

THE FARMER'S ADVOCATE.

"PERSEVERE AND SUCCEED."

VOL. X. { WILLIAM WELD,
Editor & Proprietor. }

LONDON, ONT., MAY, 1875.

{ \$1 Per Annum, Postage Prepaid. } NO. 5
{ Office—Dundas-St., Opp. City Hotel. }

Poultry Yard.

Dorkings.

We very often receive enquiring letters regarding our opinion about stock, and some of them ask which are the best kind of fowls for a farmer to keep? To such questions we invariably answer the dorking. Poultry fanciers may make more money by selling fancy stock from some of the other varieties, but for eggs, flesh, size, hardiness and general utility, we give the preference to the above named stock. The grey or colored dorkings are preferable to the white.

Sulphur for Fowls.

There is no remedy which is so easily and cheaply obtained, so harmless to the fowls, or so satisfactory in its results, as sulphur. It being in

the system of animals to a small degree, there is a greater affinity for it than there otherwise would be. It can be administered to the fowl by having it in a small box, so that they can help themselves, or by mixing it with their feed once a week, or as often as there are indications of vermin. Penetrating, as it does, to every part of the system, the parasites are quickly and surely destroyed. Also gripes are said to be prevented in chickens. Fowls need it more than most animals, their feathers containing between four and five per cent. of sulphur. Their eggs, also, have a small quantity, which is noticed by the discoloring of a silver spoon when it comes in contact with a boiled egg. Applied externally to the fowls when on the nest, to the nest itself, or mixed with the soil in the dusting box, it is equally efficacious in destroying vermin. To be used as a fumigator of buildings, it is necessary to remove the fowls, close the room or house, mix a little saltpetre with the sulphur in an iron vessel, and

apply a match to the mixture. This should be done in the morning, and the doors and windows opened in the afternoon for a thorough ventilation. Lard mixed with sulphur in proper proportions, and applied as often as it is necessary to the feathers on the neck and back of young and old turkeys, is a very good safeguard against the ravages of foxes.—*Poultry World.*

Lameness in Poultry.

GOUT, MEGRIMS, CRAMP AND PARALYSIS—CAUSES AND CURE.

To the Editor of the FARMER'S ADVOCATE.

SIR:—In answer to Mr. Sherlock, of Thamesford, asking for a remedy for the disease he complains his fowls are affected, I am afraid that gentleman has not sufficiently defined the symptoms, to form what the doctors call a proper diagnosis; however, I will give Mr. Sherlock, what from experience and observation and a respectable ac-

quaintance with writers on this subject will afford. Losing the use of the limbs of a fowl may rise from several causes. First, gout. This is generally found in old cocks, who have been highly fed and closely confined. It may be known by a hobbling gait, and a voracious appetite. Sulphur is highly recommended for this disease, but probably one of the surest remedies is to make soup, or serve him up in a stew.

Megrims.—This is a nervous affection, and causes contraction of the muscles of the legs, and would lead a person to believe it was simply cramp. However, there are other symptoms connected, which may easily distinguish it from mere cramp. The bird looks stupid, and walks in such an unsteady and staggering manner that you would imagine it was drunk. From the word *stagger* used by Mr. Sherlock, it is more than probable that this is what ails his fowls. Too full feeding and close confinement; in fact want of proper exercise

gravel, where they will have a free use of their limbs in sitting down, and correct the other causes in the same way; but in all cases give a strengthening diet, such as bread soaked in ale, or porter, some fresh meat, and oatmeal mixed with pepper corns pounded fine. Cayenne pepper and castor-oil are also great remedial agents, in case the birds are too much confined.

Paralysis may be another cause of lameness; it is more easily detected than from any other cause, and arises from this: At the extremity of the spine or back is a small gland, which, for the sake of brevity, we will call the rump gland. This often becomes inflamed and a tumor arises; and unless this matter gets vent, by being cut, it causes not only paralysis of the legs, but also of the spinal cord; or rather, the paralysis of the spinal cord, produces paralysis, or cramp in the legs.

The only cure for this is to cut the tumor and let out the glandular secretion, and the bird gets immediately well by a little care.

This is more sudden in its effects than *megrims*, although, some of the symptoms are similar—that is as far as dullness, stupidity and lameness are concerned, (in both cases the brain being affected,) but in the latter, not only are the legs disabled, but there is a drooping of the wings and curvature of the spine, caused by convulsions of the muscles.

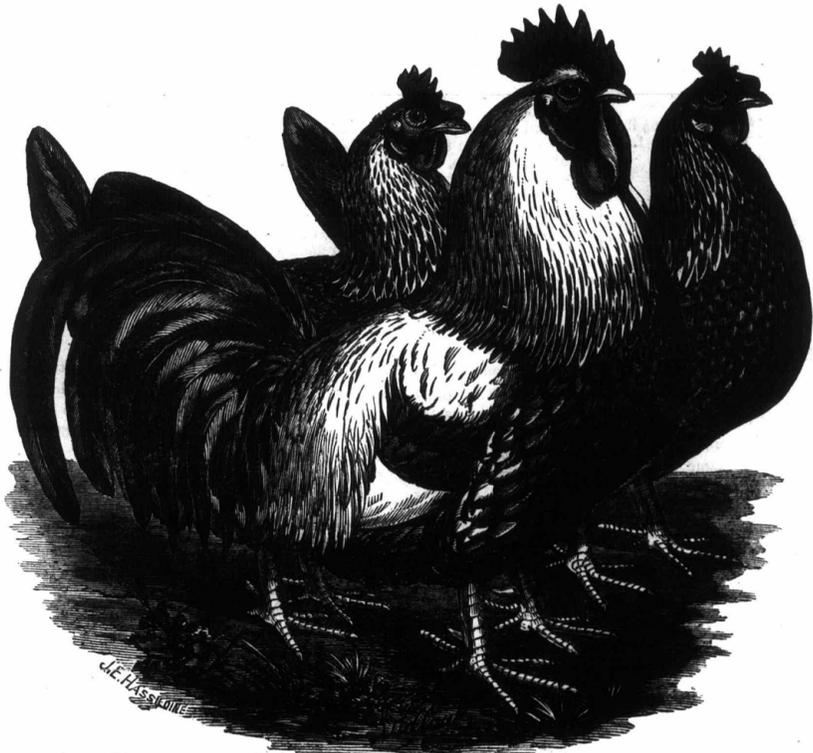
The bird sometimes dies almost instantaneously, being, apparently, quite well, showing no symptoms of lameness whatever, only a short twitch in walking. In other cases, they may linger for a number of days. However, one thing is sure, unless the obstruction spoken of is removed, no matter what medicine is given, death will ensue.

Hoping, if these remarks are worthy of your consideration, you will insert them in your valuable paper for the benefit of your readers,

I remain, yours truly,
Hyde Park, April 2nd, 1875. W. L. BROWN.

Medicine for Poultry.

In ordinary cases it will not pay to give medicine to sick fowls. The best course respecting poultry ailments is prevention. Try to secure such vigorous breeding stock and such complete sanitary conditions for all the birds at all ages, that illness will be rare. Then the strength of constitution will be such that any ordinary disease can be resisted without the use of medicine, if good nursing is given. What we mean by nursing is:—Place sick fowls in a dry, sunny place, out of the wind, and safe from disturbance. Then give them food easy of digestion, such as mush, potatoes and meat, every article cooked, and warm milk for drink. If, after all, they can't make out to live, say, "there are many birds, at any rate, not disease proof, that have been weeded out of my stock."



COLORED DORKINGS.

often causes this, but it is not the only one—breeding from relations is a predisposing cause. Flocks that are in-bred are more liable to all diseases than those which are perfectly crossed from strong, healthy birds. Castor-oil, either given directly, or mixed in soft food, is a good remedy, with warm, airy quarters. Sulphur in small pellets, or onions chopped fine in small quantities and mixed with the feed, is desirable; water in rusty vessels, producing a solution of iron, given to drink, will likewise aid in strengthening the blood.

Cramp in the Legs.—This resembles the last mentioned, as far as the use of the legs is concerned, without the silly look and staggering gait. This is mainly caused by cold and damp, poor feeding, sitting on stone or hard board floors, and, lastly, indigestion, caused by being too closely confined, or it may result from a combination of all these causes. If damp is the cause, remove them to dry, warm quarters. Should you have them on too hard a floor, put them on a floor of fine sand or

Prizes at the Grain Show in Charlottetown, P. E. I.

We are apt to boast in Ontario of our soil and climate, as being the Garden of the Dominion, and we are not without some grounds for our boasting. Our grain is good, as a rule, superior to that grown south of our borders; our wheat, oats and barley are plumper and heavier; in corn only is the yield of their fields greater than that of our's. If we had entertained the opinion that Ontario stands alone in the Dominion in this pre-eminence, the reports we receive from time to time of the quality and yield of grain in the other provinces, have undeceived us. We did not expect to meet with such returns from the maritime provinces as we have lately met with. As we read of the severe winter in the countries lying in or contiguous to the Gulf of St. Lawrence, we little thought that their wheat and oats (and they not of any improved varieties) would weigh respectively 64½ lbs. and 45 lbs.; yet so it is.

In our exchanges of Charlottetown, Prince Edward Island (the *Examiner* and the *Patriot*) we have the list of prizes at the Grain Show for Queen's County, on March 12th, from which we make the following extract:

WHEAT.—Best two bushels, 64½; 2nd best do, 64½; 3rd best do, 64½.

OATS.—Best two bushels (black), 45 lbs. per bush.; 2nd best do do, 44½ lbs.; 3rd best do do, 44 lbs. Best two bushels Norway, 40 lbs. Best two bushels white, 46½ lbs.; 2nd best do do, 45 lbs.

BARLEY.—Best two bushels two-rowed, 56½ lbs.; 2nd best do do, 54½ lbs. Best two bushels four-rowed, 53½ lbs.; 2nd best do do, 52½ lbs.

The prize grain was sold at auction.

WHEAT.—\$3 per bush.

OATS.—\$2.30 to \$2.75 for black; \$1 for Norway; \$1.10 to \$1.20 for white oats of first prize; \$1.10 for 2nd prize.

BARLEY.—Two-rowed, \$2; Four-rowed, \$1.10 to \$1.25.

Good prices for seed not of improved varieties! The islanders know that only from good seed can they hope to produce large yields and of good qualities. —S.

Change of Seed.

Our intelligent farmers do not require to be told that grain sown continuously in the same locality, or in similar soil, degenerates after a short time, and that we must change our seed in order to have good produce, and that of a good quality. Even if we could, without a change of seed, have a heavy crop, still to have that crop of a superior quality, the change of seed is necessary. We need not enquire why this is. Experience assures us of the fact. However, sometimes we have to be reminded frequently of the existence of the plainest facts. Some other things absorb our attention, and the additional trouble and expense to be incurred we sometimes plead to ourselves as a sufficient apology for not doing what we know to be for our ultimate profit.

We have noticed in one of our exchanges a letter from the well known and extensive millers, Messrs Gibbs, of Oshawa, a good authority on the quality of wheat, from which we take the following extracts:—

"We desire to avail ourselves of your columns for the purpose of calling the attention of the farmers and agricultural societies of this and adjoining counties to the consideration of some facts, which, as millers and produce dealers, have come under our observation since last harvest, and which we deem of sufficient importance to place before them.

"It is well known flour manufactured from Fife Wheat, grown in this county, has for years past obtained a reputation for its strength if not for its color, and where this grade of flour is in demand, it has been eagerly sought after at relatively high prices. This has enabled our farmers to realize and our millers to pay the highest prices in the Pro-

vince of Ontario for the Fife Wheat sold in this and the adjoining markets. The quality of this wheat has induced mills from other sections to compete for its purchase, and they have been enabled to supply the demand for strong flour better than by grinding wheat grown in other parts of the province. We regret to say that we can no longer claim this superiority for our Fife Wheat. If some remedy is not devised at once, and the wheat grown this year should not prove better than that of 1874, we fear our past reputation will be borne by more successful competitors in the race for producing a superior brand of strong spring wheat flour.

"Whether from climatic or other causes, the Fife Wheat grown last year in the northern portions of this county is superior, for the first time, to that grown in the south. We would urge our farmers not to grow Club Wheat, and would strongly recommend its disuse whenever practicable. The proportion grown is small, it is true, but has increased largely during the past two years; but even a small percentage mixed with Fife in grinding depreciates the character of the flour, and deters purchasers, even at reduced prices. In some portions of the country, dealers, last autumn, advertised in the Toronto dailies that this grade of wheat would only be bought at a reduction of five cents a bushel from the price of Fife Wheat. Even at this reduction, until the markets of the United States (where color is in more estimation than strength) are thrown open to our flour, few of our millers desire to purchase it if it could be avoided.

"Millers on the shore of Lake Ontario discovered last fall that flour produced from wheat grown in the Western States had displaced theirs in the Montreal market, excelling it not only in color, as it had always done, but also in strength, which it had never previously done. Not being practical agriculturists, we are not prepared to advance opinions as to what causes have produced the results referred to, and only now state them in the hope that, if possible, the subject may be taken up and a remedy applied. It may be that our Fife Wheat is degenerating in quality, and that the seed should be changed more frequently. Whether this is correct or not, the fact remains that the wheat grown in 1874 does not possess the quality of former years."

The Messrs. Gibbs, though not "practical agriculturists," have arrived at the conclusion that practical agriculturists have, we may say without exception, come to. The flour made from Fife Wheat was for many years of the highest quality, and, in part, at least, from the superior quality of this variety, Canadian flour obtained and held a high reputation. This wheat maintained its character for a long time, but that time has passed away, and the wheat from the Western States, hitherto inferior to that of Canada, is now a competitor with her in her own markets. Is it not time for us to ask why this change?

The estimated average of wheat per acre is low. It is given by the Bureau of Agriculture, 18½ bushels for fall wheat, and 16½ for spring wheat. To ensure a higher yield and to regain the reputation our wheat had borne, nothing is more absolutely necessary than selecting the very best seed to be procured. —S.

Sowing Grass Seeds in May.

REPLY TO INQUIRER.

How shall I sow grass seeds so as best to obtain a good growth and have a good pasture? Will May be too late for sowing the seed? May I expect a good return from barley or oats sown in that month, and will the young grass growing up among the late sown grain be apt to make the yield lighter or otherwise?

In sowing grasses, as in other farming pursuits, we must be guided greatly by experience. 'Tis true, even experience may inculcate lessons that will sometimes mislead us, and many professing to be guided by experience differ very much from one another in many operations of the farm. "Inquirer" need not be reminded that the grasses are generally sown in this country in the fall; September or October is preferred. When the ground is mellow and fresh, the seed sown is likely

to germinate better. If sown in the winter, the soil is not in so good order; however, sowing grass seeds on the snow is generally practiced. The freezing and thawing cover the seeds sufficiently, and the general continuance of sowing grass seeds in this manner is a strong argument in its favor. Were it unsuccessful it would be soon discontinued. The January thaw and the final thaw, generally accompanied by soft rains, are greatly in favor of the young, tender plants.

In the home country we generally sowed our grass seeds in spring, the latter part of March, throughout April, or early in May. We always sowed it when the soil was fresh and mellow. We sometimes sowed early in autumn, when laying down with a rape crop. But the climates of the two countries are so different that in this matter we must not take their practice as our guide. There the climate is damp—even their summer is often so; here we have to guard against the greater heat and drought. Notwithstanding this general drought, the probabilities are in favor of grass seeds sown not later than the first week in May.

The ground must be in good condition, fine and mellow, and while it is fresh, immediately after the harrowing in of the grain crop, sow the grass seeds, covering lightly by harrowing with a bush-harrow and then rolling. It is of the greatest importance to sow seed when the ground is fresh, still damp from the previous tilling. This moisture is the greatest help to the germination of the seed. The soil should not only be moist, it should be rich. Grass seeds cannot do well in an impoverished soil.

The young grasses and clover plants will not cause the grain crop to be lighter. On the contrary, their shading the ground will have the effect of keeping the ground moister than it would be otherwise, and by this means the grain crop will be less affected by the drought, and the kernels will be plumper and better filled, and there will be a heavier yield.

Grasses do better sowed with barley than oats; barley does not lodge so much, so the young plants are not so apt to be smothered, and barley is the least-scouring of all the cereals. —S.

