by the variations in the nutritive element of their food than by a change of the form in which it is given. "A cow kept through the winter on mere straw," says a practical writer on this subject, "will cease to give milk; and, when fed in spring on green forage, will give a fair quantity of milk. But she owes the cessation and restoration of the secretion to respectively the diminution and the increase of her nourishment, and not at all to the form, or of outward substance, in

which the nourishment is received through the nutritive matter of lucerne and from other sources, and, no matter what mixture that may be used, will yield a winter's casein and butter produce, and almost any dairy would imagine. We keep to good and nutritious the consequent ten, poorly weakened, if a long time is taken to yield a It is a hard and in blood the food which of milk; but, littered, and and with ro treated to the constant kind mence the milk circumstance

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Canada.

From S pleased to attracting a high pos This was p cheese fair The num ward of 1, and Engla selected fr of the king cheese we cheese pro those who as the the notice the who, with expressed of the che saw. As qu to un there was producing cause it v in a numl creasing cheese as have alre in this op to cheese in the pro use they across the makers of wike before tention t Kingston

which the nourishment is administered. Let cows receive through winter nearly as large a proportion of nutritive matter as is contained in the clover, lucerne and fresh grasses which they eat in summer, and, no matter in what precise substance or mixture that matter may be contained, they will yield a winter's produce of milk quite as rich in casein and butyrateous ingredients as the summer's produce, and far more ample in quantity than almost any dairymn with old-fashioned notions would imagine to be possible."

We keep too much stock for the quantity of good and nutritious food which we have for it; and the consequence is cows are, in nine cases out of ten, poorly wintered, and come out in the spring weakened, if not, indeed, positively diseased, and a long time is required to bring them into a condition to yield a generous quantity of milk.

It is a hard struggle for a cow reduced in flesh and in blood to fill up the wasted systems with the food which otherwise has gone to the secretion of milk; but, if she is well fed, well housed, well littered, and well supplied with pure, fresh water, and with roots or other moist food, and properly treated to the luxury of a frequent carding and constant kindness, she comes out ready to commence the manufacture of milk under favorable circumstances.

Salting Butter.

Who has not noticed the grains, and sometimes even lumps of salt, in butter, often giving it a disagreeable taste and appearance? This is due to the practice of salting butter after it is churned, the salt not getting thoroughly dissolved.

The way to remedy this, which we have practiced for some time, is to salt the cream. When the cream is put into the churn a sufficient quantity of salt is put into it to render it quite salty. When the butter is churned and worked it will be found to be very evenly salted, not a lump or grain of salt undissolved. Of course much of the salt put in the cream will not remain in the butter, but will be contained in the buttermilk.

And here, let me say, is one of the greatest benefits. The buttermilk should be fed to the pigs. The pigs will be healthier, will grow faster and fatten easier for the salt they will get in their drink. It has been my experience, also, that the meat of pigs thus given a quantity of salt is perceptibly better flavored. It is often very difficult to keep pork from hurting, but feed your pigs plenty of salt, and when killed the meat will require less salt, and will never hurt.

I would say, in conclusion, that if you wish nicely flavored butter, salt it before you churn it. We use about a pint of salt to four gallons of cream. Common salt that is pure will do.—S. W. Prairie Farmer.

Canadian Cheese in British Markets

From Scotch papers of recent date, we are pleased to learn that Canadian cheese is not only attracting some attention, but beginning to occupy a high position in the markets of Great Britain. This was particularly noticeable at the great annual cheese fair held lately in the west of Scotland. The numbers of entries were unusually large, upward of 1,300 of the most famous dairies of Scotland and England being represented. The Judges being selected from the most experienced cheese factories of the kingdom. Thus the specimens of Canadian cheese were placed alongside of the very finest cheese produced in the world, and were tested by those who are most capable of forming an opinion as to their merits. It is interesting, therefore, to notice the remarks of Mr. Copeman, of London, who, with the concurrence of the other judges, expressed himself as follows: "The general quality of the cheese shown was as good as any he ever saw. As a stranger to the district, coming here quite unprepared to see such fine cheese, he thought there was nucleus of this becoming the finest cheese-producing districts in the United Kingdom, because it was well-known that the making of cheese in a number of dairies in Somersetshire was decreasing every year. There was some Canadian cheese as finely flavored as any shown. As we have already said, the other judges concurred in this opinion. It must be extremely gratifying to cheese manufacturers in this country to learn that in the production of an article of such a domestic use they can not only compete with their neighbors across the line, but also with the most favorable makers of Britain, whose reputation was world-wide before Canadian makers had turned their attention to this branch of agricultural industry.—*Kingston Chronicle.*

Lincoln Sheep in Australia.

An Extract from the Report of the Secretary of Agriculture.

"Of all the British breeds, the Lincoln, perhaps, bids fairest to prove the right sheep for our agricultural lands. It takes kindly to the climate, and seems to undergo a gradual but not deleterious change (as was noticeable in the flock of the late Mr. Thomas Austin when brought under the hammer), which, if carefully preserved by selection, might result in the founding of a breed in every way suited to our wants. The Leicester fleece, under the influence of the Victorian climate, exhibits, as has been already observed, a marked change for the worse, and this detracts greatly from its value as a sheep for this country. The Cotswold is of little value, apparently; the Cheviot has not been much tried; the Romney Marsh is proving itself a useful sheep on low land, and is likely to turn out the best breed for resisting fluke; while the Border Leicester, like the pure-bred sheep, exhibits a tendency to degenerate in this climate. But some of the above, more particularly the Lincoln and the Leicester, cross admirably with the Merino; and our farmers will probably have to depend chiefly on crosses of these for the development of a serviceable breed. The pure-bred long-wools are still too expensive to render them profitable when kept in small lots, unless for stud purposes. It may remunerate a large sheep-owner to purchase a few high-classed long-wooled rams to put to his flock, but it will surely never pay the man who may possess, say, 150 or fewer ewes, to give from £35 to £50 apiece for rams. The man who desires to possess a sheep of the right sort, will have to begin at the beginning and work upwards. Let him select, according to his grazing capabilities, a number of large, well-framed Merino ewes, and put to them the best-bred Lincoln or Leicester ram he can procure, selected from some good flock. And if he will then pay proper attention to culling, and not use one of his cross-bred rams until a new type has been firmly established in his flock, he will not be likely to get far wrong in his undertaking."

The Horse.

Wintering Farm Horses.

I have noticed for some years that farm horses have had a hard time during the winter months, not because of work, but of the want of care. Farm horses wear out as fast, if not faster, than horses that work during the year; now there is a cause for all this. In the first place horses that have been in open air and sunshine, should have these hygienic influences all of the time, and horses that have been in active exercise should still be allowed ample room and opportunity for what exercise nature requires. Then again, horses that have been fed high should by all means have enough feed to recruit them that they will look sleek and have enough fat to keep them warm.

Therefore when horses have accomplished the work of the season, and are to rest for some weeks or months to come, the first thing to be done is to have the shoes taken off, then give them their regular feed for a few days at least, that is, till they show signs of good, fresh, rich blood in their veins; then drop the noon feed of grain and go on for a time with two feeds per day, and then leave off the morning feed of grain, and finally drop the feed of grain at night; still I would never let a horse "go to be hungry," that is stand and paw or ask for food at night, for it is a loss rather than a gain to try and cheat a horse out of his honest living. As the noon feed is withdrawn, give some green food, say potatoes, carrots or turnips, but I would limit the roots to a fourth of a half-peck for a few days, then give once, twice or thrice a week as the case may be. By all means give plenty of hay and good, fresh, pure water, with salt, as they may require. Now as to exercise, after the horse has eaten the morning meal, turn him loose into a good, large yard, and let him remain till noon; after the noon feed, turn him out again till night; then put him up and feed for the night; of course stormy days should keep him in the stable. If horses are worked part of the time, keep the shoes on and feed according to the work, but by all means give the yard exercise whenever he is let up from work *Mass. Ploughman.*

Horse Raising and Breeding.

Essay read by Mr. C. J. Cockburn at the meeting of the Pasfinch Farmer's Club:—

Entering at once upon the discussion of the question, I propose briefly to consider two points in connection with it, leaving the fuller consideration of the whole subject to other members of the club.

1. What breed of horse will best suit us—that is, best meet our agricultural wants, and how shall we obtain it?

11. What is the best method of feeding and caring for horses?

First, then, what breed of horses will suit us best? This is a question which I doubt not will receive very different answers even from the members of this club. The true answer will depend to a very great extent upon the object we have in view in breeding and raising horses, and the purpose which we intend them to serve. If we have heavy teaming to do, we want heavy horses; if we desire to make a speedy journey on the road, we need a good traveller; and if we require a horse to serve a variety of purposes, we should try and obtain a horse that possesses, as far as possible, the necessary powers to serve these. Now, this, last is what we, as a Club, or as a Township want, and to this I shall more particularly confine myself. While, however, considering such a horse as most suitable and profitable for us, I by no means overlook the fact that it would be impossible for our country to get along without any draught horses. For instance, farmers who have very heavy clay land to plow require both weight and strength, and in our towns and cities, which are growing so rapidly, heavy horses will always be required for the large amount of teaming to be done in connection with railways, &c., and any person having mares suited to raise such stock will find ready sale and good price for such animals. But such mares are not to be found in any great number in this Township. As to the manner in which we obtain such a horse as we want, there can be no doubt, but the whole secret in breeding horses so that our stock may improve, rather than to go back, is to get just the right cross. Now, we can see instances every day where the progeny is not by any means equal to either the dam or the sire. This is frequently seen when a low set, stout built mare is bred to the same description of a horse. Now the proper cross in such a case is to breed our low set mares, which already have too much cold blood in their veins to a full blooded horse, and then we may be sure of something that will answer our purposes in this part of the country. Our soil is comparatively light, our markets are convenient, and our roads are good; so it seems to me that a heavy Clydesdale horse would only be a burden to himself, a great trial to the patience of his master, much more expensive to keep, and not so suitable for us as a horse of a lighter and more active kind, *i. e.*; a horse with just enough blood to give activity and endurance. The horses which I if giving my opinion, would recommend for this part of the country can be obtained by breeding our average mares to an imported thorough-bred coach horse of the heaviest stamp, such as the one that took the first prize as the last Central Fair in Guelph in the roadster class. Taking such a horse and using him for our class of mares we would get a class of horses with style, activity; strong, clean flat legs composed of bone and muscle; horses that could do almost equally well everything we require; horses that could stand a good hard drive if required; do as much work on the farm in a day, if not more, than the lumbering Clydes. For such horses too, there is always a good demand in the market, and they command such prices as will make it as profitable to raise them for sale as any other class. We need not expect them all to be prize takers any more than any other class, but we would always be sure of a good, durable horse, such as would meet our varied wants.

As our aim is to get a horse for all work, I am certain that this can be accomplished much more successfully by breeding our average mares to blood stallions than by using heavy ones. Nothing can be more important than to pay great attention to the kind of stallion we breed from. It is not only as cheap to keep a good horse as a bad one, but in reality much cheaper, because he is more serviceable; so there can be no excuse for not using the best efforts to get the best possible breed. It is a fact greatly to be deplored that this part of the country seems to be overrun with a mongrel breed of stallions. They are, perhaps more than a third or fourth cross already, and with our cool blooded mares it is utter folly to breed from such. A half-

bred mare should never be put to a half-bred stallion, as in nine cases out of ten, the product degenerates, whereas if we breed from a thoroughbred stallion the product will be superior to the dam. Before closing this point, on which I have dwelt longer than I had intended, permit me to say that it would be a great boon to our country if something could be done to put a stop to these poor half-bred horses going about our country. If Parliament would impose such a tax or license, as is imposed on some other things, on all horses standing for breeding purposes it seems to me, a good purpose would be served. Having dwelt so long on the breed to raise, and how to obtain it, I can but briefly touch upon the other points, viz: What is the best method of feeding and caring for horses? This is a subject with which, I suppose, most of us are acquainted; so but a few words will be sufficient from me.