What Preparation Shall We Make for Winter Food for Our Stock?

This question is a very important one. The answer must depend somewhat on locality, but it is one on which the farmer must come to some decision, and now, on the eve of May, there is no longer time for hesitation. We have learned that to bring our stock well through the winter, we must have not only a sufficient supply of dry fodder, but it is necessary to have a store of more succulent food provided for the long, hard months when cattle are dependent for their whole support on the farmer's provident care. For young, growing stock roots are as valuable as for milch cows or stock preparing for the shambles. And not only for our horned stock is it necessary to have roots for the winter. We need them for all the stock of the farm. Sheep require roots in winter; they form a valuable addition to the feed of our horses, good for their condition and health. And they add no little to the means of increasing our profits from the piggery.

What preparation, then, shall we make for winter food for our stock? What roots shall we raise? The great root crop—in many instances the only one—that we have raised for our stock is turnips, though we have not raised them as much as we ought. With us it has been comparatively a plant of recent introduction. We have had too much to do in clearing our farms, in bringing them into cultivation, and in growing such crops as would bring immediate and certain returns, to be

trying what might seem to be the best conditions in agriculture. heart, and the improvement present themselves to us as we have since found besides, another object of expense in stock feeding and mutton were sold at butter at 10 to 12 cents a case; we have now better, and our stock is stowed on it. We root crops.

Shall we continue to staple of our root crop most exclusively, and as we have done? Its great value. We yields so much good labor. It has been felt on the farm. In England which agriculture has state of excellence; and fitted by it even in the it a very uncertain crop many obstacles to continuing sowing there may be a not altogether prevent if it escape this danger destroyed by the dreaded drought and may prevent the crop one. Of this we had In the crop returns for the Commissioner of 4 turn given is one of 70 portionable number are The report, not a solid places almost a failure, sects"—tells us of the crop. Still we cannot uncertainty. There place in every respect, nip must be a partial

Mangolds and Kohl for winter feed—both keepers. Of the gro we have had many years equal to the turnip feed cows it is better, produced and not communicative. With grain added, it fattening hogs. Much owing to its saccharine very rich. We have to fail as the turnip, and in the drills, they can from spots where the Mangolds and beets be The returns of the year cultural Reports are those of the turnip crop (S. Grey) reports an quality very good," a crops. Would it not to consideration, to so golds?

Carrots should also quantities, as part of especially, they are not; and they are not serve to keep in good food they form a part for oats, but when carrots used is less, and with high spirits, his pearance that indicat

trying what might seem to some uncertain speculations in agriculture. The land was still in good heart, and the improvements in agriculture did not present themselves to us as so absolutely necessary as we have since found them to be. There was, besides, another objection to our going to any great expense in stock feeding—it did not pay. Beef and mutton were sold at 3 to 5 cents per pound, butter at 10 to 12 cents. This is no longer the case; we have now better markets and higher prices, and our stock is paying for all the care bestowed on it. We have learned the value of root crops.

Shall we continue to raise the turnip as the main staple of our root crops? We have raised it almost exclusively, and shall we continue to raise it as we have done? There can be no question as to its great value. We know of no other root that yields so much good meat-producing return for our labor. It has been fed profitably to all the stock on the farm. In England it has been the means by which agriculture has been brought to its present state of excellence; and farming has largely profited by it even in the New World. But we find it a very uncertain crop. In growing it we have many obstacles to contend against. At the time of sowing there may be a drought that will retard, if not altogether prevent the germination of the seed; if it escape this danger, the tender leaf is liable to be destroyed by the fly; if it escapes the first dreaded drought and the fly, still a later drought may prevent the crop being more than a very light one. Of this we had experience the past season. In the crop returns for Ontario, in the Report of the Commissioner of Agriculture, the highest return given is one of 700 bushels, while a large proportionable number are under 500, some under 200. The report, not a solitary one—"turnips in most places almost a failure, owing to drought and insects"—tells us of the uncertainty of the turnip crop. Still we cannot dispense with it, with all its uncertainty. There is no other root to take its place in every respect. Our substitute for the turnip must be a partial one.

Mangolds and Kohl Rabi are both valuable crops for winter feed—both heavy producers and long keepers. Of the growth and use of the mangold, we have had many years' experience. It is not equal to the turnip for fattening, but for dairy cows it is better, producing a greater yield of milk and not communicating to it an unpleasant flavor. With grain added, it is a good food for growing or fattening hogs. Much of its utility for feeding is owing to its saccharine properties, in which it is very rich. We have never found it to be as liable to fail as the turnip, and if there be blank patches in the drills, they can be filled by transplanting from spots where the plants may be too thick. Mangolds and beets bear transplanting very well. The returns of the yield of mangolds in the Agricultural Reports are much more favorable than those of the turnip crop. One electoral division (S. Grey) reports an average of "1000 bushels, quality very good," and many others report good crops. Would it not be well, taking all things into consideration, to sow less turnips and more mangolds?

Carrots should also be grown, at least in small quantities, as part of our farm crops. For horses, especially, they are excellent food in small quantities; and they are not only good food, they also serve to keep in good health the horses, of whose food they form a part. They are not a substitute for oats, but when carrots are fed the quantity of oats used is less, and the horse is in better health, with high spirits, his coat having that glossy appearance that indicates perfect health and vigor.

—S.

Is there a Profit from the Potato Crop?

This is a question still unanswered, if we are to judge from the frequency of its repetition and the contradictory replies given. We would otherwise think there could exist no difference of opinion on the subject. The fact is that the potato crop is a very remunerative one, if properly planted and attended to. (In considering the subject we do not take into account the seasons, fortunately very rare with us, when potatoes are affected with the disease.) The potato crop is attended with loss to the grower if it be a very light one, but from experience of many years in potato culture, we have no doubt the farmer has it in his own hands to grow a large, profitable crop. From some of our correspondents we have reports of very large yields of potatoes that they have raised, and we know that such crops can be and have been raised.

The past season the crop has generally been much lighter than usual. The drought, and, in some instances, the potato beetle, have prevented as good a produce as we generally have. Such is the general complaint. In no less than thirteen electoral districts the Report of the Commissioner of Agriculture for Ontario gives returns under one hundred bushels. With such a poor yield we would be inclined to say—Why attempt farming at all if such is to be the return? Such yields—such farming cannot pay. It must be a losing business. But much better can be accomplished. It is not, we believe, impossible to raise four times the yield here given.

From the Riding of North Wellington we have the return of an average of two hundred bushels; from two divisions—E. Middlesex and S. Huron the average returns of one hundred and eighty bushels each. Where there is an average of two hundred, there must be, doubtless, individual returns of far higher yields, as the low returns from some portions reduces the average proportionably. Though a higher average than the highest given is attainable, still two hundred bushels is a good return, and were other divisions to make similar returns, we would have few complaining that potato culture does not pay.

In the report of the potato crops raised in competition for the prizes offered by Messrs. Bliss, the returns are very large, especially of the produce from one pound. Of Early Vermont 1 lb. produced 708 lbs.; of Compton's Surprise, 1 lb. produced 900 lbs.; of Brownell's Beauty, 1 lb. produced 1018 lbs.

In competing for the prize offered for the largest produce of Early Vermont, Compton's Surprise and Brownell's Beauty, on a quarter acre of ground, the largest yields were respectively 416, 490, and 593 bushels per acre. We note that the manure used was, in most instances, well rotted farm-yard manure, and afterward, at the time of cultivation, a fertilizer composed of ashes, soot, salt and sulphur. In preparing for the crop, the ground, where not new, was plowed deep, in some instances eight or ten inches, and in one case twelve inches in depth.

In considering this question—Is there a profit?—our reply in the affirmative is based not so much on the very high prices of potatoes this season, as on the produce the farmer can raise from a given area of ground. A large yield of potatoes must pay well, even if fed to stock. This the writer can say from his own experience, having fed farm stock largely on potatoes, and proved that there is a good profit in feeding them to pigs, horses and horned stock. For cows giving milk in winter they are an excellent food. The prices for which they have been sold these few years leave a good profit to the grower, and even a medium crop at a medium price will do so; while better crops—say

one hundred and twenty bags at ninety cents to one dollar per bag pay as very few crops on the farm do.

A potato crop, as well as any other root crop, is a good preparation for a grain crop, to be followed by clover and grass seeds. This is a gain not to be overlooked in considering the profits of root crops. By their aid we are able in a great measure to dispense with the naked summer fallow, keeping our ground, meanwhile, clean and in good tilth. —S.

Crop Returns for the Year 1874.

We are enabled now, in our May number, to review the Annual Report of the Commissioner of Agriculture for the year 1874, having received it only in April. The Report says:

"The average of fall wheat was considerably under that of last year, owing not so much to the drought as to the absence of snow and the unusually severe frosts in the spring. Large breadths of land sown to wheat were plowed up, and devoted to spring grain. In many places where the crop was allowed to stand, patches of fields could be seen in which the grain almost died out, and was succeeded by weeds, and in this way the yield of fall wheat became seriously injured. It is noteworthy that the drier, and consequently higher portions of fields escaped injury more or less from spring frosts, while in the lower portions, where the soil was generally deeper and wetter, the crop was greatly injured, and, in not a few instances, absolutely destroyed. The facts clearly indicate the necessity and advantages of underdraining, which secures warmer and more uniform temperature of the soil, and in a great measure averts the disastrous effects of the frost in throwing it out."

The returns that we published some months since in the *ADVOCATE*, compiled mainly from the Report of the Harvest of the G. T. R. officials, was so full and embraced such an extent of country, that it is unnecessary now to give another full report. Hence we will give a brief synopsis, with very few remarks.

Of fall wheat there are 43 returns. The average is 18½ bushels, being an average of 3¼ bushels less than in 1873; ¾ bushel greater than in 1872.

Spring wheat, 16½ bushels, being 1 bushel greater than that of 1873; 2½ less than 1872.

Oats, 38½ bushels, less by 1½ bushels than in 1873; greater by 5¼ than in 1872.

Barley, 30½ bushels; greater by 2½ bushels than in 1873; greater by 2½ bushels than in 1872.

Rye averaged 17½ bushels.

Peas, 24½ bushels.

The highest return of fall wheat is from West Hastings, averaging for the Division 30 bushels; there are two returns of 22 bushels from East Hastings and East Elgin—there are 17 returns of 20 bushels; 12 returns less than 20, but not less than 15; the other returns are some under 15, some no average stated.

How the average returns are affected by the light yield of some crops of inferior farms, may be seen in many cases, as, for instance, in South Huron. Some time ago we had, sent to us by the Secretary of that Agricultural Society, a report prepared by him with considerable care. In it it is stated—"where fall wheat was not winter-killed, it was an excellent crop, both as to quantity and quality. Instances were not unusual of a yield of from 35 to 40 bushels to the acre; but winter-killing is a great drawback, and, to all appearance, is likely to continue, and perhaps get worse, owing, no doubt, to the fact of the country being too much divested of timber." Now, in the Annual Report, the return for S. Huron is thus given: "Fall wheat, 16 bushels."

ROOT CROPS.

Potatoes—Generally a light crop, owing in a great measure to the great drought of the season. There are 11 returns of an average under 100 bush. per acre; 17 returns of 100 and over, but under 150; 9 returns of from 150 to 200.

Turnips—19 returns under 500 bushels; from 500 to 700 there are 7 returns.

Mangolds—9 returns under 500 bushels. Of the returns over 500 there is one average of 1000.

Flax Culture—Oil Cake.

Flax is little grown in this country. The high price of labor and the difficulty of preparing it properly for the market have prevented its more general introduction as a crop, and taking its place in the rotation of the farm. Having grown it for many years, the writer can speak of his own knowledge of the profits of a flax crop, having found it leaving a greater net profit than almost any other farm crop, though the expenses are heavier. We see the average yield returned here is 2½ tons, a very low average. The return of the average of any crop is necessarily low, the very light yield in some instances always reducing the better crops to a low average; but, judging from past experience, we would say that a produce of 2½ tons of flax per acre is to us a surprisingly low average. Even with such a yield a crop of flax will pay a good profit at \$12 per ton, the price for which it is sold. With good tillage, a yield of not less than four tons can be easily raised under ordinary circumstances.

But the great profit for which we would desire to see this crop more generally grown is not that realized from the price received for the fibre. It is the farmer's profit from the oil cake prepared from the seed. Not only is oil cake the best food for fattening stock that is known to stock feeders; the richness of the manure from cattle fed partly on oil cake makes it more valuable and more highly prized than any other farm-yard manure. Flax is, it is true, a scouring crop, but this is more than compensated for by the intrinsic value of the oil cake as a food and as a fertilizer. It should occupy the field at intervals of not less than five years. It requires a fertile soil, well cultivated and free from weeds. Some farmers prefer sowing it succeeding the root crop, when the soil, being in good tilth, fertile and clean, requires less preparation for it; but it is objected to this place in the rotation that the fibre is not so fine as if sowed on oat or barley stubble, fall and spring fallowed. It is a very good crop to sow clover and grass seeds with, as it does not smother their tender plants as other crops may sometimes do, and as the soil is so well prepared for the reception of the seed. The crop being removed from the ground early, the grasses have the whole autumn to have a good hold taken of the soil and be strong before the winter storms.

We see, then, that the profit of the crop itself is to be calculated from three items, to wit, the fibre, the oil prepared from the seed, and the oil cake—the refuse of the flax seed after the oil has been expressed. —S.

New Seeds.

The principal cereals that we have disseminated this year have been the Red Fern or Golden Wheat and the Australian Oats. We call them both Emporium grain, as the Emporium is the establishment through which they are introduced to the public. The same wheat may be found in some other parts of Canada or the States, but as yet we cannot find any that know about it. We never, to our recollection, remember seeing any of the same kind.

One great reason why we should give these cereals a name was because neither the oats nor the wheat were found clean enough or pure enough to send out as seed, and neither had any name by which they were known. It is possible and probable that the oats may not be a new variety, as they appear something like the Poland oats; should they prove to be of that variety, the very change of seed from that country to this would most probably make a marked difference in the yield and quality.

There are some who complain about the price charged. We have expended more than any other person in Canada to try to obtain new varieties of seed. Our trip to France and England, and to the States, cost money; we paid one agent between \$60 and \$70 to select the best oats and wheat for us, but even then we were compelled to condemn one shipment as unfit for seed, it being a foul and dangerous mixture that neither the mill nor even hand picking would render safe to send to you. As it is, your grain has been put through three mills and hand picked—that is, the Emporium stock. The other grain could be sent out at cheaper rates. Even now, in the wheat there are some grains that we think foreign to it.

We have now disseminated both varieties over a very large extent of the Dominion, and feel confident that we have been doing a good service to the country.

Patrons of Husbandry.

In this number of the FARMER'S ADVOCATE we give a complete list of the Granges organized since the date of the list we were able to give in a former number. We were not able to give a list in our last number, as we had not received the report in time, but the list now given completes the roll up to the date of our writing. The returns bear unmistakable testimony to the increasing strength of the Order. The reports from all parts of Ontario and Quebec are favorable and encouraging, and in some of the other provinces farmers are, we learn, anxious to unite in the good work.

We hope good will be the result of the organization. To effect this we have ere now thought it well to make remarks such as we thought would lead to an examination of the subject in its different aspects. This journal has been, since first issued, an advocate of the farmer's interests, and in the pursuit of this object we have always courted free discussion on every point bearing upon their welfare; and our course has been independent, a character we are desirous still to maintain. We have repeatedly pointed out the advantages that we expect will be derived from the organization, though on some minor points our opinions may have been different from those of others. Social intercourse and suggestions and plans for general improvement in many things and in various ways we deem will be very beneficial. All that can be accomplished for a thorough agricultural education, and for the happiness of farmers and their families, should be taught and inculcated in the Grange room.

We deem the best way to do good to our Order and to the country is to report the plans and designs of the Order, as well as essays read in the Grange room or Agricultural Club. We shall always have space in our columns for such essays or debates as are really of general good, but we do not wish to publish or copy addresses, essays or doings of Granges which have been furnished to the general political journals of the country.

The Patrons of Husbandry in this neighborhood (we believe of this Division) are to celebrate the anniversary of the organization of the Dominion Order by holding a picnic at Port Stanley. The particular details we have not yet learned. Other picnics will be held, but we cannot give the dates.