It is of great importance that attention be paid to proper feeding and care when young, as this is what makes the foundation of a good horse. When the foal is sucking, its dam should not be made to perform any hard work as any great exertion on her part at once effects the milk in such a way as to hinder the growth of the foal. Its hair becomes dry and stands erect, an appearance which seldom leaves until the foal has been a few months on the grass the following spring. Foals should be housed as soon as the first frost comes at night, as the cold, frozen grass tends to bring on inflammation. This is true of all horses, but especially the young foals, nor should a foal be "forced" by feeding too highly, as this is equally injurious to the constitution, as lack of feed and want of care. The same attention should be given the following winter. Young horses should not be put to work too early, say four years should elapse before put to any hard work, though they should be accustomed to the harness at an earlier age.—"Guelph Mercury."

Influenza in Horses.

A writer in the *Journal of Agriculture* (London) says:

It is difficult to determine when the first symptom of influenza is present. The author is indebted to the acuteness of T. W. Gowing, V. S., of Camden Town, for a knowledge of a marked indication declarative of the presence of influenza. A yellowness of the mucous membranes, best shown on the conjunctive, or white of the eye, is very characteristic. Whenever the sign is seen, and sudden weakness remarked, caution should be practiced, for it is ten to one that the pestilence is approaching. Influenza is very simulative disorder; it has appeared as laminitis; disease of the lungs is, perhaps, its favorite type. Bowel complaints are apt to imitate each other; blowing generally commences such disorders. But when influenza is prevalent, let the body's strength and the yellowness or redness of the membranes be always looked to before and more prominent indications is particularly observed.

The other symptoms, which, however, are very uncertain, as regards any of them being present or absent, are pendulous head, short breath, inflamed membranes swollen lips, dry mouth, enlarged eyelids, copious tears, sore throat, tucked-up flanks, compressed tail, filled legs, big joints, lameness and hot feet. Auscultation may detect a grating sound at the chest, or a noise like brickbats falling down stairs at the wind-pipe; whenever this last peculiarity is audible, there is a copious nasal discharge. Sometimes one foot is acutely painful, and, notwithstanding the weakness, the leg is held in the air. Purgation has been witnessed, although constipation usually prevails, and the animal generally stands during the continuance of the disorder.

Move the horse slowly to a well-littered, loose box; mind the door does not open to the north or to the east. No food will be eaten; but suspend a pail of well-made gruel within easy reach of the animal's head. Let the gruel be changed, or the receptacle replenished at stated periods, thrice daily; sprinkle one scruple of calamel upon the tongue, and wash it down with a drink composed of sulphuric ether, one ounce; laudanum, one ounce; water, half a pint; do this night and morning. Should the weakness be excessive, double the quantity of either and the laudanum contained in the draughts. Watch the pulse—it always is feeble, but at first has a wiry feeling. So soon as the character of the pulse changes, or the wiry sensation departs, which generally happens when the nasal discharge becomes copious and the cough appears, one pot of stout may be allowed and some nourishing food, as bread, on which a very little

salt has been sprinkled, may be offered by hand. The horse feels man to be his master, and appreciates and attention bestowed upon it in the hour of sickness. It will stand still to be caressed and advance his hanging ears to catch the accents of sympathy.

Beware of what is termed active treatment; a purgative is death during influenza. It generally will induce the prostration from which the animal never recovers. Formerly, it was common to see four strong men propping up a horse during his endeavor to walk. But the lower class are fond of joking one with another. Such was the usual results of their employment on these occasions. In the fun, the horse got but partially support, while the noise distressed the diseased animal.

Carrots for Horses.

Towards the spring, when horses have been many months highly fed on corn, carrots are extremely serviceable, indeed necessary. During winter they should be used sparingly. They used to be given to race horses in far greater quantities than they are now, having formerly had the character of being good for the wind; but perhaps the only merit they can claim in this respect is, that they keep the body cool and properly open, by which they conduce greatly to health and condition, and consequently to cleanliness of wind. About the same thing may be said of their claims to produce a fine coat; but whatever conduces to health does so, and consequently carrots do.

Carrots should be given in pretty long slices. They are sometimes given cut crossways; this is really dangerous, as horses are extremely fond of them, and, if at all greedy, would be pretty apt to bolt pieces of them whole, which would be likely to cause some of them to stick in the throat. When first given they are slightly diuretic and laxative; but as the horse becomes accustomed to them, these effects are not produced. To sick and idle horses, they render corn unnecessary. They are beneficial in all chronic diseases of the respiratory organs. In combination with oats, they restore worn-out horses much sooner than oats alone. They should be fed raw, in which state the horse prefers them.

Some persons give carrots with the grain, thinking it tempts the horses to eat their oats, if of delicate appetite; so they might if perfectly minced, otherwise they will pick them out, and the man may eat the oats if he pleases; for, depend on it, the horse would not; but if we were to make minced feed of them, we would still consider it a very bad plan to give them with oats; for, should the horse get accustomed to such a mixture, he would afterwards refuse his oats without it. For this reason carrots should be given as separate food; and, if bought at a proper season of the year, by the ton, in the country, they are by no means any expensive one,—though they become extremely so in the city when an hostler can persuade his employer that they are necessary for his horses, buys them by the bunch, consumes two of those himself, and, if he is delicate as to conscience, gives the third to his horse; if not, they of course all go the same way. Carrots, if kept in a dry place in sand, will keep a long time, as in sand as they will keep out of doors, if covered with straw, and then banked up with earth.

Spavin.

An English Veterinarian writes, in concluding a long article on spavin, as follows:

Cases of lameness of recent occurrence, where acute inflammation of the joint prevails, are best treated at first by rest and fomentation. The horse should be allowed a loose box, so that he may enjoy the advantage of voluntary movement, and be able to assume such a favorable position as nature's instinct will counsel. The emollient treatment may, at the end of a week, be succeeded by a cold lotion; and after a few days, when the inflammation and soreness have subsided, active treatment may be suspended, the horse being merely kept quiet for a fortnight, so as to afford time for restoration of the injured tissues. At this stage the lameness will have diminished, if not completely passed off. When the cause is of a more formidable nature, more rest must be given, and either a cantharides blister rubbed over the affected part, or, what I believe to be preferable, and have for years past adopted, a gentle stimulant embrocation to be applied to the skin, and its application repeated at intervals of a few days, by which a local action is kept up, which tends to divert the circulation, and is unaccom-

panied by pain and unattended by destruction of tissues, which often lead to aggravation of cases, and to unsightly blemishes. The professional man may make choice from a variety of agents to prepare the proper application.

The following, of which the active ingredient is spirits of turpentine, I have used with satisfactory results:—

One ounce of spirits of turpentine is well incorporated by beating and mixing with the yolk and white of a fresh egg; to this mixture is then added six ounces of vinegar, and the whole is well stirred. The preparation is of a cream-like color and consistency, and it is to be rubbed over the seat of tumefaction and pain for a period of several minutes.

Of course it will be urged that spavins are not always to be cured by the lenient process recommended. Granted. One of the objects I have in view in writing on spavins is, as well as to show their causes and character, to point out their incurability, and to denounce, with all the weight which my humble opinion can carry, the cruelty and false economy of submitting every poor horse suffering from ulceration and fixture of the bones entering into the construction of one of the most important joints, to a painful and sometimes barbarous method of treatment, which cannot be attended with good results.

The dictum that desperate diseases demand desperate measures for their treatment, cannot be too strongly deprecated. It was but the other day that this doctrine was acted on in the case of the most fatal diseases, and when horses were very commonly bled to death. Let no violence be done because it has been the rule; neglect nothing, but, above all, refrain from acting unadvisedly of doing too much.

What Farmers Need.

In an article on the rapid speed of the farmers' societies throughout the land, "Coleman's Rural World" says:

What we need now is, the free discussion of rural matters by practical farmers, for as Macaulay has said: "men are never so likely to settle a question rightly, as when they discuss it freely." There has been in the past rather too much stress laid upon the fact that persistent industry and economy, unaided by books, have in their mind, been productive of fair pecuniary results to the farmer. The tendency has been to ignore everything that did not tend solely to money making; regardless of the effect of such a policy upon himself, his family, or the country.

A positive need of the times, so far as the agricultural class is concerned, is the general diffusion of knowledge, founded on experience. This can be best effected by the free and impartial discussion of any particular branch of agriculture adapted to the locality where the discussions are held. The object of these farmers' meetings during the winter months should be, to gather all the information possible in reference to special crops, so that farming can be conducted to better advantage, and thus create among the farmers of the community a lively emulation to excel each other in the production of the best crops, as well as to cultivate business and social habits.

There is a tendency to make these meetings too formal, instead of letting them be as they should—largely conversational in character. The ablest critics and often the best informed men, will persistently refuse to say anything—nevertheless, after the meeting is over, their incidental remarks, when conversing with their neighbors show a remarkable clear comprehension of the question discussed. The presiding officer of the meeting should take especial pains to call out these men who are determined not to talk. The young should be urged to express their views. This would have the effect of stimulating them to the investigation of the question under discussion. If this method was adopted a nucleus of knowledge and enthusiasm would at once be created, which would be productive of the best results, as a method of instruction, for it would tend to gather together floating fragments of experience and observation, and, like the growing crystal, build them up into its own substance, and make them a part of its own life. The great aim of each member should be, to infuse some fire and life into these meetings, for as soon as this is done, increased vigor and efficiency will be the result. One thing farmers should remember and, that is, that knowledge like money is valuable only as it is kept in circulation.

Eggs

As a general rule, young chicks hatch from the middle of the most favorable young poultry.

If we wish to have in the fall, it is yet it is not always to the best advantage will produce time of hatching often begin to be exhibited in have lost that lomon to them all.

But whether for market, it is hens of a year of only six or cock is also to be deemed of as n

To produce partridge on otured.

Pullet's eggs and Feb. than prefer. In or some of the first others and egg producing table should f of the fowls a well fed or allowed to be added with p corn meal, say Two or three potatoes and also to feed usual. Oats and scraps i drink and ple and ashes to result in a good hatching.

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In answer the "The Po the conclusio sidered, are following re

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I find it birds of the time of their need requested, cost of its systematic ing or for "take care of this kin ure with r fowls, wh

Poultry Yard.

Eggs for Early Hatching.

As a general rule it is not best to have many young chicks hatched until after the first of April. From the middle April to the last of May is usually the most favorable season of the year for rearing young poultry.

If we wish to have extra fine birds for exhibition in the fall, it is well to have a few hatched earlier, yet it is not always the earliest chicks which show to the best advantage. Subsequent care and feeding will produce greater results than difference in time of hatching. Pullets hatched in Feb., will often begin to lay in August, and by the time they are exhibited in September, and October, they will have lost that lively, handsome appearance so common to them about the time they begin laying.

But whether we rear chickens for exhibition or for market, it is generally best to have breeding hens of a year or more old, in preference to pullets of only six or nine months of age. A matured cock is also to be desired, though age in him is not deemed of as much importance as in the hens.

To produce hardy, vigorous, growing chicks, the partridge on one side at least, should be well matured.

Pullet's eggs are usually more plentiful in Jan. and Feb. than those of old hens, yet the latter we prefer. In order to obtain them with certainty, some of the finest hens should be separated from the others and provided with plenty of the best egg producing food available. The scraps from the table should fall to them rather than to any other of the fowls at this time, and, besides, they should be well fed on wheat bran scalded, and then allowed to become luke-warm. To this might be added with profit a little pepper and salt and some corn meal, say one pint of meal to four of the bran. Two or three times each week add also mashed potatoes and chopped cabbage. It would be well also to feed on oats to a greater extent than is usual. Oats and corn at night and mixed feed and scraps in the morning, with good water to drink and plenty of sand to scratch at and pick, and ashes to wallow in, will be almost certain to result in a good supply of choice eggs for early hatching.

The Best Poultry for General Use.

In answer to this question, a correspondent of the "The Poultry World" says he has arrived at the conclusion that the Brahmans, all things considered, are the best for general purposes, for the following reasons:

I have found them the best winter layers, if started early in the season; this is the time of the year when eggs are in a great demand, and the price realized is fully double, for ordinary family consumption. I find that it costs but little more to keep them in winter than in the summer season; and for limited premises, where fowls cannot enjoy good range, the expense in any portion of the year varies but slightly. Good care under all circumstances, and at all times, is a prime necessity to success in breeding fowls. These large birds need no better treatment than do the smaller varieties. At early age the cocks are ready to kill, and they average much larger chickens, for market uses, at a time when dead poultry brings the best price in the cities, than do small breeds.

As mothers, the Brahma hens cannot be excelled. The chickens are hardy; they make a fine table fowl if properly fed and strictly cared for from the shell; and, when in good condition, in the early fall, they will dress from ten to twelve pounds the pair (often heavier), which is almost twice the dead weight of average marketable chicks, now-a-days, of the common varieties. The extra weight will far more than compensate for the extra cost of good care and keeping; and the Brahmans may be limited to narrow confinement by enclosure with a four-post high fence, which is a consideration of consequence in many localities.

I find it necessary, in order to raise good average birds and fit them for the spit at the most profitable time of the year, that my personal attention to their needs, and constant care of their health, is requested. No live stock is worth the trouble and cost of its keeping that is not attended to regularly, systematically, and faithfully—whether for marketing or for competition. Domestic fowls will not "take care of themselves," to advantage. The lack of this kind of treatment is the leading cause of failure with many who do not understand how to raise fowls, which must be attended to, at all seasons, to

succeed with them. As to feeding, of course corn and meal must serve as staple food. If buckwheat, barley and oats can be purchased at average reasonable prices, these should be fed, in lieu of too much corn; as these latter grains are not so fattening, and birds will thrive better with varied food. Whole wheat is also excellent; broken wheat, for chickens in their younger periods.

Sunflower seeds, which can be easily grown in profusion around your houses and walls, without any trouble, save the covering of the seed in spring, is an admirable alternative, and fowls are extremely fond of this. I feed it twice a week, at least, and find it excellent. I give my fowls corn meal and "fine feed," scalded, in equal proportions, in the morning. Into their mash I sprinkle fine salt and red pepper, occasionally. At night I give whole grain. Two meals a day (as much as all can eat up clean), I find better than more; but regularly, every day, is my custom, and fresh, pure water is kept always before them, of which domestic birds drink freely, when they can have ready access to it.

Fowls in confined quarters should be supplied with plenty of green food, daily. Without this they never can be kept in high health. If their range is limited, fresh meat, liver, scraps or the like, should be given them daily. They must have animal food to keep them in good condition. Iron may be given in their drinking water, occasionally, to good advantage, and plenty of clean gravel, pounded oyster shells, &c., are also a necessity, where they are kept in limited runs. I make it a rule to clean the floor of my house daily, in spring, summer, and fall, and once a week I sprinkle air-slacked lime upon the ground. Then you always have a clean, sweet house, and are not pestered with vermin. In winter I cover my hen-house floor with two inches of fresh loam, or fine gravel-sand. The droppings of the roosts, etc., are raked up daily. Every fortnight these floors should be carefully cleaned out, and fresh sand or loam spread again.

Twice a year, at least, I white-washed the inside of my house thoroughly, and in summer I close them all tight, once or twice, and smoked them with burned sulphur. I also apply kerosene once or twice a month to the roosts. This latter plan will keep your poultry free from lice, and is the best mode I know of to effect this object.

Dust baths are highly essential, where fowls are restricted to limited space, at any season. The laying hens' nests should be very thoroughly cleaned out, three or four times during the season.

The Guinea Fowl.

Objections are found in the straying proclivities of this fowl; its disposition to lay away, by which many eggs are lost; and its pugnacious habit of beating other varieties of poultry. But for this latter trick it would long since have been naturalized as a game bird, having been turned into covert with perfect success; but it was soon found that the Guinea fowls drove away other descriptions of game to such an extent that the birds had to be destroyed on that account, the pheasants being most valued. As a domestic bird, however, these bad qualities are susceptible of much amelioration, provided the treatment be kind and good. It is almost hopeless to commence a stock with adult birds; directly they are left at liberty they are "off," and probably never return. But by setting eggs under common hens, and rearing them at home, they grow up much tamer, and will flock around the person who feeds them, and even allow themselves to be taken up and petted, like other poultry. When reared thus kindly, and secluded nests are provided, they will generally lay in the house; and if perches are placed high for them, and they are regularly fed every night, will roost at home also. So far domesticated, they will pay to rear, in places where they can have ample range, for their flesh alone, which is most delicious, resembling that of the pheasant. The hen lays from 60 to 100 eggs per annum, the eggs being rather small, very pointed at the end, and of a dark cream color. These eggs are of a beautiful flavor, and there is considerable demand for them in London, where we have often seen them exposed for sale in little baskets lined with green moss. Mr. Hewitt kindly adds a few remarks, which places their utility in what we must confess is to us a novel light, and which it may be well to "make a note of." He writes:—"As to Guinea fowls, if allowed to breed wild and become numerous, they will invariably displace all the pheasants in any covert they may take to, if not interfered with; and as when thus wild they will run before

dogs with all the pertinacity of the cornorake, they afford but little sport for the gun. It may be added, the flavor of the birds thus allowed unrestrained liberty is certainly improved, and more game-like than ordinary, becoming more like that of partridge than the pheasant. Although thus unsuitable for sport, it must be constantly borne in mind no birds are better house-guards, if allowed constantly to roost in high trees (which they will always do if they can) near the residence of their owners. It is with them as it is with Spanish geese—nothing can stir about in the night without their becoming aware of it; and they invariably give notice of it by their restless cries, so that "to be forewarned of danger is half the battle." Such were the remarks written to me by a friend long since dead, and who added:—"I am sure, Mr. Hewitt, in all these years I have rested safely, without any robbery, though our place is desolate enough to invite pilfering, well knowing my Spanish geese and the Guinea fowls were the best watch-dogs in the neighborhood; in fact, the dogs almost invariably give us only the second notice of coming danger—indeed, my impression certainly is, the dogs themselves as confidently rely on the geese and Guinea fowls as we ourselves do."

Cost of Potato Raising.

You have already published in the *Tribune* my mode of culture of the potato crop, for which premium was awarded. I am induced by Conrad Wilson's recent remarks to give the cost per bushel of two kinds, Brownell's Beauty and the Early Rose. They were raised side by side, both treated alike; the soil is the same, and the land cost \$200 per acre. First I will take one acre of the Rose, planted May 12, 1874:—

Interest on cost of land.....	\$14 00
Plowing and harrowing.....	4 00
Seed, 8 bushels.....	8 00
Marking out, cutting seed, and planting (2 days).....	3 00
Two days' cultivating (twice).....	5 00
Four days' hoeing (twice).....	6 00
Five days' digging.....	7 50
Two days' drawing in and storing.....	5 00
Compost of three bushels slaked lime (slaked with water), 1 bushel fine salt, 3 bushels wood ashes, mixed, and one handful put into each hill at planting—cost.....	4 50
Total.....	\$57 00

I harvested from this one acre 162 bushels by measure; cost of raising per bushel, 35 cents. No other fertilizer was used but the one named. The Brownell Beauty I planted about the 15th of May, on a little less than one-quarter of an acre by measure, and treated the same as the Rose—no difference except in the cost of the seed, but I will here call the cost the same. The Early Rose per acre cost \$49, aside from the seed, so one-quarter of this is \$12.25. Planted 88 pounds of the Beauty (say 1½ bushels), \$1.50, making an aggregate of \$13.75. Harvested from this quarter of an acre of Beauty 149 bushels of potatoes, at a cost of only 9½ cents per bushel, and with me it is a fine table potato. I also raised from one pound of the Beauty, planted separately, 621 pounds, and was beat by other competitors out of sight and hearing.

P. S.—I planted one pound of Peerless by the side of Beauty, cut the same, treated the same, and I only had from it a yield of 215 pounds. Some difference.—ALFRED ROSE, Yates Co., N. Y.

The expenses in the above account are put at the highest figure—more, indeed, than we Canadians would think right. This applies to almost every item in the account, as, for instance, in the interest on cost of land. We must, of course, make some allowance for differences between the value of our own "hard cash" and the depreciated notes of the States, and some for the difference in other expenses. But we would put the whole cost down at a figure under forty dollars. The yield of potatoes we consider very light. There must be something at fault when an acre of potatoes, cultivated and manured as Mr. R.'s has been, gives a yield of only 162 bushels. We would expect from it from 200 to 300 bushels—not less than 200.

This account, high as the expenses charged are, and light as has been the yield, prove that there is a good profit in potato culture. Mr. Rose must, from the price of potatoes throughout the year, have netted, at the very lowest calculation, one hundred per cent, on his potato farming.

Fire-side Selections.

The Price of Truth.

Great truths are dearly bought. The commonest truth, Such as men give and take from day to day, Comes in the common walks of daily life, Blown by the careless wind across our way.

Language of Flowers.

- Lily, of the valley, - Delicacy. Unconscious sweetness. Linden or Lime, - Conjugal love. Live Oak, - Liberty. Locust blossoms, - Elegance.

- Rosebud, white - Girlhood. Rose, Dog or wild - Simplicity. Let not this false world deceive you. Rose, red - Love.

small quill. This is tied securely to one of the feathers of the tail of the carrier pigeon, and the bird is let loose to find its way to its home in Paris.

Genius and Labor.

Alex. Hamilton once said to an intimate friend: - Mer give me some credit for genius. All the genius I have lies just in this, when I have a subject in hand, I study it profoundly.

Protect Your Eyesight.

Milton's blindness was the result of overwork and dyspepsia. One of the most eminent divines, having for some time been compelled to forego the pleasure of reading, spent thousands of dollars in value, and lost years of time in consequence of getting up several hours before sunrise and studying by an artificial light.

Letters via Pigeon Post.

Photography has a use, and a most important one it is: I allude to the pigeon post. During the late Franco-Prussian War, if a person desired to send a message to a friend in beleaguered Paris, from any place outside that city, he had only to take his message to the post, pay half a franc a word for it, and it goes in this wise tied to the tail of a pigeon.

HABIT. - "I trust everything under God," said Lord Broughman, "to habit, upon which, in all ages, the lawgiver as well as the schoolmaster, has mainly placed his reliance; habit, which makes everything easy, and casts all difficulties upon the deviation from a wonted course."

Uncle Tom's Department.

Bellevue Farm, Feb., 1875.

DEAR UNCLE TOM :-

I wish you a Happy New Year, and would like you to own me for a nephew. I am going to school now, and when I finish my learning I would like to go up to London and help you with your column. I am delighted when the ADVOCATE comes, and can read all the fine pieces you put in it. I was sorry to hear you had a hole in your pocket, but hope it is mended; if not, I could send you a needle and some thread; also a patch, if you would let me know the color.