To Subscribers.

Received, during April, a letter from Belleville, with money in it, but no name and unregistered. Who is the subscriber? Please state date of posting and any other circumstances to point to identity.

Upland Cranberries.

It is not generally known that upland cranberries have been successfully grown on the sandy loam plains of Long Island for several years past. The only cause of failure to produce profitable crops has arisen from the fact that they have attempted to mat the vines the same as on low land. This is all wrong; not because they won't mat, but because they cannot be cultivated when matted. The result is that in a severe drought the ground bakes, and the berry-worm destroys the berries on the same principle that lice get on cattle when they get poor. Cranberries on upland must be set in drills, three to four feet apart one way and one foot the other, and the ground kept clean by cultivators or else mulched with meadow hay, straw, or any other material that is handy. Cut off the runners the same as with strawberries, and let them thicken up in the drills, say a foot wide. They need no manure to produce the best results. Manure will make the vines grow rank, but will not produce so many berries. New land is preferable to old. There is no trouble to make them yield one bushel to a square rod. It has been done often here.

The advantages of upland cranberry culture are: 1. It does not cost one-quarter as much to improve the land as swamp, nor to keep them clean afterwards. 2. The berries being much darker, bring one-quarter more per bushel. 3. The vines not being matted, the berries can be raked instead of picked, thus saving certainly three-quarters in this item.

The time to set is about corn-planting, although they will live and grow set out any time when the ground is not frozen. Vines can be sent by mail or express any distance in cool weather. Cranberries are profitable because they take no manure and always have a sure market. A. J. H.

[The above article by a correspondent of the *German town Telegraph* may lead some of our enterprising farmers to consider the policy of experimenting in cranberry culture. There is nothing to prevent our success in it here more than in the Northern States. They that have engaged in it there have found it one of the most profitable branches of farm husbandry. Marsh cranberry culture is more practised than the growing of them on dry land, but both have proved to be very remunerative. The farmer who diversifies his agriculture, instead of confining himself to the old beaten track, has the best prospects of success in his profession. If one crop give a light yield, or the prices for one or more of his products of the farm be low, as will sometimes occur, he is not dependent on that light crop or those unremunerative products, as in the past season, wheat in some instances did not pay the cost of its cultivation, but the farmer that had a good field of barley or a herd of good milch cows did not feel so much the loss from the low prices in the wheat market. We would wish to see the culture of the cranberry introduced into different parts of the country—on a small scale at first. The shrub is indigenous to the country, so both soil and climate are favorable to its growth. Canadian farmers who have already made a trial of them have found them a profitable crop, though the last season the yield has been light owing to the more than ordinary drought.—S.]

The Silver-Hulled Buckwheat.

We introduced this buckwheat a few years ago, but as we do not raise buckwheat ourselves, we got entirely out of a supply for last season. Enquiries have been coming in for it, and reports of results also. From these reports we find that this buckwheat is preferred by those who have it for the following reasons: It has yielded better, has stood the drouth better, is much cleaner, and makes a better flour.

Daniel Webster says: "Horticulture is one pursuit of natural science in which all sexes and degrees of education and refinement may unite. Nothing is too polished to see the beauty of flowers. Nothing is too rough to be capable of enjoying them. It attracts, delights all. It seems to be a common field, where every degree of taste and refinement may unite and find opportunities for their gratification."

Prize Essay on Quack or

SIR,—Having been an agricultural journal for watched with interest in the *ADVOCATE*, you should know exactly what they

Among these commu some bearing on the Scotch Grass, one of the worst pests the farmers as it is extending in all a boon to the farming c remedy for its destruction

The plan I have tried

If the piece of land be meadow, it is all right to keep all cattle off, About the 10th of June good plow and man work; plow from five to great object being to br the sod. Let it lie one good iron harrow, and week, always on a dry of July put in the plow and pull, don't give up. days. Plow again ab ridge up for fall wheat, live root of Quack, is done.

The whole mystery is undisturbed until the mer fallow well. I ha stubble land by summer succeeded.

Perth, Lanark Co., A

Prize

By J.

ON THE CULTURE

I will here offer my n the vine from the fall p tion of two-year old w earth till spring. The bed prepared in a good 6 inches apart, with ro small hoe between; pla the eye level with the play upon it until 11 o wards. Transplant i April, or place them w from 5 to 7 feet apart, apart; if there are se the ground. Tie to a shade at noonday till sure of growth remove

One bud only should cutting the first year; shoots, tie them to a should be on a rise of north, well drained, a of broken bricks and mals of any description the grape. The bro be placed in a trench them free from weeds.

In the beginning of eyes, and in a fortnig straw answers splendi leaves are superior, a the winter and make cover them in the mic on a trellis or frame, 12 inches. On each each eye, and as soon enough, tie it and cut summer allow no mor each branch, cutting buds (not counting the new woods). Lay c before.

In the third year shoots, rubbing the o vember cut the bran feeble of the two to the succeeding year, fruit, and cover as be

In the fourth year ber and length of yo on the strength of y than five good eyes w and branches as l

Prize Essay on the Destruction of Quack or Scutch Grass.

SIR,—Having been a regular subscriber to some agricultural journal for the past ten years, I have watched with interest the different communications in the *Advocate*, coming (as we always expect they should) from practical farmers, men who know exactly what they write about.

Among these communications I have noticed some bearing on the eradication of Quack or Scutch Grass, one of the worst, if not the very worst pests the farmers have to contend with; and as it is extending in all directions, would it not be a boon to the farming community to publish a remedy for its destruction.

The plan I have tried and succeeded in is this:

If the piece of land you wish to experiment on be meadow, it is all right; if it be pasture, fence it to keep all cattle off, so that the grass will grow. About the 10th of June put in the team, with a good plow and man who knows how to do his work; plow from five to eight inches deep, the great object being to bring all the roots over with the sod. Let it lie one week; then harrow with a good iron harrow, and repeat the harrowing once a week, always on a dry day. Then, about the 20th of July put in the plow again, and if it does drag and pull, don't give up. Harrow as before on dry days. Plow again about the 26th of August, or ridge up for fall wheat, and you will not have a live root of Quack, if the work has been well done.

The whole mystery is in letting the grass grow undisturbed until the middle of June; then summer fallow well. I have tried to kill Quack on stubble land by summer fallowing, but have never succeeded.

T. DOYLE.

Perth, Lanark Co., April 4th, '75.

Prize Essay.

By J. W. St. John.

ON THE CULTURE OF THE GRAPE.

I will here offer my method. Secure cuttings of the vine from the fall pruning, with a small portion of two-year old wood thereon, and preserve in earth till spring. They may be raised in a nursery bed prepared in a good, light soil; set in the ground 6 inches apart, with rows wide enough to pass a small hoe between; planted 2½ inches deep, with the eye level with the ground, the sun allowed to play upon it until 11 o'clock, a. m., and not afterwards. Transplant in the middle of the next April, or place them where they are to be reared, from 5 to 7 feet apart, three in each place, 6 inches apart; if there are several eyes, plant sloping in the ground. Tie to a small stake to keep firm, and shade at noonday till they shoot out, and when sure of growth remove the weaker ones.

One bud only should be allowed to grow from the cutting the first year; when strong enough to grow shoots, tie them to a stake. The place selected should be on a rise of ground, well shaded on the north, well drained, and should have any amount of broken bricks and bones as manure. Dead animals of any description are of superior service to the grape. The broken bricks and bones should be placed in a trench directly under the vines; keep them free from weeds.

In the beginning of November cut down to two eyes, and in a fortnight, if dry, cover them. Pea straw answers splendidly for a covering, but forest leaves are superior, as they keep the vines well in the winter and make manure in the spring. Uncover them in the middle of April, erecting them on a trellis or frame, and tying them every 10 or 12 inches. On each branch allow a shoot from each eye, and as soon as the strongest one is long enough, tie it and cut off the other. During the summer allow no more than four or five buds on each branch, cutting them in the fall down to two buds (not counting the one between the old and new woods). Lay down the trellis and cover as before.

In the third year allow both eyes to produce shoots, rubbing the one in the crotch out. In November cut the branches as follows: cut the most feeble of the two to two buds for wood branches the succeeding year, the other to three buds for fruit, and cover as before.

In the fourth year raise your grapes. The number and length of your fruit branches will depend on the strength of your vine. Never allow more than five good eyes on a fruit branch; keep the wood branches as low as possible, cutting the

shoots to six or seven eyes high. Allow no more shoots to grow than can be laid on the trellis clear and handsome. The trellis should face the west, slanting, if convenient, or facing the south, according to your fancy.

If you want to hasten their maturity and size, the following course may be pursued: About the 1st of July you will see your fruit just formed; select the highest fruit branches, and perform the following on the two-year old's of the same branches, viz., take a pruning knife and pass it around the bark in a place free from knots, reaching the sap of the wood, and within a quarter of an inch pass another parallel with the first, dividing the section of the bark by a perpendicular cut; then peel off the bark, taking care not to go below the wood branches. I find this to be a great advantage, for the very reason that the sap is not prevented from rising and feeding the fruit, but is prevented from descending. This process will do no harm. Those branches must be cut off to give place to the other branches prepared for the succeeding year.

Do not forget fall pruning. By the above process you will have grapes to supply yourself, friends and applicants from the 1st of September to the last of the season (the ones not girdled will ripen last). If you prefer vines from the nursery, prepare them by the above rules according to age.

Vroomantou P. O., Ontario.

Prize Essay.

SOWED CORN.

SIR:—As the time is drawing near when farmers will begin to think what course to pursue in order to secure a supply of food in case we should have another dry season, I will give an account of a crop I raised in 1873, which I consider was a complete success. The previous year the land (a sandy loam) had been plowed from sod and sowed with peas. After the peas came off, it was gang-plowed and harrowed; the same again late in the fall. (The implement is a gang of four plows, and we worked it at an average of four inches deep.) In the spring it was gang-plowed again and harrowed, and the greater part treated with manure at the rate of 12 or 15 loads per acre. It was then gang-plowed again and harrowed. The field of six acres now presented a very fine appearance on the surface. On the first of June, I marked it into rows, 2½ or 3 inches deep, and 40 inches apart (three feet might do as well if the land is free from thistles); sowed the seed by hand, trying to average about one grain to the inch. To cover rapidly, take out the front plow from a horse-hoe, and turn the side wings so as to turn the ear in inwardly, then drive the horse on the corn. The seed should be tried a week or two before sowing to see if it is good, as no grain is more easily injured in its vitality than corn. This may be done by putting some in moist earth and keeping it warm for a few days. On the 17th of June I commenced cultivating (it was then four inches high), I turned the hinder wings of the cultivator almost straight back, so as not to turn a furrow, and then gave my whole attention to the row at my right hand, running the tooth of the cultivator very close to the corn, just so as not to root it up; went back between the same rows, giving my attention of course to the other row, and every thistle I could not destroy with the cultivator I pulled with my fingers. By the time the corn was two feet high, it had been gone over this way three times. The last time it was gone through, it was so rank and tall, I had to use a very short whiffletree to keep from breaking it down. This time the earth was thrown to the corn a little, and only one passage made between rows. If any one has a piece of good land, over-run with thistles, let them try this plan and it will pay them, supplant the crop fall entirely. But be thoughtful, never let their heads be long above ground. The reason they do not like this treatment is because they must have a top as well as a root in order to live.

It is impossible to say what quantity of seed should be sown per acre. If the season is very dry and the crop thick, it will not grow high enough, (that is, if the land is naturally dry), for the simple reason, that there are too many mouths drinking the moisture. If the season is wet, and the plants thin, it will grow too high and strong for good fodder. Two bushels per acre might be too much in a dry season, less than that too little in a wet.

I do not think it of much value for milk until it gets its growth, or the tassel be full out. Still it is a comfortable thing to see cows filling themselves with something when pastures are dried up, and I think there is no doubt value enough in it to pay costs of production. Whatever plan is taken to harvest, it should be cut before frost, and, if the weather is not very favorable, partly dried before shocked. It should be bound and set in pretty large shocks, and then kept on end. A good plan to effect this, is to loose the band after the corn has dried partly, and pull tighter. In this condition I left mine in the field through the winter; taking it as wanted, and from four acres which I had when winter commenced I fed 25 head of cattle with a very liberal supply every day till Spring, and thought it excellent feed. The Ohio dent is no doubt the best for a heavy crop of stalks. But an equally valuable crop may be raised with the Canadian common corn if the land is rich, by having a stalk at every 6 or 8 inches, and let it stand until the grain is glared, cut and shocked before frost. It will be seen by the above that deep plowing was not part of the cultivation. If land is naturally light and porous, I would prefer to make it rich and clean on the surface, leaving it as compact as possible on the bottom.

F. MALCOLM,

Innerkip, Jan'y 18th, 1875.

The Horse.

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 properly cool and 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 an expensive one—though they become extremely so in the city when a 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, or they will keep out of doots if covered with straw and then banked up with earth.

Export of Horses from France.

Horses were exported from France in the first nine months of 1874, to the value of \$3,000,000. They included 5,217 mares, 536 stallions, and 11,959 geldings. The exports for the corresponding period in the two previous years were: 1873—Mares, 4,957; stallions, 616; geldings, 12,990. 1872—Mares, 4,265; stallions, 992; geldings, 7,126. They are exported principally to England, Belgium and Germany.—*Ag. Dept. Report.*

Garden, Orchard and Forest.

The Kidney Bean.

It is said that we are indebted to Alexander the Great for the introduction of this bean into Europe, for while marching on his victorious route in India his eyes fell upon a field of these plants. They appeared to him very inviting, and, finding them good for food, recommended them to his countrymen.

In ancient Greece and Italy this vegetable found a distinguished place at the tables of the wealthy. In the former country they were served in their green state, together with figs and other side dishes. The Romans preserved them with vinegar and garum (a kind of lorime), and they were handed round at the beginning of a feast to excite the appetite of the guests. Pliny, in the seventh chapter of his eighteenth book, mentions these beans, and says those of Sesama and Iris are red, resembling blood. He also, in his twelfth chapter of the same book, called them Phaseli, and says the pod is to be eaten with the seed. It is probable that these beans were first introduced into this country from the Netherlands, about the year 1509, when gardening first began to be attended to in England, the white Dutch kidney bean having been the earliest sort known in this kingdom. The old French name for this vegetable was Feves de Rome, which evidently proves that they were introduced into that country from Italy; and about the time of Queen Elizabeth we find it called the Roman Bean. Gerard gives it also the name of Spersge Bean, and says it is called Faselles, or long peason. He mentions that a considerable variety was cultivated in England in his time, and says: "The fruit and pods of kidney bean boiled together before they be ripe, and so eaten, are exceedingly delicate meat." This medical herbalist adds, "they are gently laxative, and engender good blood."

Kidney beans are amongst the most valuable of culinary vegetables, yielding a large return crop, and continuing in use during the whole summer. The ripe seeds are much used on the Continent in cooking, under the name of "Haricots," which, as dishes, are as numerous as curries in Calcutta. It is stated that the Nubians boil the leaves of the kidney bean, and consider them an excellent dish. Major Denham mentions four kinds of beans raised in Borneo. A paste made of them and fish was the only eatable which this traveller and his companions could find in the towns near the river. The seed of the large kidney bean (*Fève haricot*) sliced and stewed in milk, is a frequent dish at the farm houses in Flanders. The scarlet runner (*Phaseolus multiflorus*) was brought into this country from South America, in 1633, and was first cultivated at Lambeth, by Tradescant, but it was merely planted as an ornament to cover walls, and to form arbors, without an idea of cooking the pods for the table. Its flowers were in great favor for nosegays, but its legumes did not come into general use as an edible vegetable until brought into notice by Miller in the eighteenth century. Phillips relates that some years ago the French had a prejudice against this plant nearly equal to the superstition of the ancients respecting the bean, on account of the scarlet or blood-colored blossom; but now it is largely cultivated in France, and almost all over the Continent, not only for the green pods, but also for its ripened seeds, which are eaten in haricots or put into soups. The scarlet runner, although in general cultivated as and considered to be annual, like the kidney bean, is truly perennial. It also deserves notice that in their spiral habit of growth the tendrils turn to the right, or in a direction contrary to the apparent diurnal course of the sun. This aberration from the common habits of plants has been accounted for by supposing that the native climate of the scarlet runner will be found to lie south of the equator, and that the plant, although removed to the northern hemisphere, is still obedient to the course originally assigned to it, turning into a direction which in its native clime would be towards the sun. Some varieties of the kidney bean are found in cultivation throughout almost every civilized country of the western as well as the eastern hemisphere.—*Hardwicke's Science Gossip.*

Coal Ashes.

I have a lot in Cambridge of about a third of an acre, on which stand my house and barn. It is clay soil, and twenty-eight years ago it was so tough and hard that it was almost impossible to get a spade into it. I have had it spaded up every

spring and autumn during these years. Almost all the dressing, except a few loads of loam once a year for the compost heap, has been made on the place. In the barn-cellar a large cemented vat has been made at the side of the earth-closet, which will hold from a cord and a half to two cords. The chamber-water and all the offal of every kind from the house, together with all the coal ashes from the cooking-range, and also the ashes from the furnace, after they have been used in the earth closet, are thrown into the compost heap in this vat. The ashes from the cooking-range have more or less wood ashes which comes from the kindlings that are used every morning; but the fire in the furnace is usually kindled but once during the season.—This compost heap is pitched over once or twice every summer, spread upon the soil, and dug in. In this way the ground, which is covered with four rows of fruit trees, and with currant and raspberry bushes between the trees and between the rows, has been raised several inches, so that the dwarf pear trees have become standards, the pear stocks having thrown out roots. The intelligent gardener who has dug over this ground almost from the beginning, says that this lot, from being tough and hard, is now one of the mellowest and richest pieces of ground he knows of in the city. And I am confident that the coal ashes, which has constituted so large a portion of the annual dressing that has been used, have been of the greatest service, in not only lightening, but also in improving in all respects the character of the soil.—*Ec.*

The Flat-Headed Apple Tree Borer.

Among apple growers there has been during the past year or two a great complaint of some borer infesting their trees, and investigation has shown that it is to this little beetle that the injuries may be traced.

With regard to remedies. Dr. Fitch advises three: "First, coating or impregnating the bark with some substance repulsive to the insect. Second, destroying the beetle by hand-picking; and, third, destroying the larva by cutting into and extracting it from its burrow."

His advice is so plain and comprehensive that I cannot do better than quote it at length. "As it is during the month of June and fore part of July that the beetle frequents the trees for the purpose of depositing its eggs in the bark, it is probable that white-washing the trunk and large limbs, or rubbing them over with soft soap early in June, will secure them from molestation from this enemy. And in districts where this borer is known to infest the apple trees, the trees should be repeatedly inspected during this part of the year, and any of these beetles, that are found upon them should be captured and destroyed. It is at midday of warm sunny days that the search for them will be most successful, as they are then most active, and shew themselves abroad. The larva, when young appear to have the same habit with other borers, of keeping their burrow clean by throwing their castings out of it through a small orifice in the bark. They can therefore be discovered, probably, by the new, sawdust-like powder which will be found adhering to the outer surface of the bark. In August or September, whilst the worms are yet young, and before they have penetrated the heart-wood, the trees should be carefully examined for these worms. Whenever, from any particles of the sawdust-like powder appearing externally upon the bark, one of these worms is suspected, it will be easy, at least in young trees, where the bark is thin and smooth, to ascertain by puncturing it with a stiff pin whether there is any hollow cavity beneath, and if one is discovered, the bark should be cut away with a knife until the worm is found and destroyed. After it has penetrated the solid wood, it ceases to eject its castings, and consequently, we are then left without any clue by which to discover it. Hence the importance of searching for it seasonably."—*From the last Report of the Fruit Growers' Association.*

Cultivation of Orchards.

PRUNING—THE BORER.

You ask me to tell you what effect the winter of 1872-73 had on my orchard. The effect was such that it killed a great many bearing trees. Two of my orchards that had not been cultivated much for several years it killed, and greatly damaged at least half the trees. Other orchards, that had been better cultivated, did not suffer half so bad. I am fully convinced that our orchards must be

cultivated in order to keep them healthy and in a good bearing condition. It will do to sow to clover and pasture hogs on it, but it never does well to seed an orchard to timothy and make a meadow of it; almost as well cut the trees down at once. Neither is it good practice to sow an orchard in small grain, such as wheat or oats, especially when it is first planted. An orchard, when first planted out, should be cultivated well every year until the trees are large and bear eight or ten bushels to the tree, and then it might be sown to clover for hog pasture; and let it be in clover only two or three years, until it is again broken up and cultivated as long as it had lain in clover before re-sowing.

I do not approve of heavy pruning in this country, but sufficient to keep the top in proper balance, and surplus cross and scraggy timber removed, and all water sprouts; and the best time to prune has been a disputed point that never has been fully settled, that I know of. But each one has his own theory. According to my experience of over thirty years, the worst time to prune is just as the buds are bursting forth into leaf, and the sap in its strongest upper flow, and this is about the time that most people prune their orchards. Much better prune in the fall, when frost has seared the leaf and the fruit is all gathered. But the best time to prune an orchard is from the middle to the last of June. Limbs cut off at that time of year soon heal over. Water sprouts taken off then come out much fewer next year, and if continued, will, in a few years, not come out at all. Orchards are frequently badly damaged by the borer while the trees are young and the bark tender. A good preventative is to scatter unleached ashes or refuse lime around the body of the tree once every two years at least. There is no remedy, when they once get in the tree, but to dig them out with a sharp-pointed knife. But the lime and ashes I have found a good preventative.—*Cor. Prairie Farmer.*

Is There a Danger of Overstocking the Fruit Market?

From the Report of the Fruit Growers' Association of Ontario we extract the following pertinent article. This question is often asked, but not satisfactorily answered. In discussing a question of such importance, it is necessary to look at the principle that must govern all productive and commercial matters, which is that of demand and supply.

1. Fruit is now considered a necessity in every family, the use of which, with the demand, is constantly increasing. Fifty or sixty years ago, good apples, pears, and sometimes peaches were left to rot upon the ground or fed to swine, because there was no demand, but now such fruit sells quickly at remunerative prices.
2. It is reasonable to expect that the demand will continue to increase for say half a century at least, for the reason that but a small portion of this Dominion is well adapted to the successful production of fruit, and nearly the same may be said of the whole American continent, for, according to some calculators, only one twenty-ninth part of the continent can be classed as fruit-producing, and only three-fifths of that portion can be considered really good.
3. The Eastern Hemisphere is little, if any, more favorable for fruit growing than the Western, to which must be added immense inland territories that produce none of the fruits of this latitude.
4. Assuming that the foregoing cannot be far from correct, it follows most conclusively that the demand will be very great, and the question very naturally arises—Where or how shall a sufficient supply be obtained? The answer is very easy—Impossible at present.
5. We are well aware that some of the small fruits, as well as such early apples as the Harvest, Early Joe and Red Astrachan, such pears as the Madeline and others (and perhaps peaches) that will not bear shipment to foreign lands, may be grown in such large quantities as to overstock the local market, but apples and pears of such long-keeping qualities that will keep sound and good for six months to twelve, and will bear shipping, cannot be grown in excess of the demand.
6. It is quite certain that in this Dominion the supply cannot exceed the demand, and it is our duty and interest as true patriots and economists to produce for the wants and requirements of our own country, and, in addition, export if practicable.

7. Whatever between the Dom the more distant tain, that the fruit lest confidence to able fruits to the ability, that it wifitable investment
Lincoln County

Ren

Mr. D. A. Com a meadow from v years, by which t and was plowed t mowed," and now grass that will m the local custom spring grains, but by its excessive s the grass chance inevitable drowth roots, appropriate must succumb," a ble and, in the alone?"

Generally, "I experience and will follow. So true to advise any gre the way of exper not knowing how of its present g guessed from the grow so rank as t venture to advise usual customs of the meadow. On a case somewhat and we sowed sp half a bushel of the acre. This i ing of grain. As drill, timothy see quarts to the acre was seeded to clo rate of six quart the grain was fai field was rolled. marks, leveling the timothy and as to aid in their

The crop was strong bottom la of deposit from a immense growth the show of grass a be a failure. Bu field during the part of the seas on during an un appearance was weather came, t a thick growth o promise to make acre next season the perils named and this safety y rich cultivation very small and the smothering animals, even t left on the stab continuous from about the midd grass plants, as sheep been allow

In several cas quite a different may be applicat ers, if not Mr. sow grass and c the fall before, (very thin). I whole crop to g of falling; then enough to shad as to be likely t be done with a as we have no thus cut would purposes, and i one, several cr be as profitable oats.

7. Whatever commercial relations may exist between the Dominion and the United States, or the more distant powers, this one point is very certain, that the fruit growers of Ontario have the fullest confidence to plant and produce good, marketable fruits to the greatest extent of means and ability, that it will prove not only a safe, but profitable investment.

Lincoln County, Ont.

Agricultural.

Renewing Meadows.

Mr. D. A. Compton, Wayne County, Penn., has a meadow from which hay has been cut for 30 odd years, by which time "it had become unprofitable and was plowed up after the last crop of hay was mowed," and now he wishes to get the land into grass that will make him good hay, and he says the local custom is to sow grass seed with early spring grains, but that it happens that the grain, by its excessive shade, kills the grass and should the grass chance to survive the shade when the inevitable drouth comes, the grain, having the longer roots, appropriates so much moisture that the grass must succumb," and he asks: "Would it be advisable and, in the end, profitable to sow grass seed alone?"

Generally, "local custom" is founded on experience and will be found to be the best policy to follow. So true is this, that I am very careful not to advise any great departure therefrom except in the way of experiment, and in the case before me, not knowing how the soil is made up and nothing of its present condition, except what may be guessed from the fact that spring grain is apt to grow so rank as to smother the grass, I shall not venture to advise any essential variation from the usual customs of experienced farmers living near the meadow. On our own farm, last spring, we had a case somewhat like the one under consideration, and we sowed spring wheat, mixed with oats, about half a bushel of wheat and two bushels of oats to the acre. This is here considered very light seeding of grain. As the grain was sown, by use of the drill, timothy seed was also sown, at the rate of six quarts to the acre, and immediately after the ground was seeded to clover (the medium kind), at the rate of six quarts of seed to the acre. Soon after the grain was fairly above the ground, the whole field was rolled. The roller leveled down the drill marks, leveling the ground smooth, and pressed the timothy and covered-seeds into the ground so as to aid in their growth.

The crop was very heavy, the soil being of very strong bottom land that had been made in centuries of deposit from a lime stone spring brook. The immense growth of straw fell down, and at harvest the show of grass was very little and appeared to be a failure. But no animals were allowed on the field during the whole of the rest of the growing part of the season, and gradual improvement went on during an uncommon dry fall until the whole appearance was changed, so that when the cold weather came, the ground was well covered with a thick growth of timothy and red clover that now promise to make more than two tons of hay to the acre next season. This field passed through both the perils named by Mr. Compton and came out safe, and this safety perhaps is principally due to the rich cultivation of the soil and the fact that the very small and feeble plants that lived through the smothering were not trampled under foot by animals, even to save the scattering grain that was left on the stubble. The drouth, though nearly continuous from the time of the oat harvest till about the middle of September, did not kill these grass plants, as it probably would had a flock of sheep been allowed to assist.

In several cases, I have, in a small way, tried quite a different method of seeding down land that may be applicable to the case of some of my readers, if not Mr. Compton: In the early spring, sow grass and clover seeds on a surface made ready the fall before, and with the grass seeds sow oats (very thin). Brush in the seeds and allow the whole crop to grow up until it begins to show signs of falling; then mow, leaving a tall stubble, high enough to shade the ground some, but not so tall as to be likely to fall down. This mowing could be done with a self-raking reaping machine, such as we have now, to great advantage. The crop thus cut would be of great advantage for soiling purposes, and if the season should be a growing one, several crops could be cut that perhaps would be as profitable as would a matured crop of the oats.

We have on hand for next summer a still worse case than the one described as coming in this last season's experience. A swamp on this same limestone spring brook has this year been thoroughly drained. Within the enclosure is good pasture on the slopes of hard land that bound the low lands, and part of the low lands are well seeded with meadow grasses. The raw surface, made in draining, and the places that last March were so soft that the drains could only be cut by giving each man a wide and long plank to stand on and keep them from miring while they opened a ditch alongside, using long handled shovels, and the places covered with aquatic plants as high as a man's head; all these places must be made into good pasture, and pastured while the process of substituting valuable plants in the place of useless ones is going on.

The plan we propose to follow is substantially this: Early next spring seed down all these places with timothy, red top, orchard grass, blue grass and red clover, and with these forage plants sow oats, at the rate of a bushel to the acre. If we mix our grass seeds in the proportion of eight quarts of timothy, eight quarts red top, eight quarts orchard, four quarts blue grass, and four quarts red clover, we shall have these seeds at the rate of a bushel to the acre. Let these grasses get a little start in the spring, and then turn on so many sheep as may be found equal to feeding off the crop judiciously. The sheep will eat off the grass on the side slopes and the older part of the field, and give but little attention to the ground lately covered with aquatic plants, and probably a considerable mowing will be required to conquer such plants, and thus make place for the tame grasses. This field, of uneven soil and uneven surface, is intended for permanent pasture, as it is but the entrance from which opens several others. The brook waters all these fields, as required, and the side hills and soft brook margins make it unsuitable for general cultivation, so it is given up to permanent pasture, and all the grasses I have named will be sown that the fittest may survive.

Mr. C. asks: "What varieties and in what proportion should the seed be for hay?" I am fully aware that the seeds I have named produce plants that do not ripen at the same time, and for that reason are objected to for making hay. But I think that there are so many advantages in a great variety of grasses for permanent pastures or meadows, that I should put all of them in and mow the meadow at such a time in the season as would give me the best hay. The orchard grass, blue grass, and medium red clover will be at their best at about the same time, and so much of the timothy and red top as is not then mature will nevertheless help make up the yield, and will be very much relished by cattle next winter, and as years go on the grass really best adapted to the soil and the climate will become the prevailing one. At first two crops will be cut in a season, afterward perhaps only one, but this will depend on manure and treatment generally, modified by the local influences.—George Geddes, in N. Y. Tribune.

Destroying Weeds.

Every once and a while we read that the way to destroy noxious weeds is to haul loads of earth, and cover the places where the weeds grow, a half a foot or so deep. Sometimes these instructions are varied by rubbish instead of earth, and then again rubbish is defined as straw, cornstalks, or even brush. Now, we have no doubt in the world that weeds can be destroyed in that way. We know that weeds are to be fed on air, and all that sort of thing, and if they are smothered they can't breathe, and if they cannot breathe they die. All this is so plain to the thickest skull that one may feel perfectly safe in recommending it as something that will surely do. And yet we would like to know how many who recommend it have ever done so, or seen their plan tried by others? We very much doubt whether it was ever done. Some one may have noticed that under a brush-heap everything was killed, and that after remaining a year the brush heap's removal would show the spot bare of all vegetation. If the recommendation ever had any ground at all it was surely this.

Our remedy for noxious weeds is thorough cultivation. If a piece of ground is full of briars, milkweed, couch-grass, sodom-apples, Canada-thistles, sorrel, toad-flax, or other miserable stuff that so often tries the mettle of our good farmers, let them put the ground in corn for a couple of years or so, keeping the cultivator going continually, and especially going in the early part of the season, and toughest character among these weeds will fail to

stand the ordeal. If the hand-hoe can be spared to go in among the hills of corn occasionally, where the teeth of the harrow cannot reach, or to cut off here and there one which the harrow may miss, a bad case may be cured in a single season. But if this cannot be done, a couple of successive years with a sharp-toothed cultivator among the corn-crop will generally do the business for the worst case that ever was.

Let anyone who has a weedy field before him, resolve the coming season to put the whole tract in corn and keep clean, and he will soon give up all the common ideas of smothering-out with deep layers of earth, cutting up in the full of the moon, putting salt upon their tops, or the many other recommendations stated in the interest, as it is believed, of laziness; but which really calls for more trouble and hard work than a thorough and systematic cleaning, such as we have indicated, does.—Germantown Telegraph.

Brains and Practical Knowledge Necessary to make Farming what it Ought to be.