The more I get acquainted with you the better I like you, as you are a man of good understanding, and willing to supply all your readers with what information you can. Now, I suppose you are aware our winters are very long and severe, and our summers consequently very short, in Quebec, so that we have not much time to till our land. We sow a few oats and buckwheat, and also plant a small patch of potatoes and beans; still we live very easy and comfortable, not having to work very hard. Now, I am told that you have to work very hard in Ontario to supply us with all the carloads of flour I see coming from time to time; also oats, corn, cheese, pork—in fact, everything we want. I think you must have a fine country in Ontario, as I am told your turnips grow so large you cannot pull them, but send a little boy up in the limbs to shake them down. Also, you grow a very fine berry—those called the pumpkin, which is preferred to the gooseberry for making fruit-cake; likewise preferable over the raspberry for feeding cows, as being more filling and fully as satisfying. I am told it resembles the orange family, and thrives well in the west, and that it is generally planted in the front yard, as a shade tree.

Now I must tell you about Mrs. —'s loss. She had a very fine cat, that died. Being a tortoise-shell and a great favorite, she had him buried in the garden, for the sake of enriching the soil. The carcass was laid right under the roots of a gooseberry bush, the fruit being up till then, of the smooth kind. But the next season's fruit after the cat was buried, the gooseberries were all hairy, and more remarkable, the caterpillars on the same bush were all of the same hairy description.

Melbourne, P. Q. JOHN FOWLER.

DEAR UNCLE TOM :-

I now write my first letter of 1875 to you, hoping it will be favorably received. How very nice the paper is this year. I think you will perhaps like this new kind of puzzle, as it is quite new to any in your paper.

Puzzles.

No. 14—VEGETABLE SEEDS.

(1) The farmer begins by turning the ground well over, and breaking it up with his spade, for of course there must be a nice bed for the seeds to lie in;

(2) Then he covers them over warm and close, so as to escape any frost that may be;

(3) And now, having planted two kinds, he proceeds with the third in its turn. I paid very little for this kind.

(4) I hope to be able to offer a dish of this kind soon.

(5) The gardener is planting some of this, but he gives them us tardily, as I shall plant some in the hot-house;

(6) And, though you may have acres sown, these plants will outstrip them all.

Pickering, Jan. 28. STELLA RENTON.

No. 15.—What two numbers multiplied together will produce 7?

No. 16.—What is the difference between twice 25 and twice 5 and 20?

No. 17.—Prove that seven is half of twelve.

ARCH. J. TAYLOR.

No. 18.—I am composed of five letters :-

I'm not on earth nor in the skies,
Yet by the rich I'm highly prized;
Cut off my head, and then you'll see
Among the nobles I will be;
Cut off my tail, my head replace;
And then a garden I will grace;
If you will my head and tail displace,
You then will find me near your face.

J. H. HOUSER.

No. 19—HIDDEN CITIES.

1. He will go away to-morrow.
2. At the sale my oxen went for fifty cents.
3. We will tar Susan's face and hands.
4. I saw Bob resting on a maple log.

WM. McDONALD.

No. 20.—Place the nine digits (that is, the several figures or numbers under 10) in three rows, in such a way that, adding them together, either up or down, across, or from corner to corner, they shall always make fifteen. This will afford much amusement to nephews and nieces.

Answers to February Number.

No. 8—Ebro, Rhine. No. 9—Kiev. No. 10—Bolton, Bolt, Blot, Lot, L. No. 11—Peru, Tunis, Alaska, Spain.

No. 12—LAMP SINS NEST
ARIA IDEA ELLA
MILL NEAR SLAM
PALL SARK TAME

No. 13—Page.

Answers received from Arch. J. Taylor, Glencoe; J. Swartz, Ottawa; Emma Smith, McGillivray; G. Raws, Warwick.

Correspondents sending us puzzles, &c., for insertion, will please give the answers with them, otherwise they cannot be inserted. This accounts for some of those sent us not being printed.

Wackup's Washing.

Mr. Wackup, a married man of Bridgeport, quit work early the other afternoon, and went home to fix up for the purpose of spending the evening—or rather half the night—with a number of his friends. He found his wife lying upon the lounge enjoying a sick-headache, but he couldn't find a clean shirt. Mrs. Wackup said his shirts were washed, but not ironed, and she was too ill to do it, and it was the girl's afternoon out. A shade of disappointment clouded his brow, and rushing into the kitchen, he slammed the door with much earnestness, and fortunately found an iron on the range nice and hot. Then he dived into the basket of dampened clothes, and found one of his shirts at the bottom, just as he expected.

He spread the garment out on a table, without first removing the oil-cloth cover, and hurriedly consulted his watch. Then he couldn't find the iron-holder, and substituted his pocket-handkerchief, and after burning four of his fingers and breaking one of the commandments, he landed the hot iron on his shirt bosom. He thought the garment had a strange look, but supposed it would assume its proper shape when ironed—and he shoved the iron up and down like a jack-plane. The labor seemed so easy that he mentally said he had a mind to follow the business for a living. Then he undertook to turn his shirt, and just because it adhered to the glazed table-cover he gave it a violent jerk, adding at least six inches more to the split in the back.

Then he noticed for the first time that he had set the hot iron on the tail of the garment, and scorched a hole in it as large as his hand; and in his haste to remove the smoothing-machine he neglected to use the holder, and dropped the hot fraud on his choice toe; and when Mrs. Wackup, who was startled by the intensity of his language, entered the kitchen, holding her head with both hands, she discovered her husband hopping about the room on one foot, and clasping the other with both his hands.

The sympathy that Mrs. Wackup tendered was not of a nature that her blistered husband yearned for just at that particular moment. She placed her arms akimbo and indignantly observed :-

"Ain't you ashamed of yourself, you old fool! Dancing the can-can around here, and your poor wife nearly dead, too! And"—here her eyes rested upon the wreck on the table—"and if the old idiot hasn't gone and ruined my best chemise! O the—the!"

Wackup didn't tarry to hear his infuriated better-half finish the sentence, but adroitly dodged the broom-handle and limped out of the room and up-stairs to bed, without his supper. The next morning he told his friends that the reason he failed to keep his engagement was, he was suddenly attacked with cholera-morbus at the supper-table, and liked to have died during the night.

HUMOROUS.

A TOAST.—Woman—the last and best of the series; if we may have her for a toast, we won't ask for any but-her.

There is a good reason why a little man should never marry a bouncing widow. He might be called the widow's mite.

POETRY FOREVER.—In France they call the baby farmers "angel makers," because the babies pass through their hands to heaven.

There is said to be a great similarity between a vain young lady and a confirmed drunkard, in that neither of them can never get enough of the glass.

"I hate anything that occupies more space than it is worth," says William Hazitt; "I hate to see a load of handboxes go along the street, and I hate to see a parcel of big words without anything in them."

A new method of saving paper has been invented out West by editors. They write their articles with stolen chalk on the soles of their boots, and go barefooted while the copy is setting up.

SEASONABLE.—"When the cold wind blows, take care of your nose that it doesn't get froze, and wrap up your toes in warm woollen hose." The above, we suppose, was written in prose, by some one who knows the effect of cold snows.

"Now, then," said a physician, cheerily, to a patient, "you have got along far enough to indulge in a little animal food, and—" "No you don't, doctor," interrupted the patient; "I've suffered enough on your gruel and slops, and I'd starve sooner than begin on hay and oats."

A Kansas lawyer used the word "disparagement" in his plea, and the judge told him that if he couldn't quit using Latin words he could sit down. The lawyer undertook to define his position, and was fined twenty dollars for contempt of court.

An individual at the races was staggering about the track with more liquor than he could carry. "Hallo, what's the matter now?" said a friend whom the inebriated man had run against. "Why—hic—why, the fact is, a lot of my friends have been betting liquor on the race to-day, and they have got me to hold the stakes."

A gentleman, while walking in his garden, caught his gardener asleep under a tree. He scolded him soundly for his laziness, and ended by telling him such a sluggard was not worthy to enjoy the light of the sun. "It was that reason exactly," said the gardener, "that I crept up into the shade."

The following is one of the best English epitaphs we have ever seen upon an insignificant fellow :-

"Poor John Gray! Below he lies,
Nobody laughs and nobody cries;
Where he's gone and how he fares,
Nobody knows and nobody cares."

1776-1875.

Dr. Franklin described the farmer's condition in 1776 as follows :-

"Farmer at the plow,
Wife milking cow;
Daughters spinning yarn,
Boys threshing in the barn—
All happy to a charm."

Another gives the account of 1875 :-

"The farmer gone to see a show,
His daughter at the piano;
Madam gaily dressed in satin—
All the boys are learning Latin,
With a mortgage on the farm."

"ARGUMENTUM AD HOMINEM."—A skeptical young collegian confronted an old Quaker with the statement that he did not believe in the Bible. Said the Quaker :-

"Does thee believe in France?"
"Yes, for, though I have not seen it, I have seen others that have; besides, there is plenty of corroborative proof that such a country does exist."

"Then thee will not believe anything thee or others has not seen?"

"No, to be sure I wont."

"Did thee ever see thy own brains?"

"No."

"Ever see anybody that did?"

"No."

"Does thee believe thee has any?"

Minnie May's Department.

MY DEAR NEPHEWS AND NIECES:—

I suppose you are all glad that hoary-headed old Winter has at last shown some disposition to leave us, and give his more welcome relative, Spring, a chance to pay her *devoirs*. No doubt there are some among you who will now have to throw aside their books and go out into the fields to assist in sowing the seed, and to such I would say, Perform the various tasks allotted to you cheerfully. Young folks should always cultivate habits of industry, and in after years, when they have grown up to be men and women, they will not be sorry that they learned to work while they were young.

As this is the Lenten season I will give you, along with a number of others, a recipe for

BAKED FISH.

Small fish, which are usually fried, because of the difficulty of cooking them in any other way, may be baked as follows:—Stew and strain canned tomatoes, and add an equal measure of fine wheat meal, bread crumbs, or enough to make it keep its shape when placed on a dish. They may be salted and seasoned with minced onion and thyme, or not, according to taste. Then lay it half an inch deep on pie plates, and in shapes to correspond with the size of the fish, and lay a fish well washed and cleaned on each, and bake in a moderate oven until tender. Serve with tomato sauce. This mixture of potatoes and bread crumbs can be used as stuffing for larger baked fish.

LIGHT TEA CAKE.

Beat the whites and yolks of two eggs separately; take two thirds of a cup of thick, sweet cream, a cup of sugar, half a teaspoon of salt; put in the yolks and whip these ingredients briskly; then sift in a rounded-up cup of flour in which has been stirred a teaspoonful of baking powder; add the whites of the eggs, and flavor to suit the taste.

CRANBERRY MARMALADE.

Sweet and insipid apples, and those which are past their prime and need to be cut up on account of decay, may be made very acceptable by stewing and mixing with stewed cranberries in the proportions, say, of one part cranberries and two parts apple. Not quite so much sugar will be required as for the cranberries alone, unless the apples are sour. Strain through a colander, mix evenly and serve at any meal.

BRINE FOR THE PRESERVATION OF BUTTER.

To three gallons of brine, strong enough to bear an egg, add a quarter of a pound of nice white sugar and one teaspoonful of sal petre. Boil the brine, and when it is cold strain carefully. Make your butter into rolls, and wrap each roll separately in a clean white muslin cloth, tying up with a string. Pack a large jar full, weight the butter down, and pour over the brine until it is submerged. This will keep really good butter perfectly sweet and fresh for a whole year. Be careful not to put ice upon butter that you wish to keep any length of time. In summer, when the heat will not admit of butter being made into rolls, pack closely in small jars, and, using the same brine, allow it to cover the butter to the depth of at least four inches. This excludes the air, and answers very nearly as well as the first method suggested.

CLOSING CRACKS IN STOVES.

It may be convenient to know a ready method of closing up cracks, which are not uncommon in cast iron stoves, and we are assured the following recipe is a valuable one: Good wood ashes are to be sifted through a fine sieve, to which is added the same quantity of clay, finely pulverized, together with a little salt. The mixture should be moistened with water enough to make a paste, and the crack of the stove filled with it. This cement does not peel off or break away, and assumes an extreme degree of hardness after being heated. The stove must be cool when the application is made. The same substance may be used in setting in the plates of a stove or in fitting stove pipes, serving to render all the joints perfectly tight.

TO CLEAN PAINT.

To clean paint, smear it over with whitening, mixed to the consistency of common paste in warm water. Rub the surface to be cleaned briskly, and wash off with pure cold water. Grease spots will thus be instantly removed, as well as other dirt, and the paint will remain brilliant and uninjured.

What's the Use?

What's the use of always fretting?
Over ills that can't be cured?
What's the use of finding fault with
What we know must be endured?
Does it make our burdens lighter?
If we grumble 'neath their load?
Does it make life's pathway smoother
If we fret about the road?
Better use our time, than fill it
Full of sighs and vain regrets
Over some imagined blunder -
As does he who always frets.

The Novelty Flower Stand.

The cut below represents the novelty flower stand. This is the most convenient stand we have yet seen. It is on castors, and can thus be easily moved in or out of a house, or to and from the window, and placed anywhere, either in the corner or in the centre of a room. The stands for the pots are made of cast iron, and nicely painted. They can be moved, independent of each other, to any position. We have one in our warehouse, which anyone can examine.



As soon as you have seen it, you will order one—if you want a flower stand—as it is the most convenient, the neatest and most durable stand made. It takes up less space for the number of pots it will hold than any other. Mr. W. Rennie, of Toronto, is the manufacturer, who can supply wholesale dealers that wish for them.

Whitening Linen.

According to a French writer, crystallized carbonate of soda, although so great a favorite with the washer-woman, is a declared foe to linen, since, notwithstanding its cleaning power, it attacks the fibre, and after a time makes it so rotten as to tear almost at the touch. An improvement on this substance, it is said, consist in the employment of a solution in the proportion of 2 lbs. of soap to 25 quarts of warm water, to which are to be added one tablespoonful of essence of turpentine, and three spoonfuls of ammonia. The mixture is to be stirred by the help of a little broom, and the linen immersed in it for several hours, the tub being completely covered. The articles are then to be washed in the ordinary way, rinsed in tepid water, and then bleached, if this is necessary. The same solution can be used twice over by heating again and adding half the amount given of essence of turpentine and ammonia. It is claimed that this process is accompanied by a great economy of time, labor and fuel, and that the linen experiences little or no injury, appearing finally in a condition of irreproachable whiteness. The ammonia, it is said, does not exert any corrosive effect upon the fibre, since it evaporates immediately; and the odor of the turpentine entirely disappears in drying.

Moths in Furniture.

Last year, a writer in a technical or scientific paper gave the following information, which is seasonable now. He says:—

There are two species of moths which infest furniture. One is a large fly of a silvery-white color; the worm of the same is shaped like a chestnut worm, and is familiarly known. It rarely infests furniture. The other is a small fly of a dark drab color; the worm is about one-fourth of an inch long, and tapering from the head to the tail. It was first observed by upholsterers about thirteen years ago. This fly penetrates a sofa or chair, generally between the back and seats of sofas, or under the seats, where the vacancy among the springs affords a safe retreat. It may make a lodgment in one week after the furniture is placed in the house. If such should be the case, in two months the worm will appear; and the continual process of procreation in a few months increases the number to thousands. This moth has no season. It destroys in winter and summer alike, and it is kept in active life by the constant heat of the house. We find at the same time, in the same pieces of furniture, the fly, the worm and the eggs; thus showing that they are breeding and destroying all the time. It does not eat pure curled hair, but fastens its cocoon to it, the elasticity of which prevents its being disturbed.

The inside of furniture is used by it only for the purpose of propagation. The worm, when ready for food, crawls out and destroys the covering, if of woollen or plush material; and falling to the carpet, destroys it. It rarely cuts through plush from the inside, as it is of cotton back, but there are instances where the worms have cut up muslin on the outside back of sofas. There is no protection against them but continual care. New furniture should be removed from the walls at least twice a week at this season of the year, and should be well whisked all around, and particularly under the seats, to prevent the fly from lodging. This is an effectual preventive, and the only one known. Cayenne pepper, Scotch snuff, camphor, turpentine, and all other remedies for protection from the large moth, are of little or no avail against the furniture moth. Saturate linen with alcohol will not destroy them when in a piece of furniture. If the furniture is infested, they may be removed by taking off the muslin from under the seats and off the outside ends and backs, where they congregate most, and exposing to the air as much as possible. Beat well with a whisk or the open hand, and kill all the flies and worms which show themselves. This done often will disturb them, and may make them leave the furniture, in their desire to be left in quiet.

In conclusion, the writer says:—To protect furniture during the summer months, use camphor in small bags or highly concentrated patchouli; but the safest way is to whisk the furniture twice a week. If the moths attack the carpet, spread a wet sheet over it and pass a hot flat iron over it quickly, and the steam will kill both worms and eggs.

The Care of Oil Cloths.

An oil-cloth requires careful treatment, and should never be scrubbed with a brush, but after first being swept with the long-handled hair brushes that are made for the purpose, it should be carefully washed with a large, soft cloth dipped in milk and water—half-and-half; or, if the milk is not obtainable, tepid water without soap. The latter ruins oil-cloth by taking off the brightness of the paint, and it never should be applied to it. Hot water is also very injurious to it; either of them—soap or hot water—being sure to injure the oil-cloth more than the wear of it. When washed over, wipe it off with a soft, dry cloth, and it will always retain a bright look. In purchasing an oil-cloth, it is very desirable to obtain one that has been made for several years, as the longer it has lain unwashed the better it will wear—the paint becoming harder and more durable. An oil-cloth made within the year is hardly worth buying, as the paint will be defaced in a short time.

A sheet of ordinary white blotting paper, which will tear by its own weight when wetted, is converted into a material having all the properties of a tough parchment, by merely dipping it for a few seconds into sulphuric acid. It is said that in Germany this artificial parchment is being extensively used for sausage-skins.

Horticulture.

Pruning.

Pruning fruit trees generally done in April, and in some there so much this. Before he himself what he the growth, put to thin out the February or very ter still, do it a ning of November fall. On no actually in the crowded. Often trees with their bare; stripped branch until the a branch would mammoth broom monuments of the that committed.

It has been pruning, is the truly too if it does not ruder generally judicious the growth and can be rubbed matured; a b nipped off or rest of the tree on, but its chief fact, that it tree is young; up from that sharp knife work a tree, and in ever should be.

Reckless pruning done in the are swelling engenders disease more trees die cause. Peach those who grow left unpruned order to cut frost; but it little pruning tends only to and the making principle reason here.

But so little not be out of reserve a list of them, until

Maintenance.

At the annual cultural Society of large orchards was discussed each year Trees grow gravely loaded Hooper said kept up, but secured for profitable way frequenting with orchards, good, A dress.

P. C. Ren Walworth

Horticultural Department.

Edited by Alex. Pontey.

Pruning Fruit Trees.

Pruning fruit trees, but principally apples, is generally done towards the end of this month, or in April, and in no other horticultural operation is there so much ignorance generally shown as in this. Before he begins, the operator ought to ask himself what he wants to prune for? If to check the growth, put it off until midsummer; if merely to thin out the top, prune either in the end of February or very early in March, or, perhaps better still, do it about the end of October or beginning of November, when the leaves commence to fall. On no account cut out a branch unless it is actually in the way, or unless the top is too crowded. Often we have seen orchards of large trees with their branches stretching out perfectly bare; stripped of every smaller or intervening branch until the extremity is about reached, where a branch would be left resembling somewhat a mammoth broom; standing mute though eloquent monuments of the incapacity of the man that committed the outrage upon them.

It has been said that thumb and finger pruning, is the best of all pruning; and truly too if it could always be done; it does not rudely disturb nature, it is generally judiciously done, it regulates the growth and form of the tree, a bud can be rubbed off where a branch is not matured; a branch when soft can be nipped off or pinched in to allow the rest of the tree to come forward and so on, but its chief recommendation lies in the fact, that it *must* be done when the tree is young; and if properly followed up from that stage nothing more than a sharp knife would ever be required about a tree, and in point of fact, nothing else ever should be.

Reckless pruning, which is most generally done in the spring, when the buds are swelling and the sap in full flow, engenders diseases of which perhaps more trees die than from any other cause. Peach trees are, however, by those who grow them largely, generally left unpruned until towards spring, in order to cut any wood injured by the frost; but it also should meet with as little pruning as possible then as it tends only to a more luxuriant growth and the making of too much wood, is the principle reason peaches do not succeed here.

But so little can be said this month that it will not be out of season to say in April, that we will reserve a list of seeds, etc., with some description of them, until that time.

Maintaining Fertility in Orchards.

At the annual meeting of the W. N. Y. Horticultural Society the question How can the fertility of large orchards be most economically maintained, was discussed at length. Oliver Chapin field plows each year four inches deep without cropping. Trees grow well but bear poorly. Soil, a good gravelly loam; principal variety; Baldwin. H. E. Hooper said the fertility of small orchards is easily kept up, but sufficient manure cannot readily be secured for 50 to 100 acres of trees. The only profitable old orchards are those that are in some way frequently manured. Top-dressing and mulching with manure is profitable to plowing for old orchards. While trees are young cultivation does good. After bearing begin to seed and top-dress.

P. C. Reynolds mentioned that Mr. Yeomans of Walworth has plowed under green crops with good

result. Mr. Green said we must keep the surface loose. E. Moody maintained that vegetable manures, including stable dung, are injurious. They increase the fungus and prey on an apple. He would apply mineral manure; it needs experiment to decide what. Ashes and lime are undoubtedly valuable. The leaves of trees will take carbonic acid from the atmosphere to supply the tree with carbon. Hence carbonaceous manures are not needed. Salt is an excellent fertilizer for apple trees, applied in small quantities. If an orchard is plowed yearly without cropping he believes its fertility is increased.

Mr. Hooper stated that isolated apple trees, standing near the barn where their roots get plenty of yard manure and their tops plenty of air, never fail to thrive. Mr. Moody mentioned that one trouble in growing apples is not lack of fertility, but the fruit does not grow fair. It is attacked by insects and fungus, and these need other remedies than manuring. V. Bogue, Albion, always has good crops of apples after plowing under green clover, also plows under buckwheat. This frequent cultivation destroys insects. Uses barn-yard manure once in six or seven years. Hens run in the orchard, and their droppings fertilize the soil. C. P. Avery of Grand Traverse, Mich., reported methods, in vogue there. The land is plowed without cropping, except buckwheat, which is turned under twice a year, the last time being late

ingly in Fall or early Winter, and never plow under. In contact with the roots stable manure may cause blight. Used as a top-dressing there is no danger.

Dr. Sylvester planted an apple orchard 33 years ago. Sold last year 3,000 barrels from less than 10 acres. Don't believe in large quantities of stable manure. Applies mixture of muck and gas-lime or muck and stable manure lightly as top-dressing every year. Does not wish to make a very vigorous growth of wood. We cannot afford to grow apple wood or pear wood, even at \$100 a cord. He is content if he gets three inches growth of wood a year. That gives enough fruit, and the trees remain healthy. Changes his manure prescription each year. This year it is six parts muck to one stable manure. Has 50 acres of muck on his farm—an inexhaustible store of fertility. W. B. Smith maintained that orchards on naturally good soil do not need much manure. Knows one which has produced well without manure 30 years. F. W. Lay made a hog yard in his orchard, and it increased in productiveness. Major H. T. Brooks, 20 years ago, planted an orchard on new land. It is still bearing finely. Ten years since he fenced off an acre as a long-yard, and trees where the hog droppings fell are twice the size of the others. —N. Y. Tribune.