From a report of the Agricultural and Horticultural Conference at Bedford, P. Q. We take the following extract from an address by the Hon. Judge Dunkin:

There is need of funds, there is need of co-operation, and it is a very small business indeed that can be carried on without money. In farming, money is wanted as well as in other industries. The more money, the larger their operations will be and the larger their operations the better for the farmer, if he understands how to carry it on. It is not enough for a farmer to see that the waste is stopped, that when he has taken off a crop he leaves the soil no better and no worse than before. No; he wants to leave it better. There are quick wasters, who slash, and burn; whose land goes on successfully as long as they have the accumulation of years to work upon; and there is a slower process of cropping without enriching a field, but the successful farmer goes on year after year knowing that each year makes his farm better than it was last year. Brains and practical knowledge are necessary to make farming what it ought to be. All other callings have a comparative narrow field of operation. A carpenter after he has learned to make a panel door or a window sash, has not much more to learn, and the latter years of his life are not devoted to learning. But the farmer has never done learning. A knowledge of chemistry is needed; a knowledge of soils, of climate, of weather—are not these needed? A farmer should understand something about botany, how plants grow, how much stirring of the soil, and what kind of manure will help the plants to surpass the weeds if possible,—all these are necessary to the successful farmer. Then there is the study of insects; we are sometimes troubled by the depredations of insects, flies,—potato bugs, &c., and a knowledge of their habits of these may be of value in effecting their removal. Knowledge of natural history is also required in the selection of animals for breeding, and in the care of them in sickness and in health. We may not require to know the names of all the bones in a horse's body, but we cannot know too much. We should know the effect of food; different animals are kept for different purposes, and therefore require different kinds of food. The animal kept for butter requires different food from that to be devoted to beef, and so on. This knowledge can only be obtained by being communicated by one farmer to another—an interchange of ideas on the subject of telling what each has learned. There are other things which must be learned, in regard to breeding, laying out buildings and barn yards, and the manufacture of manure; but you must understand the soil before you make the manure. One field requires lime, and another does not; one requires heat, and another does not. A great amount of planning is required in fencing, laying out of roads and fields, and discovering what crops are suitable for certain fields. Draining cannot be learned from books, it depends upon the slope of the land. Orchards and gardens should be understood, and labor must be considered; whether man, horse, cattle or mules will work to great advantage under certain circumstances; man should know what tools are most suitable. High priced labor forces us to employ more machinery, and when anything goes out of order we should understand how to mend it. Then there is the making of butter and cheese. All these things need brains, and practical knowledge. Planning

is required. The farmer is always experimenting, and his experiments mostly require a year to perform, and he must carry all his plans and experiments from year to year, and adapt them to the particular portion of the country in which he resides. This is a country for varieties. We have got to farm it so as to cultivate and raise all kinds of crops and animals. This is the safest course. Take a farm in the West where the whole farm is nearly devoted to corn or wheat, and when that particular crop fails, starvation and ruin stare the farmer in the face. We are free from these disadvantages here. When any crop fails, even grass, which is our greatest crop,—well, we have other crops which do not fail. Follow nature's dictation, and total failure cannot overtake us. This calling is a necessity in our community, but it is also fascinating to many; it is honorable and safe. It is not too much to claim for it the bulk of our people, money and brains, to make it a success and ourselves a prosperous community.

Potatoes.

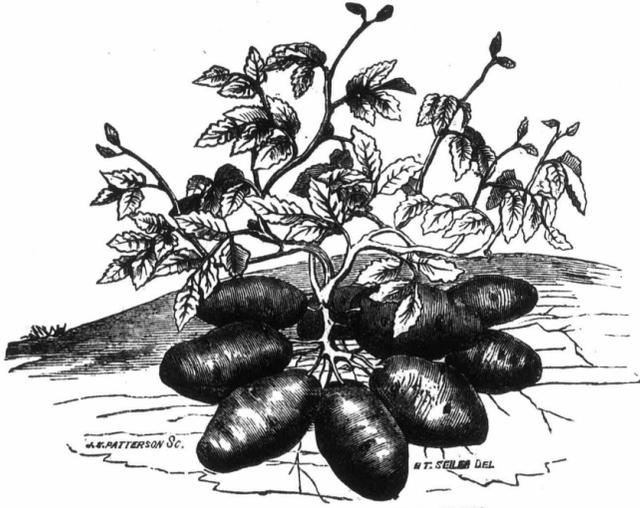
Last year we received 40 new seedling potatoes from Mr. Geo. Leslie, of Toronto. We had them planted, but out of the whole lot only three varieties were saved that we considered to be equal to our present kinds. The Americans have been foremost in supplying the world with valuable and improved varieties. Those that we at the present time cultivate will, in all probability, be supplanted by varieties that are now but little known. The potatoes introduced this season by B. K. Bliss & Son, of New York, are the Alpha and the Eureka. We take the following description about them from their catalogue. The price, \$3 per lb., is very high; however, we pay it to try them, and to have a supply for next year's planting, should we find them answer. Last year we tried Compton's Surprise and Brownell's Beauty—both varieties, we think, are very valuable. The Compton's are rather uneven, but for quality and yield we think them deserving a trial by all who have not yet procured them. We know the Early Rose is a hard potato to beat. We introduced them 7 years ago; some slow-coach farmers have only just got them. We gave \$3 per lb. for them and sold them for 60c. a cutting. We must do the same with some of the new varieties this year, as we shall not be able to have them properly tested. We hardly think the forcing system a fair test—it may do well enough to cultivate rapidly any very rare and expensive plant.

SNOWFLAKE.—(PRINGLE.)
This new variety, sent out last spring, has been thoroughly tested, both in this country and in Europe, the past season, and we have yet to learn of the first instance where it has failed to give entire satisfaction. The superior quality claimed by the originator, when first offered, has been confirmed in every case, as far as heard from.

It is one of the earliest varieties, ripening about the same time as the Early Rose. The tubers are of a good medium and uniform size; shape elongated oval, compressed, exceedingly symmetrical and remarkably uniform; eyes few, entirely flat on the base and body of the tuber; skin white, with a russet tinge, and somewhat roughish and tassellated. Its flesh is of exceedingly fine grain, snow-white when boiled, and of a lightness and porosity almost approaching to snowflake. In quality, we do not hesitate to say nothing can surpass this new variety; its mealiness, its pure, delicate flavor, and the evenness with which it cooks through, have never been eclipsed by any potato. As a baking potato it is equally valuable, and as such is distinguished for its pure, starchy texture, and delicate, nutty flavor. The tubers have attained the full develop-

ment of their quality as soon as they are fit to dig, and do not lose it during winter; samples kept till the first of June, did not show the least deterioration. The vines are of medium height, stout and vigorous; leaves medium, and of dark green color. The tubers are compactly clustered around the base of the stalks—an important consideration in digging the crop. The variety has been tested on widely varying soils—sand, gravel, loam, as well as heavy clay—and has, in every case, given the

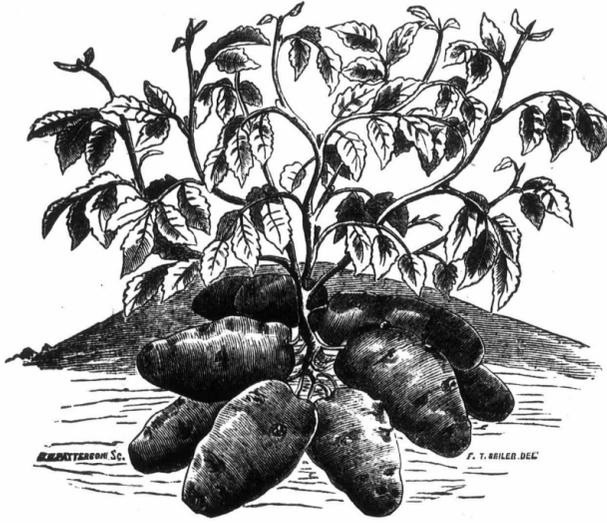
ing very fair and smooth. Eyes few and small, nearly even with the surface; shape oval, somewhat flattened; skin reddish, or a deep flesh color; flesh white, fine-grained and very delicate. For the table, they cook either by baking or boiling equal to the very best; flavor unexceptionable. Vine of medium growth; foliage deep green. The tubers grow compactly in the hill and are easily dug, ripening in about three months from time of planting, though suitable for cooking about two weeks later than the Early Rose, with the same culture. All who tested it the past summer agree, that its beautiful appearance, fine quality, extraordinary productiveness and remarkable keeping qualities will render it a most valuable variety for the market.



SNOWFLAKE.—SHOWING HABIT OF GROWTH IN THE HILL.

same favorable results, and produces a yield of from 300 to 400 bushels per acre. In every case it has proved healthy and hardy, while other varieties alongside of it failed to give satisfactory results.

BROWNELL'S BEAUTY.
The beauty and superior keeping qualities of this variety, together with its fine quality for the table, and productiveness, places it in the front rank of those recommended for general cultivation.



BROWNELL'S BEAUTY.—SHOWING HABIT OF GROWTH IN THE HILL.

We know of no variety whose good qualities can be retained for the entire year, as this has done. Potatoes of the crops of 1873 and 1874 have been exhibited side by side at several state and county exhibitions last fall, those of 1873 having been kept in an ordinary cellar without any especial care, being equally fair and sound as those of 1874. Samples were sent in 1873 to the gardens of the Royal Horticultural Society of London, where they received a first-class certificate, and have also received many premiums at various agricultural fairs in this country. Size, medium to large, grow-

ing very fair and smooth. Eyes few and small, nearly even with the surface; shape oval, somewhat flattened; skin reddish, or a deep flesh color; flesh white, fine-grained and very delicate. For the table, they cook either by baking or boiling equal to the very best; flavor unexceptionable. Vine of medium growth; foliage deep green. The tubers grow compactly in the hill and are easily dug, ripening in about three months from time of planting, though suitable for cooking about two weeks later than the Early Rose, with the same culture. All who tested it the past summer agree, that its beautiful appearance, fine quality, extraordinary productiveness and remarkable keeping qualities will render it a most valuable variety for the market.

EUREKA.—(BROWNELL.)
This seedling resulted from a seed-ball grown on an Excelsior potato-vine blossom, fertilized with pollen from the White Peachblow; vines of strong and vigorous growth; tubers of a good medium and uniform size; shape, elongated oval somewhat flattened, very symmetrical and uniformly handsome in appearance; eyes few, exceedingly small, and very nearly level and flat; skin white and fair; season second early, medium, or between very early and medium late. It is one of the most productive in cultivation, besides being an excellent keeper. Its flesh is exceedingly fine-grained, white, and, when boiled or baked, mealy and of excellent flavor, cooking through uniformly without any fault at the centre. Certainly an acquisition among the white varieties, well worthy of further trial in different sections. A silver medal was awarded to this variety by the Massachusetts Horticultural Society at the last annual exhibition. They are offered at \$1.00 per lb.

EXTRA EARLY VERMONT.
The Early Vermont has, as proved by the numerous reports before us, more than sustained its previous reputation. Nearly all the competitors declare it from one to two weeks earlier than the Early Rose, and many even more. Its uniform and large size is recognized by every one. Mr. McLeod says:—"There are more than 100 in the amount I raised that would weigh from one to two pounds each;" and Mr. Salter raised one tuber that weighed three pounds twelve ounces! Its superior cooking and eating qualities are unanimously commended, as well as its compact growth in the hill and its freedom from disease, and with the thousands of cultivators who have grown it alongside the Early Rose, there seems to be no doubt left that, in quality, hardiness, earliness and yield, it far surpasses that celebrated variety. A first-class certificate was awarded this variety by the Royal Horticultural Society of London, 1873.

The Caen Academy of Science offers a prize of 4,000 francs for the best essay on the "Function of Leaves in the Vegetation of Plants."

First Prize

AWARDED TO
We were pleased to receive for this prize the plans sent in. Grange to appreciate the gentlemen accompanying plans acquainted with competitors, and decide, although the decision cannot be of our own. We award also prizes as an honor to some competitors pains to send and massive prizes returned by sending prizes they can have press. Should a prize on all, it is near as much engraving. We petitioner our that may yet be a future time, as ing more prize objects. We have graved for our tion.

DEAR SIR,—No., and send think ought to be a good deal of the I hope it will the liberality Hunter must draw him such is his place to give the chron-

The Ground each; also a 15 x 50; a ch end with a ch enclosed gran on blocks or s from the floor to get at the have a separ so it can be f down all is structed in a more handy also on cleani the fanning-r right beside this case leav

DESCRIPTION
A A, mow C, chaff-room floor; E, wa F F F F F G G G G, la doors to put ment; I, con per and low openings for horses' racks One of the bi to conduct in adjustment in

A, horse st D D, cow st upper chaff-r tank with pu about 2,500 b If it is de chaff-room ce could be use too large a b inclined to important. those chaff-r

First Prize Plan of Bank Barn.

AWARDED TO A. C. ATTWOOD, OF VANNECK P. O.

We were pleased to have such a large competition for this prize, there having been over twenty plans sent in. We applied to the Forest City Grange to appoint judges, which they did. The gentlemen appointed awarded the prize to the accompanying plan. Neither of the judges were acquainted with Mr. Attwood or any of the other competitors, and they were fully competent to decide, although we doubt not but some may think the decision erroneous; but all cannot be of the same opinion. We award also second and third prizes as an acknowledgment. Some competitors that have taken pains to send boxes, large rolls, and massive packages, may have them returned at the present time by sending postage stamps; or they can have them sent by express. Should we pay return carriage on all, it would cost us very near as much as a prize or an engraving. We return each competitor our thanks, and hope each may yet be successful at some future time, as we purpose offering more prizes on different subjects. We have had the plan engraved for our readers' consideration.

pulper can be placed in passage F, of basement, and run from a jack on barn floor. Pulped turnips and out straw mixed together and left for a few days, makes the best feed. The basement is to be built of stone, 1 1/2 feet walls, so that it will be frost proof. The water can be easily brought into the tank by conductors from the eave-troughs, down into the ground below frost, through tight soldered tin conductors through the wall into the tank. This plan may not be just exactly what Mr. Hunter wants, still it may be of use to him by making a few modifications.

The Great Central Fair will be held in the City of Hamilton, on the 28th, 29th and 30th Sept.; and 1st Oct., 1875.

stones from the heaps to build a stone wall next spring. Then there is wood to haul, and straw and hay to chaff. We have ten tons of plaster to draw nine miles from the mill, and draining tiles an equal distance. And as fast as we get spare barn room, we can draw in a stack of hay from the field.

"You ought to build a new barn," said the Squire.

"When I do I shall aim to draw the materials in the winter," I replied, "and not be compelled to neglect farm work in summer. I tell you, if you only go at it, you can find plenty of work for your teams to do in winter. And if by hiring a man you can keep a team busy, that would otherwise be doing nothing but eating hay in the stable, it will pay to do so."

"Perhaps you are right," said the Squire, "but the days are very short, and you want men who will fly round in a morning."

"Begging your pardon," said I, "that is precisely what I don't want. I want a man who will work after dark at night, rather than a man who is poking round before light in the morning. When we are drawing out manure, I like to see a man fill his load at night, and have it all ready to hitch on to the first thing in the morning. Your sluggish 'early bird' will not do this. He will be up at 4 o'clock in the morning. He will be watching the clouds and speculating about the weather. It will be too cold, or too wet, the road will be slippery, or too rough, or there will be too little snow, or it will be drifted. There will be a lion in the way, and he will have to wait until broad daylight before he can make up his mind whether to go to work or not. Finally he will get out his horses and let them stand shivering while he fills his load. The other man, who got all ready the night before, brings out his horses cheerfully and promptly, hitches them to the load and is off to the field, whistling merrily in the frosty air. He warms himself up by throwing off his load with a will, and is back again before the other has made a beginning. It is so with everything we do. The great thing is to get an early start."

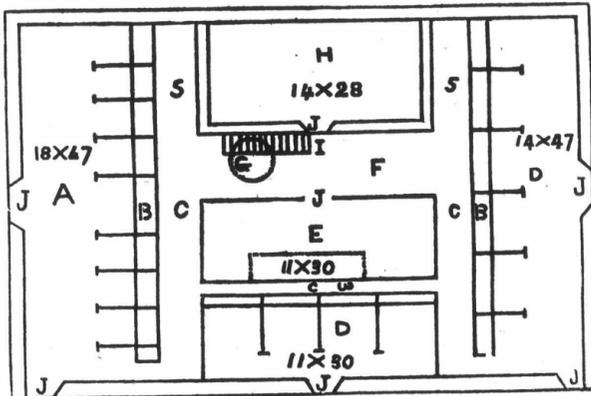
"That is precisely what I say," broke in the Squire.

"Exactly, but you want to begin the day in the morning, while I want to begin it in the evening. 'The evening and the morning were the first day.' 'Give not sleep to thine eyes, nor slumber to thine eyelids, till you have done all that you ought to do.' It is bad enough to lie abed late in the morning. It is worse to lock up the stable door soon after sundown, leaving the horses hastily fed and poorly groomed, that you may spend the long evening yawning over a hot stove."

Wheat Raising.

After doing all that can be done to make a large yield, and everything may look promising until the wheat is about to be harvested, the farmer has often noticed that his wheat has ripened too fast, and the quantity has been reduced, and also the quality of the grain is inferior to what was expected. I have often seen this state of things. Now, there is a cause for it, and I believe there is a remedy. I have never failed to raise good, plump grain where clover was sown among the wheat. My opinion is this—that the ground often gets too hot before the wheat gets ripe, and forces the process by taking back in the soil that which should fill the grain; if the ground is covered with young clover it is kept temperate, and gives the wheat time to ripen naturally.

I never saw a field of wheat that was sown to clover struck with rust. Now, if these things will always prove to be the rule, it would pay the farmer to sow clover on his wheat ground, when seed is less than eight dollars per bushel, if for no other purpose than for full pasture or to be turned under as a green manure, which is one of the best fertilizers.—N. E., in Prairie Farmer.



BASEMENT PLAN OF A BANK BARN, 50X75.

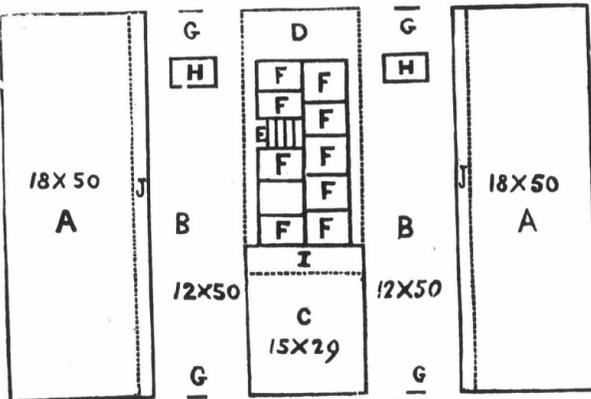
"In Works of Labor or of Skill."

Extracts from Walks and Talks on the Farm, in American Agriculturist

"You must be making a pile of money out of your pigs this winter," remarked the Squire.

"I am making a pile of manure," I replied, "and hope to get a little money from the old farm by and by. I have had the men and teams drawing out manure for over a week, and putting it in a pile in the field where I am going to sow mangels next spring."

"I see," said the Squire, "you have got three extra day hands. The Deacon and I think it does



GROUND PLAN OF A BANK BARN, 50X75.

DESCRIPTION OF GROUND PLAN.

A A, mows; B B, driving floors; C, chaff-room; D, passage between floors; E, way down to basement; F F F F F F F F, grain bins; G G G G, large doors; H H, trap doors to put roots down to basement; I, connection between upper and lower chaff-rooms; J J, openings for putting hay down in horses' racks and cattle mangers. One of the bins to be fixed so as to conduct chop stuff down to F adjustment in basement.

DESCRIPTION OF BASEMENT.

A, horse stable; B B, mangers; C C C, passages; D D, cow stables; E, chaff-room connected with upper chaff-room; F, passage for mixing feed; G, tank with pump; H, root cellar that will contain about 2,500 bush.; I, way up to barn; J J J J J, doors.

If it is desired to have a larger root cellar, the chaff-room could be made narrower, or a part of it could be used as a cellar; but it is unwise to put too large a bulk of turnips together, as they are so inclined to heat. I regard large chaff-rooms as important. A good straw-cutter can fill both of those chaff-rooms in one day's cutting. A turnip

not pay to employ so much labor during the winter." "You are both of you men whose opinion," I replied, "is worthy of consideration. Still, every man must do his own thinking. I keep eight horses. They cost me at least \$16 a week. I want to make them earn their living. As long as I can find work for the teams that ought to be done, I think it pays to hire extra men enough to keep the teams busy. This is all I am doing. Every spring, summer and autumn we have to leave something undone that we want to do, because men and teams are pressed with work that can not be put off. The only remedy is to push things now. We are drawing out manure. When this is done, we shall draw

Correspondence.

From Michigan.

Editor Farmer's Advocate.

SIR.—Southern Michigan has suffered more with severe cold since the 1st of January than for many years, if ever before. Mercury has fallen lower for a short time, but never have we had such continual severe cold. Fruit of all kinds has been greatly injured, and peaches and peach trees are, without doubt, all killed. At the Sinawee Farmers' Club, a few nights since, a number of members reported their apple trees as being split with freezing from the ground to the limbs, and some of the large limbs also have opened. Some trees cracked in four or five places the entire length of the trunk, so that one can put his finger near to the heart in each crack. There is, of course, some speculation as to the result of this, and many questions as to what can be done, if anything, to save the trees.

It has occurred to me that, as your climate is usually more severe than that of Southern Michigan, your readers may, many of them, have had such experience with their orchards as we are now having, and could give us some hints through your columns which might be of value, and for which we should feel grateful indeed.

Our Club had the pleasure, a few evenings since, of listening to a very able address by Prof. Beal, of the Michigan Agricultural College at Lansing. The most interesting portion, perhaps, was on the Codling Moth or Apple Worm. In speaking of the best remedies for the destruction of this pest, the Professor gave as his opinion that the "band" was the only true plan yet known, which was to first clear off the rough bark to destroy all natural hiding places possible, and then put one or more bands about six inches wide, made of thick carpet, paper or the like, around a smooth place in the trunk of the tree. The insect will hide under this. These should be put on about the 20th of June in this latitude, and should be changed about every eight days till the 20th of August, when they can be left till winter. His method was to take off the band and kill the worm with his thumb and fingers, and then put the same on again. Others used a rubber-faced mallet to pound the band as it remained on the tree, and not remove it at all. These bands can be lapped around the tree and fastened with one carpet tack driven through both ends. This should be done by all farmers in the neighborhood, as the insect will fly from one orchard to another, and, to make it a success, all must unite in the work faithfully.

Adrian, Mich., March 2nd, 1875.

Fruit Culture.

Editor Farmer's Advocate.

SIR.—I have noticed the remarks on planting and pruning apple trees in the March No. of the ADVOCATE. Forming the trees with high or low heads is one of those questions on which much may be said on both sides.—When the branches are trimmed high the bark is sometimes sunburnt, and the tree dies; this never happens except on the south side of the tree, and is generally the case when the tree leans to the north or north-west. Low branches, by shading the trunk of the tree, tend to prevent this; besides, some varieties, such as the Belle-fleur and Snow Apple, naturally form low spreading heads with drooping branches, and if we endeavor to counteract this by a free use of the knife, we shall get plenty of leaves but no fruit. Other varieties naturally form close, upright heads. We may assist nature, but if we try to force her we shall assuredly fail. Besides, the situation of the orchard must be taken into account. If it be a high, exposed situation, I should prefer to head the trees rather low, say about four feet from the ground, as the bark of the tree would be better shaded from the sun, and the trees would not be so liable to be uprooted by a strong wind.

As for the distance apart, I think twenty feet is altogether too close, except for the very upright growers, for, when the branches meet at the top, the roots meet at the bottom, and unless the ground is naturally very rich or kept well manured with top dressing, the trees could not be expected to bear well, not only for want of nourishment, but because the sun and air would be excluded too much from all but the topmost branches, and there is no room to work under them to keep the weeds down. Raising any kind of a crop in such an orchard must be out of the question, and laying it down in grass is scarcely feasible either.

I am not prepared to say that ants are injurious to large bearing trees, but I consider they are injurious to young grafted trees, as they make the leaves curl up and check the growth of the graft. I have been told that spreading chip dirt for a space of two or three feet around the trees will keep them off, but if they will destroy caterpillars on cabbages, why will they not destroy them on apple trees also, unless the caterpillars are protected by a web so that the ants cannot get at them.

Deep planting for fruit trees may do very well on light soils, but on heavy soils either the ground must be deeply underdrained or the trees will soon die out. I planted an orchard about ten years ago and was induced to procure the trees from a Rochester nursery, which I am not likely to do again. The printed forms for orders contain a condition that if the trees ordered are not in stock, others equally good shall be substituted, and they take advantage of this condition to send out trees of an inferior quality. I planted the standards thirty feet apart each way, and should do so again if I were to plant another orchard, and also plant either two dwarf pear trees or one standard plum tree between every two apple trees in the row.—These would come into bearing in a few years, but would not last long, so that when the standard apple trees were twenty years old the others would have finished bearing and might be cut out. I would not plant any between the rows of apple trees, as I consider the ground is better to be cultivated, at least until the trees have attained a large growth.

Beans, potatoes or any root crops will do no harm, if well cultivated, and the plow not suffered to go too near the trees or deep enough to cut the roots. Some N. Y. orchardists who have tried it say it is better to raise no crops in an orchard, but to keep the ground well plowed and cultivated, so as to allow no weeds to grow, and that the increased growth of the trees will compensate for the loss of any crop. I noticed a statement a few years ago in the Register of Rural Affairs that there was not a single orchard in the State of New York of 20 years of age in good bearing condition, that was laid down in grass in the first ten years of its life. After that age it might be laid down in early red clover, and cut for soiling purposes. The Botchara clover, it is claimed, may be cut three times in a year. I procured some seed on one occasion, and sowed it in the spring without grain, but the seed failed to grow and I have not tried it since. It is sold at 50 cts. per lb., not too high a price if it were everything that is claimed for it, and if any of your readers have tried it I hope they will report the result.

When the proposal was first made that the Fruit Growers' Association of Ontario should hold their July meeting last year in Owen Sound, some of the members observed that they might as well go to the North Pole. However, the proposal was carried out, and the deputation spent two days in Owen Sound and neighborhood, and went away satisfied that this was, on the whole, the best fruit growing district in the Province. Apples, pears and grapes thrive well here; peaches will generally ripen well on the sandy knolls, whilst plums are a specialty, as neither Curculio nor Borer have yet made their appearance amongst us. The Black Knot is troublesome in some places, but that may be kept in check by a vigilant use of the knife. When plums were a failure everywhere else the year before last, about 2,000 bushels were shipped off from Owen Sound. The greater part was purchased by two persons and sent to New York, where they sold for \$10 per bushel. Formerly, plums were a drug in the Owen Sound market, but since the completion of the T. G. & B. R. they can be shipped off to any part of the country where they may be a failure, and I have no doubt but that if any person who understands drying plums was to settle in this neighborhood and plant a plum orchard of the proper varieties for making prunes, he would find it a profitable speculation. A variety called the French Prune was spoken highly of at a meeting of the F. G. A. last year, but although I have written to two or three of our Ontario nurserymen, I cannot obtain any.

I find the Concord and Hartford Prolific grape vines stand well here without any protection, but they are not quite early enough for this section of the country. A neighbor of mine has cultivated a green grape these last two years which has ripened two weeks earlier than my Concord, but he does not know the name of it. It is not so large either in bunch or berry as the Concord, but its earliness is very much in its favor.

Gooseberries, currants and strawberries, if well attended to, do as well here as anywhere in the Province; so do tomatoes and melons, if started in a hot-bed and then planted out.

The Hulless Oat man has not yet favored us with a visit, and if he did I do not think he would get many customers. It is perhaps well that there are so many gulls in the world, or what would become of the knaves? They, poor fellows, must eat as well as other people, and if the breed of gulls could be eradicated, the knaves would die out.

CHARLES JULYAN.

Sarawak, April 2nd, 1875.

"Old Subscriber," Wellington Co., need not dread any evil effects to his land nor to the potatoes from Paris green, used as a remedy against the potato bugs. We have now had trial of it for some years, without any injurious results from its use. Professor Croft says that as this salt is entirely insoluble in water, it does not appear likely that it would of itself be taken up into any plants growing in the soil. He examined in the field a few plants of potatoes which had been drenched with the poison as long as they were growing. "The stalks were washed as carefully as possible, but, on examination, yielded a most minute trace of arsenic, arising, no doubt, from the difficulty of washing off every trace of the adhering powder. The tubers were then carefully washed and skinned, and the pure potatoes examined in three different trials. Not the slightest trace of arsenic could be detected in either case, from which it is fair to conclude that the Paris green itself is not absorbed, or else that if decomposed in the soil, the products are not assimilated by the plants which have apparently a power of solution." From this our subscriber will see the examinations of the subject by scientific men are in entire agreement with the results of our own experience.

Rotation—Preparing Seed Wheat.

SIR.—I am a farmer, and feel interested in what I read concerning the best modes of tillage and the best kinds of manures that help to enrich our land, so as to secure the largest possible yield of grain, roots and grasses without impoverishing it. Why, sir, our lands should be getting better and richer every year, and I am satisfied that they would, if but properly managed, while we at the same time would be receiving an increase of their products.

Now, I shall not find fault with what has been written. I have been benefited by reading the ADVOCATE, and I think, sir, you are engaged in a good work in helping to advance the interests of the farming community, which in the past have been neglected, and the farmers are still too much neglected by those who make our laws and enact them.

But, to return, that which is most wanted is the result of practice; theory is good if it can be put in successful practice, otherwise it is of no use. I believe in the rotation system; I have practiced it a little, but I am only learning, although I have been farming for nearly forty years. My practice for some years has been to seed down with grass seed, every spring, all the land that is fit. I mow it two years; as soon as the second year's crop of hay is off the ground, I take a good sod plow and team, and a good plowman; I plow what I can before harvest, finishing often after harvest; I let the land lay three or four weeks before I touch it, certainly not less than three. I then begin to harrow and cultivate, and work it occasionally till it is time to put in the seed. I drill in two bushels to the acre.

I don't boast of extra crops of wheat, but I get better than I can by summer fallowing, and my land is improving all the time. Then I take the wheat stubble manure, and put it in with corn and roots, potatoes, &c. The season following I sow barley, and seed down again.

A word about lime. I see it recommended to be applied in one way by some, and in another by others. Some years ago—the year the frost injured the wheat so much—I soaked my seed wheat in a strong brine. I bought new lime, and after throwing the wheat on the barn floor, I sifted lime on it to dry it; it took a great quantity of lime to dry it

so as to dry and did, but such a crop wheat came a while it until the frost. My neighbor yielded 50 bushels light

Now, we machines, would put being soaked would be the drill in the same as plied with make such such an in

Simcoe

[Mr. W. certainly ing to good seed wheat prevention wheat crop the seeds of enemies of have been caused by the vitality the least stronger, The rotation him large though w Mowing strength first mow and grass be less scarce fit of keep

Pump

SIR.—I am a farmer, and feel interested in what I read concerning the best modes of tillage and the best kinds of manures that help to enrich our land, so as to secure the largest possible yield of grain, roots and grasses without impoverishing it. Why, sir, our lands should be getting better and richer every year, and I am satisfied that they would, if but properly managed, while we at the same time would be receiving an increase of their products.

Now, I shall not find fault with what has been written. I have been benefited by reading the ADVOCATE, and I think, sir, you are engaged in a good work in helping to advance the interests of the farming community, which in the past have been neglected, and the farmers are still too much neglected by those who make our laws and enact them.

But, to return, that which is most wanted is the result of practice; theory is good if it can be put in successful practice, otherwise it is of no use. I believe in the rotation system; I have practiced it a little, but I am only learning, although I have been farming for nearly forty years. My practice for some years has been to seed down with grass seed, every spring, all the land that is fit. I mow it two years; as soon as the second year's crop of hay is off the ground, I take a good sod plow and team, and a good plowman; I plow what I can before harvest, finishing often after harvest; I let the land lay three or four weeks before I touch it, certainly not less than three. I then begin to harrow and cultivate, and work it occasionally till it is time to put in the seed. I drill in two bushels to the acre.