Culture of Gladioli.

Deep digging and liberal manuring, are the chief elements of success. If the gladioli are employed to succeed liliiums, as they sometimes are, and the proper preparation of the ground cannot be made for fear of disturbing the other bulbs, a vigorous growth and long spikes of bloom may still be obtained, by a liberal use of liquid manures or sewerage during their growth. Under any circumstances a weekly application of either of these are useful in dry weather. To have gladioli throwing fine spikes, it is important at planting time to rub off every small offset at the base of the bulb, and to see that the bulbs are properly divided planted singly. For effect in lines of color they should also be carefully selected, and only those of uniform size and vigor employed. Care should likewise be taken to insert the bulbs at the same depth. If these points are attended to, the spikes will be ranged with the regularity of the rank of an army, in new and gorgeous uniforms, and few plants can equal them in effect either at a distance or close at hand. All inferior bulbs, and the offsets, ought to be grown by themselves, and under high culture they soon become large enough to occupy the more important position assigned to the picked bulbs. Many of the similar bulbs will also bloom well, and will furnish flowers and foliage enough for cutting for vases, &c. As to time, I have never tried its direct application to these bulbs, and would not recommend the experiment. But they grow well on the great chalk formation, with only a depth of from 18 inches to two feet of soil. The drier the bottom the more water they require when growing. They seem to suffer much from the two opposite extremes, an excess or scarcity of water. On well drained land, of a depth of from two to three feet, enriched with annual dressings of well rotted dung, and helped with frequent waterings of liquid manure during dry weather in summer, these splendid bulbs will flourish well, and add a new charm and a special enrichment to most of our gardens. —Gardener, Chron., Eng.

Oats.

The above engraving represents a head of White Tartary Oats, raised by Mr. Thos. Mason, of London Township, who has already disposed of a large portion of his crop to his neighbors, who have seen them growing. In Yorkshire they are claimed to be the best oat known. These oats were imported two years ago, and are clean and pure. They are offered at \$1.25 per bush. Address, Thos. Mason, Hyde Park, Ont.

Pure Black Tartary Oats, raised from seed imported two years ago, clean, pure and true to name. Price, \$1.00 per bush. To be shipped at London station. Address, Jno. Routledge, Hyde Park, Ont. Samples of these two varieties may be seen at our warehouses, where orders will be taken.



WHITE TARTARY OATS.

in the Fall. Trees are kept smooth, and the larva of the codling moth hides in the stems of buckwheat and is destroyed by late plowing. Bandages are also around the trunks to catch the moth. Apples grow very fair and free from worms. Soil mostly sandy and sandy loam.

President Berry remarked that large orchards must have manure just the same as small ones. Green crops are not sufficient. A farmer who plants 100 acres in orchard without knowing where to get manure is as unwise as one who should buy 1,000 sheep with nothing to feed them. Farmers must grow or feed more stock. This is the natural mode of getting manure, and he believes the best. He had known nurserymen to buy and feed sheep and cattle in Winter solely for manure. They thus receive pay for feed and labor, and make the manure extra. Farmers can do likewise. He practices drawing fresh stable manure every third or fourth year, and applies as top-dressing in Fall and early Winter. Using the manure fresh, it goes much further, and a very light application is sufficient. Pears should be manured with something lightly every Autumn. Coal ashes are good for a top-dressing; wood ashes and lime are excellent. The great object is to keep the surface light. In applying stable manure to pear trees, always use it spar-

Observations on Wintering Bees.

The *Last Western Rural* contained our opinions on the subject of wintering bees. An Ohio correspondent of the *American Bee Journal*, gives his experience in that direction. He says:

Last Fall I dug a cave, or outdoor cellar, 10x14 feet, and six deep. Through the centre was set a row of posts, and on these, and the dirt sides, rested a roof composed of poles, brush, hay and dirt. This roof was about two feet thick, and two ventilators 4x6 inches were inserted in it, one of which reached to the floor of the cave. The doorway was large, with loose inner and outer door, the intervening space filled with hay. In this cave, 30 stands of bees were wintered from the 22d and 24th of November to the 20th and 22d of March. During the winter, the temperature in the cave varied from 34 to 40 degrees.

Once a week we went into the cave to see that all was right, generally raising some or all of the hives to examine them. Five times, at intervals of about two weeks, fire was blift in the cave, and the temperature raised to fifty or sixty degrees for a short time. Twenty-six stocks were in the Quinby hive, covered with cotton cloth, well gummed down with propolis, and with rather tight, flat roofs. To these stocks no ventilation upward was given until January 13th, when considerable upward ventilation was given, as much moisture had collected. Plenty of ventilation was given the four box hives at all times. Following Burch's suggestions, some hives were raised, of boxes twelve inches from the shelf, some four inches and some were set flat on the shelves.

Now the results. No signs of disease appeared in any hive, but all were bright when set out. All wintered on honey gathered in August and September, and consumed from ten to fifteen pounds per hive. Out of thirty hives nearly three quarters of the bees died, but this loss was quite unevenly distributed. The box hives lost almost none, the strongest stocks in moveable combs next least, and the weak stacks most. Those hives raised on boxes lost more than those sitting directly on the shelves.

Harrowing Wheat in Spring.

Having harrowed my wheat fully, and half of it twice, and been hardly stared and wondered at for so doing, during the late drought, I may offer you a few of my facts and opinions thereon. I say my facts, because no one else in this section seems to have any of the kind, either facts or practice. I suppose all our maize, potatoes and most cereals and vegetable plants are enlarged and improved by cultivation. We appreciate fully the necessity as well as economy of cultivating maize after it is planted. Not to do so would seem strange and absurd. In England wheat is generally hoed once, and sometimes twice, and also harrowed; and light soils are rolled in March.

Now, if the annual maize or corn is benefited by hoeing or working the soil, why will not the annual wheat also receive benefit from stirring the soil, even if only an inch or so of the surface mould? It is as true of corn as of wheat, that if both receive a steady and constant supply of nutrition, they will grow daily till ripe for harvesting. If a shower of rain forms a crust on corn ground, and maize will not grow much if the crust be not broken, the same is true of wheat. To make either grow large and steadily, a full, steady supply of plant food is equally necessary. And it must be quite obvious that a full or regular supply of gaseous or other plant food is possible only when air and heat can freely enter the soil; for the decomposition of vegetable matter which supplies carbonic acid, is promoted by admitting heat to the soil. Mineral disintegrations result both from chemical affinity and the expansion of water in the fissures and among the joinings of mineral particles. Rain, in growing weather, carries much heat down into the soil; but if the surface be caked or crusted over, the rain runs off as surface water, instead of soaking regularly the surface mould, and carrying heat into it to form new compounds—gases and others—to feed the crops.

Again, when a soil is loose and mellow, so the air can penetrate freely, gases and various elements of plant food can be, and are formed by the heat diurnally entering the porous mould; and the mould being porous, gives facilities for these elements to ascend to leaves as gases, or descend to roots, according to their character and natural uses. But when a crust shuts out air, this rapid process of feeding plants is retarded or arrested, and the result is a light or unprofitable crop.

Certainly wheat, the standard of all food, as gold is the standard of exchangeable values, pays as well for being supplied with additional quantities of food, by reason of cultivating or stirring the soil after the crop is up and growing, as corn or beans or cabbage. I have harrowed five years out of seven, the other seasons being wet, and always with well paying results. Last year I had 21 bushels per acre, the average hereabout being not over 12. This season, where I have harrowed twice, the wheat is more even and better balanced than where I harrowed but once, and all is growing very rapidly, as fast as corn itself, or more so. I perceive no such rapid growth in the vicinity, except in a single instance where the ground was well manured—by a Dutchman—on land I used to own. Yet my soil is not rich, but a warm, light loam. The reasons my wheat is doing so well are—it was put in early, uniformly distributed over the surface, well covered, but quite lightly, on fall plowed ground, that was plowed in early enough to admit of chemical disintegration in the surface mould by heat and cognate agents, before cold weather arrested fermentation, when, of course, any but mechanical changes cease.

I may add a word here on the difference in results as between early and late fall plowing. Late plowed ground is changed or improved only mechanically, or by division and displacement, rendering abrasion and like causes. The change is only in form and size of the lumps and crumbs of mould.

On the other hand, early fall plowed ground is raised, divided and subdivided to a depth of several inches by alternate expansion and contraction, comparative heat and cold of day and night, while yet there are heat and moisture sufficient to insure chemical action and decomposition in the surface mould. Hence, early fall plowing is doubly beneficial, equally by new properties being chemically formed, as well as by mechanical subdivisions resulting from alternations of heat and cold. Harrowing wheat promotes both classes of results.

Seeding Down With Turnips.

A correspondent of the *New England Farmer* writes: I have made it a practice for some years of sowing flat turnips with my grass seed when I seed down in the fall, and with the best of results. I have now about two acres which were seeded in August, and notwithstanding the severe dry weather, I have a good catch of grass, and the turnips are doing well. The broad leaves of the turnip protect the young grass from the scorching rays of the sun, without which protection the grass would have been entirely dried up; as it was, I saved my grass and raised a few hundred bushels of turnips, and if as fortunate next summer, I shall cut about four tons of hay. On part of these two acres I had a crop of early potatoes, on the other a crop of oats before I seeded down. In the fall of '73 I raised a thousand bushels of turnips in the same manner. The turnip has a long root which penetrates the soil to a great depth, and what nutriment it takes from the soil is obtained at a depth to which the grass roots rarely penetrate, and through its broad leaves it obtains a large amount of its sustenance from the atmosphere. Hence, like clover, its tendency is to enrich rather than impoverish the soil.

Granges of Patrons of Husbandry Organized Since the Issue of the February Number of the Advocate.

- 81.—Kettleby: Calvin Davis, Master, Kettleby; C. Lloyd, Secretary.
85.—Forest Hill: Wm. A. Moore, Master, Yorkville; J. E. Hopkins, Secretary.
86.—Grange: A. A. Stewart, Master, Ailsa Craig; H. O'Neil, Secretary.
87.—Morecorn: W. H. Haldenby, Master, Kinlough; A. W. Haldenby, Secretary.
88.—Poplin: J. Goodfellow, Master, Branley; D. J. Hunter, Secretary.
89.—Cookstown: Thomas Duff, Master, Cookstown; C. Cooke, Secretary.
90.—Enniskillen: T. Dundas, Master, Petrolia; Robert Dawson, Secretary.
91.—Plympton Union: James Vanatter, Master, Forest; Sylv. Kenney, Secretary.
92.—Mount Pleasant: James Agnew, Master, Lucknow; Thomas Murray, Secretary.
93.—Glen Bell, Master, Brampton; David Lawrence, Secretary.

- 94.—Harmony: Wm. Spence, Master, Brampton; John Campbell, Secretary.
95.—Sherkstone: Fredk. Heckedox, Master, Sherkstone; J. M. Sherk, Secretary.
96.—Grange: Jacob Bowman, Master, Dundas; William D. Binkley, Secretary.
97.—Wanstead: A. G. Anderson, Master, Wyoming; J. E. Anderson, Secretary.
98.—Lorne: Arch. F. Campbell, Master, Belmont; Geo. McCallum, Secretary.
99.—Sheridan: Fred. Lawrence, Sheridan; R. F. Potard, Secretary.
100.—Farmer's Wreath: J. Lawart, Master, Lucknow; J. J. Taylor, Secretary.
101.—Sharon: Amos J. Hughes, Master, Sharon; C. E. Lundy, Secretary.
102.—North Ridge: John Noble, Master, North Ridge; C. W. Johnston, Secretary.