I don't boast of extra crops of wheat, but I get better than I can by summer fallowing, and my land is improving all the time. Then I take the wheat stubble manure, and put it in with corn and roots, potatoes, &c. The season following I sow barley, and seed down again.

A word about lime. I see it recommended to be applied in one way by some, and in another by others. Some years ago—the year the frost injured the wheat so much—I soaked my seed wheat in a strong brine. I bought new lime, and after throwing the wheat on the barn floor, I sifted lime on it to dry it; it took a great quantity of lime to dry it

It was shire, E told not better i very str previous One-hal plowed half re

so as to drill it in, which I was determined to do, and did, but about spoiled my drill. I never had such a crop of straw before or since. When the wheat came up it looked very yellow indeed; after a while it turned a deep green, and continued so until the frost killed it about the 10th of June. My neighbours who came to see it thought it would yield 50 bushels per acre, although my land is light.

Now, we, as farmers, have a great many kinds of machines, but I believe if we had a drill that would put in our wheat and lime together, after being soaked in strong brine, so that the lime would be running right along with the wheat in the drill mark—say two bushels to the acre of lime, the same as wheat—we would then be well supplied with machinery. Who will undertake to make such a drill? I, for one, would purchase such an implement.

ALVIN WOOLLEY.

Simcoe P. O., Ont.

[Mr. Woolley, if only learning, as he says, has certainly learned a little already, and put his learning to good account. His method of preparing seed wheat we know from experience to be a good preventative of many of the evils to which the wheat crop is so subject. The strong brine kills the seeds of the fungi that are the much dreaded enemies of the farmer. Mildew, blight and rust have been proven by scientific research to be caused by fungus. The brine, while destroying the vitality of the seeds of the fungus, does not in the least injure the seed wheat, which is so much stronger, and is, besides, sheathed in its hull. The rotation pursued by Mr. W. doubtless brings him large returns of stock-feed and of grain, though we would prefer a less scouring system. Mowing two years in succession exhausts the strength of the soil, unless it is manured after the first mowing. If the land runs two years in clover and grass crops, pasturing at the second year would be less scouring, and Mr. Woolley knows the profit of keeping up the fertility of the soil.—Ed.]

Pumpkin, Squash and Buckwheat Report.

SIR,—I purchased some seed from your Agricultural Emporium in 1873, the most of which did well, especially the Silver-Hulled Buckwheat and Mammoth Pumpkin. I planted the pumpkin seeds in what I supposed a good place for them; two plants only came to maturity, each bearing one pumpkin weighing about 50 lbs., with the appearance of a squash and the flavor of a pumpkin, and better than the common pumpkin. I determined to try them again, with a better chance, and from six stems I took twenty that weighed 1,761 lbs., which, with three or four I did not weigh, would make 1,800 lbs.; one stem had three on, which weighed respectively 157, 147 and 53 lbs. They are excellent feed for cattle in the fall, and on well manured land I don't know of any crop to equal them.

From the quarter of a pound of Silver-Hulled Buckwheat I raised the first year 67 lbs., and last year I sowed 1½ bushels on about two acres of the poorest land I have, and threshed 50 bushels, besides 5 bushels at least which my fowls eat. I am convinced that it is superior to the common, yielding more per acre and weighing more per bushel.

My wife and I think we can't keep house rightly without the ADVOCATE, and wish to continue it.

FRANCIS PECK.

Albury P. O., Ont.

Trifolium.

SIR,—I am very much obliged to you for the Trifolium seed you gave me, and, as I am somewhat acquainted with its cultivation, perhaps a few words concerning it may not be uninteresting to some of your readers.

It was introduced into our locality, Somersetshire, England, about the year 1835. We were told not to make the soil too loose, as it would do better in a firm soil. We did not follow the advice very strictly. We sowed a twenty-acre field; the previous crop had been turnips, fed on the ground. One-half we plowed thoroughly, the other we plowed into something like potato drills; this one-half remained undisturbed. We then cross-

harrowed the other portion. The undisturbed part had a good crop; the other was poor.

I have been wanting to get some of this seed for years. I sent to the old country for some by a friend who went to Scotland, but it was not to be got in Glasgow or Edinburgh. I think it would be just the thing to sow on our newly-cleared land, as we can always scratch up enough to bury the seed. It is a very rapid grower, and I think it would smother out weeds. It is a very beautiful crop when in flower.

The Yams you sent me last year were so dry that they did not start until it was too late for them to do much. Two only grew, and they produced one each, one about eight inches long. I think I shall begin this spring with a better prospect. While my wife and I were in Detroit last summer, she saw a Yam on exhibition in a shop window, about 15 inches long and over 4 inches through.

Write down the Model Farm, or model humbug—which you like—we don't want it. It is said that the farmers number about four-fifths of the inhabitants of our province; if that be so we ought to have four-fifths of our representatives farmers. Let us unite and make it so.

WM. HOSKINS.

Sarnia, March 1st, 1875.

Grass on Wet Land.

SIR,—Much of the land in this neighborhood is hard-pan, and very wet and sour. The result is the grass soon runs out, and wild grass of the poorest kind takes its place. Open drains do very little good, as a short distance from the drain the land is as wet as if there were no drain. It might be underdrained, but this would cost more than \$50 per acre, a sum that cannot be afforded.

Is there any grass that would grow in such places, and hold its own in competing with the wild grass? Could you throw some light on this difficult subject, so as to get the ground to bear some kind of good grass and let it remain so, you would be conferring a favor.

TOBIAS L.

Melbourne, P. Q., April 5th, 1875.

[Some years ago a tract of land such as you describe came into my possession. I was in haste to lay it down for pasture, and had not time for underdraining. I had it plowed deep and thrown into lands 10 feet wide. It was not poor, having been manured with a root crop the previous season. I sowed it with oats, laying it down with grass seeds, and trenched every furrow; then subsoiled with a skeleton plow, and scattered evenly over the land the earth turned up by the subsoiling. By this means I had open drains of twelve inches deep, sixteen inches apart. The lands having been rounded in the middle by the plowing, there was a fall of the water to the furrows on each side. It was not expensive. A common plow, if you take off the mold board, will answer for temporary use, if strengthened. If you would underdrain any part of it afterwards, these open furrows would save you some work in opening drains.—S.]

On the Cultivation of the Strawberry.

SIR,—There are many different ways of cultivating the strawberry. I will give you my method of cultivation, after many years' experience with different systems.

Any land that will grow a good crop of corn or potatoes will produce good crops of strawberries; the land requires to be dry, not gravel or stiff clay. It must be cultivated at least a foot deep, and must be free from weeds. A good preparation is to have potatoes grown and well cultivated by hoeing, weeding, &c., the previous year; plow as soon as the crop is off, and plow again and cultivate in the spring, and have the land in as fine a state as possible, leaving it quite level for planting. The rows must be 3 ft. apart, and plants in the row 12 to 15 inches. In planting, first trim the roots and leaves, and remove any blossoms, if present; then put them in a pail of water; next, drop them along the line, and, taking the trowel in the right hand and the plant in the left, level off the spot for the plant, spread out the roots, place them upon the damp soil, and cover with about one inch of soil; press firmly down with the trowel or foot. Within a week or ten days cultivate between the rows, and hoe the whole of the ground, and this must be repeated every week or two throughout the grow-

ing season. Never allow a weed to grow, and cut off all blossoms and runners. As soon as the ground freezes, cover with straw so as just to hide the plants. In the spring, as soon as vegetation commences, remove the straw to between the rows; this will keep down the weeds and keep the fruit clean. As soon as the fruit is picked, remove the straw and cultivate as the previous year.

Plants can be set any time during the growing season, but the best months are April and May, before the ground gets too dry.

A. FRANCIS.

Delaware, Ont., April 15th, 1875.

Subsoiling.

SIR,—I see in the ADVOCATE some essays on subsoiling which are very good so far as they go. After this I will use a subsoil lifter, and turn two inches more on the top, exposed to a winter's frost, and repeat at intervals, to the depth of twelve inches, less or more, according to the soil to be raised.

RICHARD LOUCKS.

Antisville, April 9th, 1875.

[The method of increasing the depth of soil pursued by Mr. Loucks is good. What he suggests, we have no hesitation in saying, is a valuable addition to subsoiling, though of the subsoiling it cannot be said to be a part. A couple of inches of the subsoil thrown up on the plowed surface and exposed for the winter season to the ameliorating influence of the air, the binding and dissolving of that most effectual cultivator, frost, and the now with its store of ammonia, must in the spring be well prepared to be mixed with the old surface soil, and to add to it those elements in which perhaps it is most deficient. Much has been written of a good surface soil—of a few, a very few inches tillage being enough for crops; and of many such fancies. We fear, if farmers be induced to act on the advice of such plausible theorists, the returns from their fields will be as light as their tillage will be superficial. Our advice is—with Mr. Loucks—make your soil deep (unless its nature be such as to be injured by stirring up the subsoil, as some farms rarely met with are.) Increase its depth gradually and continuously. When once you have obtained a well cultivated and fertilized soil of not less than twelve inches, neither unusual drought nor excessive moisture will have very injurious effects on your crops, whether roots or cereals; and your deep-rooted clover and rich grasses will enable you to exchange your butter and beef for the sterling gold of the English consumers.—S.]

From England.

Standard Hill, Battle, Sussex,
March 17th, 1875.

SIR,—I cannot allow the time to pass away without writing to you. I am pleased with the FARMER'S ADVOCATE, which I received in due time. We have had a very severe winter, but the wheat and bean plants are looking well. Some of the former will require a slight dressing of superphosphate of lime and nitrate of soda mixed in equal quantities to be put on as a top-dressing in the end of this, or the beginning of next month, at the rate of 2 cwt. to the acre. My wheat crop of 1874 yielded very well indeed; one piece alone came out 56 bushels to the acre, and the white wheat averaged 49 bushels to the acre. The hops were a complete failure last year.

I enclose you an account of Fowler's new steam plow, which is well adapted for small fields. I can see a marked difference in the wheat plant this spring where I steam-plowed last summer. I spent a week in the neighborhood of Windsor in January, and I find a great part of the farms are now plowed by steam.

I am glad to see by the English papers that there is some prospect of commencing the Canadian Pacific Railway. Hoping to see you again at Standard Hill, I remain yours respectfully.

R. W.

LOBO FARMER.—Your communication having been sent to, and having appeared in another paper, it cannot appear in the ADVOCATE. Correspondence, to obtain insertion, must be original.

Barley.

SIR,—Enclosed you will find a few grains of black barley. It may be something new to you. It will yield as many bushels by measure per acre as the six-rowed white barley, and it weighs 63 lbs. per bushel.

Hillsburg, March 8th, 1875.

[The sample is very good. It is not new to us; we do not find it generally appreciated, although we consider it very valuable for feed for stock. There appears to be no demand for it for shipping purposes, as brewers prefer the common barley. We should be pleased to have information regarding it from those who may have raised it for profit, showing its utility and superiority over other grains. Then it might be introduced generally.—Ed.]

Accommodation for Hogs.

SIR,—I wish you could give us, through your valuable paper, a description of a suitable house to accommodate from 10 to 15 hogs, which would be convenient and profitable to the owner, and comfortable for the animals, and you would oblige yours truly,

E. WALKER.

Onondaga, April 8th, 1875.

[We will feel obliged to any of our readers who will send us a plan and description, or a description unaccompanied by a plan, of such a piggery as Mr. Walker is desirous of having constructed.—Ed.]

J. G. Littlejohn, Leeds Co., would criticize some parts of our last number, but does not know that Eastern criticism would satisfy our Western farmers. Is highly pleased with the paper on the whole, some articles especially. We would like to have Mr. L. criticize our paper. There is nothing would please us more than discussions on various topics of agriculture. Such criticisms and discussions must be of service. Observe, think, judge and act, every man, for yourselves.—S.

Horticultural Department.**May.**

By Alexander Pontey, Horticultural Editor of the Farmer's Advocate.

For all gardening operations this is the busiest month of the year; if we are to reap a bounteous harvest of flowers, this month and the previous one must lay the foundation for it. If we are to have our tables furnished with the various varieties of vegetables all through their seasons, this month must be well used. The gardener who will succeed in all his multitudinous duties must adopt the motto—"Constant and unwavering watchfulness is the price of success." The fickleness of our climate is well illustrated by the contrast of the bright sunny weather of the early part of April with the severe cold and gloomy days of the middle of the month, and it must convince the greatest novice in gardening of the truth of the motto. One single omission to protect a hot-bed on one of those cold nights, or a too rash confidence in the weather of the present month, and injudiciously planting out some tender flower or vegetable without the means of protection at hand, may result in the greatest disaster.

Scotch gardeners taking situations in England, as a rule, are more successful than their English brethren, and for no other reason than that the severity of their climate at the season when all forcing, &c., has to be done, compels them to a watchfulness exceeding in its closeness that required in the more genial climate of England.

All gardening operations, with the exception of planting out half hardy and tender plants (which should be deferred until after the June frosts have passed) should be completed this month, and by the middle of it, if possible. If the vegetable garden has not already been fully stocked with seeds, no time must be lost in doing it now. Put in the plow or spade, and, instead of going to the trouble of forming beds (now that the necessity of getting rid of extra moisture does not exist), which

seems to be a kind of stereotyped passion in most gardeners, level the ground off, rake it well, and put everything in parallel rows, varying, according to what you are sowing or planting, from 12 inches to 2½ feet apart, thereby giving yourself an opportunity of going through them readily with a hoe, and, if necessary, even just as the seeds are breaking the ground.

Ground should be planted or sown just as soon as it has been prepared, thereby giving the crop an equal chance with the weeds, which are always ready to take their part in furnishing the garden with a crop. On this ground, also, we prefer waiting to put in a great many of the smaller seeds until the earth has attained a degree of warmth sufficient to cause the immediate vegetation of the seeds; otherwise the weed seeds, which are hardier and excited to growth under less favorable circumstances, will get the start, and are correspondingly more troublesome to get rid of. Above all things, bear in mind that you cannot grow two crops (a crop of weeds and a crop of vegetables) properly on the same ground at the same time.

As in our last issue we gave a list of some varieties of seeds best suited for hot-bed culture, we now give a list of some things for immediate sowing in the garden, which, in our opinion, are the best of their kinds:

PEAS—First Early.—Laxton's Alpha, Carter's First Crop, Daniel O'Rourke, Kentish Invicta, McLean's Advancer.

These varieties grow from 2 to 2½ feet high, and may be grown without sticking, yet we think the extra yield, if supported by sticks, pays for the trouble.

LATER VARIETIES, which can be sown at intervals of a week to ensure succession of crop: Laxton's Prolific, Dwarf Blue Imperial, Champion of England, McLean's Premier.

For those who are anxious to secure new varieties another year, we see advertised in the *Gardener's Chronicle*, published in London, England, Sutton's Emerald Gem, Sutton's Giant Emerald Marrow, Sutton's Duchess of Edinburgh—all highly spoken of, and sold at the modest sum of from 2s. 6d. to 5s. sterling per quart.

BEETS—Early Blood Turnip and Long Blood Red.

CARROTS—Early Scarlet Horn and the Intermediate.

CORN—Crosby's Early Sweet, and Stowell's Evergreen for late.

CABBAGE—Early York, Early Jersey Wakefield, Winningstadt, Flat Dutch, St. Denis, Stonemason; and for use in spring in preference to all others, the Drumhead Savoy; invariably comes sound out of the pits.

CAULIFLOWER—Extra Early Paris and Deuri Dur.

MELONS—Musk.—Improved Nutmeg, Skillman's Fine Netted, and for larger variety, the Yellow Cantelope.

ONIONS—Danver's Yellow and Weathersfield Large Red.

TOMATOES—Canada Victor, Trophy and General Grant.

TURNIPS—Flat Dutch, Improved Early Six Weeks.

HERBS—Sage—Sweet Majoram, Summer Savory, Thyme and Sweet Basil are the varieties most used by the housekeeper.

Before the termination of the month all tree and shrub planting should be finished. Nurserymen have extended the season when trees can be safely planted by the digging up of large quantities early in spring and heeling them in again, thereby checking and retarding the growth which would take place much sooner if they were not disturbed. It seems almost superfluous now, in this age of activity among nursery agents, to give a list of things desirable for a well ordered homestead in the several departments, but as there may yet be some to whom the information will be news, we append a list of some of the leading varieties of ornamental trees and shrubs which can be depended upon to give satisfaction to the planter, with ordinary care and attention; the list could be enlarged considerably, but it would be by the addition of kinds that would entail upon the planter extra trouble in their protection.