Potato Experiment.

H. L., of Grant County Indiana, writes to the *Cincinnati Gazette*:

"Planted, April 16, 1874; variety Early Rose; dug and gathered them partly in September, and partly in October; planted alternately; that is, two rows of large potatoes taken promiscuously, of what I would call merchantable potatoes; then two rows of small potatoes all under the merchantable size, down to as small as were worth picking up.

"I find the result to be in favor of the large to the extent of about two hills in fifty in merchantable potatoes; but even this quantity is made up in bulk of small ones. In quality there was merely a perceivable difference in favor of the large seed planted.

"But between choice selected seed, large and smooth, and small seed, I find in the product a much greater difference in favor of the selected, the difference being fully one-fourth in bulk of merchantable potatoes, and the quality very plainly better.

"In preparing the seed all was cut, as near as practicable, to two eyes to the piece, and two pieces dropped to the hill, the hills being about three feet apart. The whole patch is planted on soil ground.

"Just for an experiment I dropped three pieces each in a few hills, but the result was in favor of two pieces.

"On a piece of new ground, all planted with small seed, I raised as handsome potatoes as need be; but they were not all so; many of them were rough or knotty."

Proposed New Postal Law.

From the Government organ we learn that it is proposed to deliver papers and letters at the doors of citizens free of extra charge; also, that packages are to be sent for one cent per lb., but a monthly periodical weighing over one oz. must be charged one cent. Farmers! you have a right, and any further attempts to rob you of your right will not be readily submitted to by you. Your agricultural paper has done as much good for you as your political paper, and it should be delivered to you as cheaply as any political journal is to citizens. Every paper should pay alike, if the weight is the same. We do not want direct taxation to support citizen's literature. An equal charge to cover expenses, to be paid by the publisher, say half a cent, or a quarter of a cent, should be made on every paper. We, as farmers, do not want to be taxed for other's postage, but are willing to pay for our own mail matter as we receive it.

The Canadian Agricultural Emporium

As inquiries are increasing in regard to the stock in the above, we beg leave to state that it is not yet all taken up. Parties desiring stock may secure shares by sending us \$5.00. The shares are \$20.00 each. No person is liable beyond the number of shares subscribed for. Should any one that has sent in \$5.00 not have received a private circular regarding its progress and seed accounts, they should notify us at once. Bankers, Molsons Bank; Attorneys, Scatcherd & Meredith.

No other is given for usual time rye, oats, w four pounds generally, i a foot apart riantly, it is considered a this, though and Illinois drills, about acre. If br quired.

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Alsike and Alfalfa.

No other preparation of land is necessary than is given for other grass seeds. Sow alsike at the usual time of sowing red clover, in spring, with rye, oats, wheat or barley, at the rate of about four pounds to the acre. Alfalfa is sown alone generally, in northern experiments, in drills about a foot apart. In California where it thrives luxuriantly, it is often sown broadcast. It is generally considered that it will not do well so far north as this, though there are cases reported in Indiana and Illinois where it has grown finely. If sown in drills, about ten pounds of seed are required per acre. If broadcast eighteen or twenty will be required.

The American Newspaper Advertising Agency of Geo. P. Rowell & Co., New York is the only establishment of the kind in the United States which keeps itself persistently before the people by advertising in newspapers. They evidently receive their reward, for we have it from a reliable source that advertising orders issued by them for their customers have exceeded three thousand dollars a day since the commencement of the year, and this is not a very good year for advertising either.

N. B.—The expense in searching for grain and in purchasing, testing, and preparing it for you must add to the cost. The stock being only small therefore, to cover expenses we are obliged to charge a high price for it, and can only supply it in small quantities. We do not propose sending more than 100 lbs. to one person, perhaps our stock will not bear this; in case it should not, the small orders will be filled, and less quantity sent to those wishing it by the 100 pounds. We guarantee the crop if properly attended and the season favorable will give satisfaction to 9 out of every 10 of our subscribers that procure either variety, and that it will return 100 per cent profit to you. To claim our guarantee, you must follow our instruction, examine your grain closely, and should you see a black oat or a piece of barley pick it out. Go through your field twice before harvest and pull out any foreign grain that may be in it. Thus you will have a pure sample to supply us; and your neighbors.

The above applies to the Emporium Oats and Emporium wheat. Our subscribers will be first supplied. Farmers that have taken Stock in the Agricultural Emporium will participate in the profits or losses in the introduction of these new seeds, and will be informed of all particulars regarding the same. Grangers have examined testimonials and rates, and aided in fixing prices, and consider our statements and terms are right.

We have heard accounts and seen samples of wheat called the Golden Globe, the Mantony, the Jackson wheat; from some of which we hear good reports, and seen samples, but the mixtures of dangerous seeds prevent us from attempting to introduce them to our readers.

If any of our subscribers have more clean and pure Silver Hulled Buckwheat than they require, please send us a sample, state quantity, and price wanted.—W. W.

Also we want to procure Pea Vine Clover seed direct from a subscriber that has raised it.

On account of a dispute regarding the Red Fern Wheat, we will call it the Emporium Wheat; and as the oats, have no name we will also give them the name of the Emporium Oats; feeling quite justified in doing so, and believing they will do credit on the establishment.

Wheat Maure.

The *Delaware State Journal* says: "Wherever organic matter abounds in the soil, a free use of bones and potash will speedily restore it to its original fertility. In sandy soils organic matter in the form of peat, muck or leaf mold should be combined with the bones and potash. The finer the bones are ground in a raw state—that is, with steaming or burning—and ground very fine, and mixed with three times their weight of fine muck or peat or leaf mold, and kept moist for three weeks before being used, they will generate all the ammonia necessary to the rapid growth of wheat or other growing crops, without the addition of other substances."

Straw Feed.

At the New York Farmers' Club, M. George May Powell, of the Oriental Telegraph Corps, said that when in Syria last year, he was informed by some of the large farmers who are trying to introduce the improvements of the west in the Orient, that they found difficulty in using our threshing machines, because they only break instead of bruise the straw. As a result the cattle would eat only a portion of the straw thus threshed, while that threshed by the method in use in the land for centuries is entirely eaten up. While we are teaching much to the east, he said, may we not learn something there ourselves? Millions of tons of straw are annually burned up in the west. May not these facts lead to experiments in straw-feeding, which will turn part of this waste into millions of dollars worth of beef and mutton?

SIR,—Please find enclosed one dollar for the *ADVOCATE*, being my subscription for 1875. I assure you there is no paper or periodical more looked for, or read with greater relish, than the *FARMER'S ADVOCATE* with my boys, although not farmers.

Mr. Editor; I have an apple orchard planted on the side of a hill, fronting south-west, these thirteen or fourteen years. Trees from about 15 to 20 feet apart; the trees are about meeting at top. Many say I have them planted too thick; however, I differ with them, especially in the Northern country. I would like to hear what you would say about it, for the sake of others and myself.

I see it mentioned in the last number of the *ADVOCATE*, that to provide ants and put them among cabbage plants that they will destroy grubs &c. This might do, providing there was no apple trees in the garden. My opinion is, that ants are injurious to apple blossoms; for I have observed them run up the trees in hundreds, and probe into the very heart of the flower and my impression is, that they eat the germ of the apple or poison the flower, I always endeavor to banish them instead of encouraging them. Let us hear what your experience is concerning this on apple trees.

MATHEW B. COUCH.

Walkerton, Feb. 6th, 1875.]

There is great difference of opinion on the proper distance at which trees should be planted. Much depends on the kind of trees, as some trees from their greater growth, and their branches less upright than others, require greater space. 20 feet apart we do not think too great on the whole. We have not observed any injury to apple blossoms; if you have reason to believe that they are injurious of course banish them, as it is not a difficult matter; they preserve the young cabbages from the grubs, and having planted fruit trees, we should by all means protect them.

Mr. James Mair, Bridgetown. We have no knowledge from actual trial of the fall rye sown in spring; but we do know that it the hardiest cereal plants we have sown or seen sown in Canada; and from our knowledge of its great hardiness, rapidity of growth, forage and—yielding capacity we think, that it sown in spring, it is the best cereal plant for early soiling.

The other question we deter replying to, till we can give more definite information.

Tares and Mammoth Clover will be supplied at such prices, according to the market supply. We will not guarantee the Mammoth Clover, unless we can procure it direct from fens from growers, otherwise we shall supply it from the most reliable sources from which we can procure it.

Planting and Pruning Fruit Trees.

I am satisfied from much observation and reflection, that the system of planting and pruning fruit trees, vogue throughout the Northwest, and universally recommended by nurserymen, is altogether wrong. That system is substantially as follows: "Plant the trees a trifle lower than they stood in the nursery, and make the heads as low as possible."

I have examined carefully and critically the old orchards in Lafayette, Iowa, and Grant counties, orchards that have been planted from 15 to 30 years, and there is not a single orchard of them that is not now old and worn out. Every one of them was planted and pruned in accordance with the system named, and every one is a decided failure. There is not a single exception. Some have been taken care of better than others, and consequently are in somewhat better condition; but in the three countries there is not an orchard 25 years old, which pays a reasonable interest upon the ground it occupies.

We have learned from experience that only a few varieties of apples and other fruit will thrive, do well and bear well here. Why is it that they are so short lived? As the general rule, I think more care is taken of fruit trees here than in any other country I ever saw. The fruit, therefore, is not in the want of care, nor is it in the soil or climate; for we have demonstrated by patient experience, that some hardy varieties of fruit trees, for a time, will do well here; they ought to do well for a longer time. Why don't they? In our states and countries upon the same latitude and upon the isothermal line, apple trees live and bear well for 75 or 100 years. Why don't they do so here? Of course there is some good reasons for this state of things. What is it?

Let us commence with the top of the tree. Go into any old orchard in Southern Wisconsin or Northern Illinois and examine carefully the trees. In some varieties the tendency to make croches is very strong, and all croches are nuisances; in other varieties the tendency to make strong, upright bodies, with lateral limbs forming strong shoulders at the junction with the body, in some the tendency is to make low, and in others, high heads. Now in the whole section of the country there is not an apple tree 25 years old, with a croch, or a very low head that is good for anything but fuel. Not one! And in the old orchards croched and low-headed trees have invariably given out and died. On the contrary, trees with high, upright heads and free from croches, have survived and still bear tolerably well. This is the absolute rule pertaining to Northern Illinois and Southern Wisconsin, and there are no exceptions to it.

Experience is better than all theories, and it has demonstrated to the most thoughtful horticulturists in this section that we must always avoid croches, and make the tops of trees as remote from the ground as we possibly can. In my judgment, that theory is correct. In my opinion an apple tree should never be permitted to form branches less than seven or eight feet from the ground. Now as to planting the trees and the root. Judge McGonigal, of Lancaster, plants his grape vines at least 15 inches deep. I plant my fruit trees and grape roots just about the same depth. Rothius Scott has two orchards, containing 2,000 of the finest trees I ever saw in any country, and every one of them is planted at least 2 feet deep, and sometimes 2½ feet! Scott does not fill up the holes the first season; he covers the roots 7 or 8 inches deep. Late in the fall he fills in the holes, and takes out part of the dirt next spring; the hole is completely and finally filled for a year or two. Every season he cuts off with a sharp shovel all the lateral roots that have formed above those the trees had when it was planted, and pulls them out. His main object is to get the roots deeply covered and entirely out of the reach of climatic changes. So far as he can, he endeavors to make the roots take a downward direction. I don't think it is necessary to plant so deep, but I know it is right to plant a great deal deeper than we have been in the habit of planting. By deep planting we avoid mulching, and we protect the roots from drought, heat, frost and all other injurious climatic changes. And there is another important advantage gained by deep planting. The sap does not start so soon in the spring. I think the heavy clay subsoil we have in this part of the West is better for fruit trees than the light, friable, alluvial, prairie soil.

Get the roots down deep into the ground and get the tops removed as far as possible from the roots, thereby preventing too speedy connection between

them, and I believe we shall succeed in making fruit trees live here as long as they do in New York.]

The old system of low head and shallow planting is a failure; we must adopt some better one, and I think this system I have sketched is the true one.

The advice of J. H. C., given above, coming from a man of experience, is worthy of consideration. But if we are to profit by it, and plant deeper, we must prepare the ground to be planted. Planting deep in soil that has never had deep tillage would be sure to be followed with disappointment. The ground laid out for fruit raising should be cultivated and enriched to a good depth for some time previously. Somedig the holes deep and wide enough, it may be in ground naturally shallow, others never deepen by plough or spade, and in these plant the young trees, not thinking that the roots require good soil beneath and around, from which to draw their food. Such short sighted planters can never have healthy fruitful trees. There is great difference of opinion as to pruning of fruit trees; with low or high heads. Our experience is entirely in favor of the latter.—Ass.—Ed. F. A.

Prizes for getting one New Subscriber to the Advocate during this Month.

Your choice of either of the following varieties; 4 oz. Emporium Spring Wheat; 4 oz. Emporium Oats; ½ lb. Orchard Grass; 4 oz. Trifolium; ½ lb. Mummy Pea; 6 Col. Cheney Strawberry plants; 1 Downing Seedling Gooseberry; 1 Jancsville Grape vine, 1 Chromo Little Wanderer or Angling.

NOTICE.—All subscribers that have sent their dollar direct to this office as payment in advance for the FARMER'S ADVOCATE for the present year and send for \$1.25 worth of seeds, may have the seed sent for \$1, or if they send for \$10 worth, they may have them sent for \$9; thus securing their paper free. In claiming this offer they must say what date they sent their money, and give clear address.

This is only to apply to the first order, for the amount sent but not continued in that ratio, persons having sent in at club rates are not entitled to the above deduction, neither are persons in arrears entitled to it; nor persons that have previously received prizes or payment.

Treating Manure.

During the last twenty-five years the opinions of the intelligent farmers have changed considerably on the subject of the treatment of manure. Then it was generally believed that manure piled up to rot and decompose was a better investment than money at interest or wine in the process of ripening. Now the great majority of farmers believe that there is a great loss in storing manure and unless it is to be applied for the advantage of certain crops they prefer to be apply it to the soil in a green state.

Then it was thought necessary to keep a manure heap covered in order to prevent the escape of ammonia. Now it is believed that the noxious gas that is given off from manure is not ammonia in the main, but volatile substances of little value. An English chemist shows that it is chiefly sulphuretted hydrogen. Then the practice was to cover up the manure as soon as it was to be drawn out, and many farmers would allow the manure to be spread out only a little in advance of turning the furrows over it. Now there is a general preference shown to spread the manure broadcast, and letting it remain on the surface of the ground.

Twenty years ago manure was not hauled into the field till it was wanted for the use of a crop about to be planted, and was then placed in heaps from the cart or waggon. Now the practice is becoming general of hauling it into the field as it is made, and of scattering it broadcast directly from the waggon. The time in the year in which this is

done is deemed to be immaterial, but as more manure is made in the winter than in summer, or at least more in collection, it is hauled out at that time.

The following are some of the advantages of hauling out the manure in winter, soon after it is dropped. The air in and about the farm buildings is kept from being filled with foul odors: the barn and stable yard are more cleanly, the ground over which the manure is drawn, being frozen, is not injured by the wheels of a cart or waggon; large loads can be taken, and during much of the time a sled can be used instead of a waggon; the manure may be thrown direct into the waggon box, and the labor of once hauling it saved, the labor of both men and horses are of little value in the winter, as compared with summer.

Of course, manure should not be hauled in winter and placed on steep hill sides or in the vicinity of gullies where it would wash away, but in other situations it may be applied to good advantage. The liabilities to do injury are very small. If the weather is very cold and the ground is frozen the manure is frozen on the top of the ground. If the winter is an open one, however, the manure will become dissolved and pass into the soil where it is needed.—Chicago Times.

Wood Ashes as a Fertilizer.

This is one of the most valuable fertilizers within reach of the farmer. The unleached article has the more potash, but the leached is thought to be quite as valuable. In leaching they shrink a good deal, and lime is usually added, which increases their value. They are generally sold, too, at a less price. Ashes are well suited to all farm crops, and are very beneficial in the fruit and orchard. Most farmers still sell wood in the cities and villages, and, rather than go home empty, they should carry back ashes and other fertilizers to replace the potash, lime and phosphoric acid that have been carried off in the crops and animals sold. Ashes show immediate effect from their application, and at the same time last long in the soil. They are very highly appreciated in the onion growing districts, but may be applied with equal advantage to ordinary farm crops.

Crop and Market Report.

Throughout the grain-producing countries in Europe and America, the reports of the growing crops are favorable. To this date we have heard or seen no complaints of the fall wheat, no foretelling of light crops and high prices. The danger cannot yet be said to be entirely past; our fall wheat has still some trying weeks to pass through, but now, on the eve of March, the prospects are good.

FOREIGN GRAIN.

Berbohm's London cable of Feb. 10, 1875, reports the farmers' deliveries of home-grown wheat in the 150 towns in England and Wales for the week ended Feb. 6, 1875, at 50,000 to 55,000 qrs, and estimated in the Kingdom at 200,000 to 220,000 qrs; The imports of foreign were, for the same week, 120,000 to 125,000 qrs of wheat, and 70,000 to 75,000 brls of flour, and 90,000 to 95,000 qrs maize; the supply of wheat flour included for the week ended Feb. 6, 1875, was 391,875 to 363,750 qrs, against 400,000 qrs minimum and 423,000 qrs maximum average weekly consumption. The supply of corn for the week was 720,000 to 700,000 bush.

The German agricultural reports are unusually satisfactory. Extensive supplies of cereals are expected to be ready at Königsberg, Dantzig, and the Russian Baltic ports on the opening of navigation in the spring.

In France, Germany, Belgium, and Holland the market for cereals had, during the week ending Jan'y 18, 1875, been dull, and lower prices had been quite generally accepted. The English Provincial markets had quite generally been dull, and in many of them cheaper.

In France there have been so far no complaints of the growing crops; the inland markets had been well supplied with cereals, especially with wheat.

The weather in Germany, France, Belgium and Holland the third week in January had been exceedingly mild, and in Hungary wintry.

The Italian markets had been quiet, and prices of wheat are depressed in consequence of freer arrivals from the South of Russia.

At Odessa, on the 15th ult, sailing vessels continued fast in the ice; freights at 20s for small steamers, and 26s for large steamers per ton; weather had been cold, though at that date milder.

In Europe the weather continues mild, and with the prospect of an early opening of some of the foreign shipping ports; the

disposition to restrict purchases as much as possible in view of more advantageous markets later on, becomes more decided. At Mark Lane there has been no quotable decline in prices, but the tendency is in that direction; foreign wheats have met but little enquiry; flour continues difficult of sale; for English barley quotations are still weaker, and lower prices are occasionally taken to close sales; in the demand for peas, maize, and oats there is a falling off, with a decline in prices.

NEW YORK—Flour, \$3 60 to \$4 20; extra, \$4 60 to \$5 00; wheat per bushel, \$1 06 to \$1 11; No. 1 Spring, \$1 21 to \$1 24; New Western Red, \$1 25; Rye, 97c; Corn, 85c to 86c; Barley, \$1 55; Oats, 68c to 72c; Butter, 22c to 24c; Cheese, 10c to 16c.

CHICAGO—Wheat dull and declining; Corn in fair demand; Oats dull and drooping; Barley dull and nominal; Dressed Hogs, Pork and Lard in fair demand and lower.

LONDON, ONTARIO—Wheat, white, \$1 40 to \$1 60; red, \$1 40 to \$1 45; Spring, \$1 45 to \$1 53; Barley, \$1 50 to \$1 70; Oats, \$1 18; Corn, \$1 10 to \$1 14; Rye, \$1 10 to \$1 20; Keg Butter, 18c to 20c; Roll do, 20c to 25c; Cheese, 10c to 11c; Beef per 100 lbs., \$4 50 to \$6; Dressed Hogs, \$7 10 to \$7 75; Clover seed, \$4 80 to \$5; Hay, \$12 to \$14; Wool, 30c; Cordwood, \$3 50 to \$3 75.

Child's Reliable Seeds.

All the following are 5 cts. per packet, except those marked at higher rates; 13 of the 5 ct. packets mailed for \$1.

BEETS—Extra Early Bassano; Early Blood Turnip; Egyptian Blood Red, 10c.; Long Blood Red.

CABBAGE—Early York; Large York; Early Australian, 10c.; Early Sugar Loaf; Little Pixie; Large Early Schweinfurt, 10c.; Early Winningstadt; Drumhead, Large Late; Flat Dutch Drumhead; Robinson's Champion Drumhead; St. Denis Drumhead; Marblehead Mammoth Drumhead, 10c.; Fottler's Improved Brunswick Drumhead, 15c.; Red Dutch Pickling; Savoy, Green Globe; Savoy, Golden Globe, 10c.

CAULIFLOWER—Extra Early Paris, English seed, 10c.; Do, French seed, 20c.; Lenormand's Mammoth, 10c.; Walcheren, 10c.

CELERY—Boston Market, 10c.

CARROT—Early Scarlet Horn; French Intermediate; Improved Red Altringham.

CRESS OR PEPPERGRASS—Extra Curled.

CUCUMBER—Long Green; Early Frame; Boston Pickling; Short Green; Monarch, 10 cts.

LETTUCE—Drumhead or Malta; Early Curled Simpson; Neapolitan.

MELON (MUSK)—Large Yellow Cantaloupe; Skillman's Early Netted; Nutmeg.

MELON (WATER)—Mountain Sweet; Phinney's Early; Ice Cream; Citron, for preserves.

NASTURTIUM OR INDIAN CRESS.

ONION—Wethersfield Large Red, 10c.; Early Large Red, 10c.; Danver's Yellow, 10c.; White Portugal, 10c.; Early Paris Silver Skin; Large, Flat White Italian Tripoli, 10c.; Large Blood Red Italian Tripoli, 10c.

PARSLEY—Champion Moss Curled.

PARSNIP—Hollow-Crowned.

PEPPERS, OR CAPSICUM—Long Red; Cayenne or Chili.

RADISH—Scarlet Olive-Shaped; White Olive-Shaped; Red Turnip-Shaped; White Turnip-Shaped.

SALSIFY OR VEGETABLE OYSTER.

SPINACH—Prickly, or Winter Spinach; Round or Summer.

SQUASH—Early Yellow Bush; Early White Bush; Summer, or Canada Crook-Neck; Winter Crook-Neck; American Turban, 10c.; Hubbard; Marblehead; Mammoth Prize, 10c.

TOMATO—Large Red; Early Smooth Red; Early Dwarf Red, 25c.; General Grant, 10c.; Trophy, 10c.; Canada Victor, 10c.

AROMATIC, SWEET AND POT-HERBS—Majoran, sweet; Sage; Thyme, French.

KOHL-RABI—Large Green, \$1 per lb.; Large Purple, \$1.50 per lb.

RAPE—13c. per lb.

The above are a few of the kinds most required. For list see Catalogue.

G. J. CHILD, London.

Persons wishing for any of the above seeds, can have them sent with others or separately from the Agricultural Emporium.

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