All our native maples are well known, and for the beauty of their varied foliage in the fall can hardly be surpassed. The Silver-Leaved, Norway and Ash-Leaved, though not so generally known, are handsome varieties, the Silver-Leaved being especially desirable where an early effect is wished for, on account of its rapid growth.

The Horse Chestnut, European Mountain Ash, Oak-Leaved Mountain Ash, European Linden, Cut

Leaved Linden, Tulip Tree, Kentucky Coffee Tree, European Larch, American Elms, Scotch or Wych Elm, Purple-Leaved Elm, Silver-Striped Elm, European Alder, Golden and Rosemary-Leaved Willow, with all the varieties of Poplar, viz., Lombardy, Balsam and Silver-Leaved, are well known, and are many of them useful among evergreens for wind screens, rapidity of growth and large foliage being desirable qualities possessed by many of them.

WEeping TREES—Weeping Mountain Ash, Weeping English Ash, Kilmarnock and New American Weeping Willows, Weeping Scotch Elm, Cut-Leaved Weeping Birch.

The following list of hardy flowering shrubs will make a desirable collection:

Almond—Dwarf double-flowered and pink white; Berberry—European red-fruited and purple-leaved; Currants—Yellow and crimson flowering; Fringe—Purple and white; Lilacs—Persian white and purple, Siberian, purple, white and crimson flowering; Daphne Mazeron—Pink, 1st early, in flower almost before the snow is away; Honey-suckles—Tree or Tartarian, two or three varieties; Spirea, six varieties, all with white and creamy-white flowers, none of them growing more than 3 to 4 ft. high; Syringa or Mock Orange—Sweet scented and pretty.

Among climbing shrubs, useful for covering up unsightly objects near the house, the following cannot be dispensed with:

Ampelopsis quinquefolia or Virginia Creeper—leaves turning to a brilliant scarlet in the fall; Veitchii—a miniature variety of the above; Sweet scented Honeysuckle—too well known to need description; several varieties.

ROSES—Queen of Prairies, Baltimore Belle, President, Mrs. Hovey, Queen of Belgians, Madam Caradora Allan—varying from pure white to rosy blush. The above are all climbing varieties, and require protection in winter to prevent the wood being injured.

Space will not admit of going into a list of the constantly increasing varieties of fruit trees and small fruits. We would only say to those planting—Confine yourselves to kinds of known merit where extensive planting is contemplated, and be satisfied to plant sparingly of new varieties until you have had an opportunity of testing or seeing them tested by others. Many things succeed well in one locality which will not do well in others. Above all, in planting fruit trees, be particular to cut back severely all of the previous year's growth—say to within four buds of the base, and mulch the surface of the ground immediately about the tree to a depth of five or six inches with some material which will prevent the ground from drying up. Tie securely to stakes driven firmly in the ground, and look out closely for caterpillars and other insects through the summer.

Ornamenting a Road.

Before you dismiss the subject of "Public Roads," please allow me to say a word in regard to ornamenting a road. If my judgment does not deceive me, I think farmers are very indifferent about ornamenting their homes, and as to beautifying the road in their front, well! how many do it?

Now, in my judgment, here is one place where farmers miss it. There is nothing that will give a road so graceful a look as to see a row of beautiful trees along the side of it, and the farm will also partake of the beauty. There need not be a great expense about it. Take the most common forest trees; set them out carefully, and they will do. Oaks, maples, ashes, elms, chestnuts and pines will do the thing well, and there are not many places in New England where these trees cannot be procured. I would urge every farmer to keep our idea in mind and to try it.

If the roads were more generally ornamented, it would add a greater pleasure to the travel upon them. If an interest could be awakened in one department the interest would soon extend to others. We think farmers would be the gainers by looking into these matters more than they do. Do not wait for the town to move, but move yourself. The more beautiful we make the country the more attractive it will be both to ourselves and to others.

A farmer should neglect no opportunity to add value to his property, and this is one place where he can invest a few days' work to great advantage. No subject comes nearer to a farmer's interest than the public road, and therefore farmers should study it deeper than they do.—J. N. A. in *Massachusetts Ploverman*.

The large... lished by M... cost about \$... almost any... us twenty... started bec... person har... dition. C... stocks bein... money for... will be mil... kept in it... less.

In the sp... queenless s... if there is... then the st... that case, i... appear, the... less stock... curs durin... worker egg... will raise a... must be at... robbed or e...

The past... that have... have been... able to say... tality that... past, is dis... put our be... as we did... have been... to spring i... sometimes... pository h... thick; als... thickness... pared my... in their pl... with chaff... cushion... ventilation... both of w... cessful.

The des... good and... summer s... without... hives, for... quired by... It consist... bees in ea... cription i... using the... obtain ho... Henry A... (cut of w... 54), for o... of two th... between... The top... material... roof of a... lined wit... anything... is divided... equal dep... as to ope... two secti... Openings... floor and... inches re... which re... forming... removab... a hive h... would n... The obje... round th... desired f... through... The upp... of the h... for bees... up and c... Then th... is combi... proper a...

The Apiary.

A. C. ATWOOD - - EDITOR.

Response to Enquirer.

The largest works on bee culture are those published by M. Quinby and L. L. Langstroth; they cost about \$1.25 each. They can be procured at almost any bookstore. Millers have never done us twenty-five cents worth of harm since we started bee-keeping, nor yet will they do any other person harm that will keep his bees in proper condition. Queenlessness is the principal cause of stocks being destroyed by millers. Never spend money for miller-proof hives, for almost any hive will be miller proof if a strong stock of bees is kept in it, and it is never allowed to become queenless.

In the spring and summer it is easy to detect a queenless stock by simply examining the combs; if there is no appearance of either eggs or brood, then the stock may be pronounced queenless. In that case, if it is early in the spring, before drones appear, the best way will be to unite the queenless stock with any other hive; but if the loss occurs during the swarming season, a royal cell and worker eggs can be given to the stock, and they will raise a queen. In all cases queenless stocks must be attended to, or the stock is sure to be robbed or eaten up by the millers.

The past has been a very severe winter on bees that have been left on their summer stands, or have been put in improper places. I am glad to be able to say that I believe the unaccountable mortality that has existed among bees for a few years past, is disappearing. For our own part, we never put our bees into winter quarters with as much care as we did last fall, and for our trouble we think we have been well paid, for all our stocks have come to spring in splendid condition, stronger than they sometimes are in May. I wintered them in a repository having a wall of saw-dust ten inches thick; also, over head and under the floor the same thickness, with, of course, ventilators. I prepared my hives by removing the honey-boards, and in their place I put a cushion six inches thick, filled with chaff, and then placed the top cones on this cushion. This had the effect of giving upward ventilation; still it retained the heat in the hive, both of which must be done if we would be successful.

Care of Bees.

The design of my improvement is to furnish a good and cheap means of wintering bees on their summer stands (and of wintering reserve queens), without sacrificing the convenience of separate hives, for performing the various operations required by the most advanced system of agriculture. It consists of a square box with an entrance for bees in each side, to contain four hives of any description in use. I prefer the Longstroth hives, using the shallow forms with two sets of frames to obtain honey in frames; and the brood chamber of Henry Aliey's "New Style Longstroth Hives," (out of which appears in *Bee Journal*, Vol. 5, page 54,) for obtaining box honey. The bottom is made of two thicknesses of pine flooring with a space between filled with any non-conductor of heat. The top is made in the same way, (of thinner material, to make it light,) and shaped like the roof of a house. The walls consist of inch boards lined with several thicknesses of roofing paper or anything else that may be preferred. The house is divided horizontally into two sections of about equal depth. The upper section is on hinges, so as to open like a chest. The seam between the two sections is made air tight with listing or rubber. Openings for ventilation are provided through the floor and the roof. Around the inside, about two inches above the floor, is nailed a narrow strip on which rests boards fitting close to the hives and forming a second floor, which may be permanent or removable, according to convenience. If I used a hive having honey boxes placed on the sides, I would make it removable, otherwise permanent. The object of this is to give free circulation of air round the entrance of the hives but exclude it when desired from the upper chamber till it has passed through the hives and been warmed by the bees. The upper chamber is the most important feature of the house. When the weather is unsuitable for bees to fly, the light boards are made to turn up and close the entrance perfectly tight and dark. Then the warmth arising from four stocks of bees is combined in the upper chamber and retained by proper adjustment of the ventilators, so that no

signs of frost or dampness appear in the coldest weather.

This chamber also furnishes a very convenient place for wintering reserved queens in nucleus stocks if it can be done conveniently, because it saves the trouble and loss of breaking them up in the Fall and making them anew in the Spring. These boxes may be made with openings in one side, corresponding to the openings in the hives for the honey boxes. When the honey boxes have been removed in the Fall, the nucleus boxes can be set in their places, with wire cloth to keep the bees from passing. Thus they will not only have the benefit of the genial warmth of the chamber, to which they will each contribute a share, but they will have a current of warm air direct from the hives.—Each house will easily keep in this way sixteen reserve queens, four to a hive; enough probably for all practical purposes. But if the boxes are made eight inches long, seven inches wide, nine or ten inches high, and set two tiers deep, thirty-two can be accommodated.

The dimensions of this bee-house are forty to forty-two inches square and twenty-four to twenty-six inches high, inside measure. It can be furnished with four hives containing ten frames each complete for \$25. This includes a good lock to secure its contents against thieves, the most dangerous foul brood to have to contend with in this State.

Patrons of Husbandry.

New Granges.

The following Granges have been organized since our March issue.

103, Thistle—Alex. Forsyth, Master, Darrell; Geo. Oliver, Secretary, Darrell. 104, Ridge Tree—John Dallas, Master, Wilder Station; Peter McCallum, Secretary, W. S. 105, Sylvan—Alex. Tod, Master, Sylvan; John F. Colton, Secretary, Sylvan. 106, Favorite—James Ferguson, Master, Strathroy; Walter Bull, Secretary, Strathroy. 107, Laskay—John Ireland, Master, Laskay; Daniel Wood, Secretary, Laskay. 108, Central—Andrew Drois, Master, Whitley; Wm. H. Drois, Secretary, Whitley. 109, Merton—N. J. Campbell, Master, Nelson; Geo. McCarlie, Secretary, Nelson. 110, Pride of the West—James Bryans, Master, Kirkton; Robt. Beatty, Secretary, Kirkton. 111, Hope—Alex. Locking Jr., Master, Clifford; Alex. Drummond, Secretary, Clifford. 112—Wm. Anderson, Master, Belmont; David N. Green, Secretary, Belmont. 113, Cedar Spring—Wm. Anderson, Master, Lucknow; M. McDonald, Secretary, Lucknow. 114, Excelsior—G. E. Harris, Master, Ingersoll; Wesley E. Scott, Secretary, Ingersoll. 115, Fairview—N. McCollman, Master, Clarksbury; Arch. Campbell, Secretary, Clarksbury. 116, Enterprise—Andrew Shore, Master, Thornbury; John Atkins, Secretary, Thornbury. 117, N. Dorchester—Simon Wholy, Master, Avon; Edward Hegler, Secretary, Avon. 118, Wilton—James Lewis, Master, Wilton; Jeremiah Snider, Secretary, Wilton. 119, Newport—Alonzo Benedict, Master, Newport; Wilmot Snaishland, Secretary, Brantford. 120, Acacia—P. S. Vanwagner, Master, Stony Creek; F. M. Carpenter, Secretary, Stony Creek. 121, Gorse—Francis Sleighthdra, Master, Humber; Wm. Foster, Secretary, Humber. 122, Derry West—Geo. Ratledge, Master, Derry West; Luther Cheque, Secretary, Brampton. 123, Mount Hout—Eli. Crawford, Master, Brampton; James Sinclair, Secretary, Brampton. 124, Dals on—Wm. Heckling, Master, Dalston; Joseph Drury, Secretary, Dalston. 125, Rose Hill—James H. Beynon, Master, Tempunville; James Roger, Secretary, Everley. 126, Minesing—Rich'd. Dixon, Master, Minesing; John Johnston, Secretary, Minesing. 127, Arnou—John Shier, Master, Arnou; Benj. Smith, Secretary, Arnou. 128, Milton—Geo. Browridge, Master, Milton West; Henry Wellnott, Secretary, Milton, west. 129, Treadwell—Wm. Murdock, Master, Chas. Rapley, Secretary, Nappertown. 130, Edminton—John Cation, Master, Edminton; John Watson, Secretary, Edminton. 131, Grimsby—D. Nixon, Master, Grimsby; Jonathan Carpenter, Secretary, Grimsby. 132, Arkona—Stephen Cornell, Master, Arkona; Jacob Wintemute, Secretary, Arkona. 134, Crown Hill—John Darby, Master, Barrie; Thos. Drury jr., Secretary, Barrie. 134, Snowdrop—John Jameson, Master, Lanesville; Joseph Bell, Secretary, Lucknow. 135, Keloin—W. Auld, Master, Warwick; J. Thompson, Secretary, Warwick. 136, Bloomfield—Henry West, Master, Chatham; Francis Dolson, Secretary, Chatham.

137, Metcalfe, Victoria—S. W. Dell, Master, Strathroy; John E. Laughton, Secretary, Strathroy. 138, Burford—B. S. Gage, Master, Mt. Vernon; W. F. Miles, Secretary, Mt. Vernon. 139, True Blue—Jacob Molmer, Master, Sable; Murdock McDonald, Secretary, Sable. 140, Russeldale—John Cole Sr., Master, Russeldale; Rich'd Gill, Secretary, Russeldale. 141, Knock—S. Connol, Master, Stroud; Wm. Hunter, Secretary, Craigvale. 142, Maple Grove—R. D. Foley, Master, Bowmanville; Richard Foley, Secretary, Bowmanville. 143, Somervale—B. H. Bain, Master, Fullarton, W. J. Philips, Secretary, Fullarton. 144, Tottenham—Geo. Nolan, Master, Tottenham; Rob't L. Lowery, Secretary, Tottenham. 145, Nelson—Abraham Stinson, Master, Nelson; David Sinclair, Secretary, Nelson. 146, Painswick—W. H. Newson, Master, Painswick; W. Hunter, Secretary, Painswick. 147, Norfolk—Isaac Austin, Master, Port Dover; D. B. Palmerton, Secretary, Simcoe. 148, Carlisle—Geo. Gartle, Master, Carlisle; Reuben Sparks, Secretary, Carlisle. 149, Mountain—Rich'd. Dick, Master, Chettenham; Arch'd Frank, Secretary, Chettenham. 150, North Western—John S. Leslie, Master, Georgetown; Alex. Stirrat, Secretary, Glen Williams. 151, James Lourie, Master, Charing Cross, Abert H. White, Secretary, Charing Cross. 152, Triumph Union—Wm. Laing, Master, St. Mary's; Wm. Porter, Secretary, St. Mary's. 153, Edgar—Rob't. Richardson, Master, Edgar; Thos. McLeod, Secretary, Dalston. 154, East Whitby—Joseph Langmaid, Master, Taunton; James C. Fox, Secretary, Toley.

High Bred Cattle and Sheep.

The *North British Agriculturist*, Scotland, does not seem to be one of those journals which decry live stock that are high bred and bring great prices, because they are so raised. It says: "Those high-bred and high-priced Shorthorns which have of late come in for so much abuse at the hands of certain agricultural journalists, cost perhaps too much money, but that can't be helped; but to say that breeding entirely from certain strains is a mistake, is open to question. Take two representative bulls, the Duke of Devonshire's Duchess bull and the Lord Erwen; say nothing about pedigree, the latter may in a sense be the best beast; and there is no man half a judge, not to speak of pedigree, would prefer him to the Duchess bull. "Lord Polwarth's rams are the Bates of the Border Leicester, sheep. Look what they make every year! There is no man who has done anything in the show-yard in Border Leicesters but has drawn more or less from Lord Polworth's stock. Are they themselves show yard sheep? Why does a practical hard working farmer give Lord Polworth 195 guineas for a tup? He could buy one at 20 guineas that would beat him in a show-yard. The latter would beat the former in a show-yard; but the practical farmer knows that his stock would not, and that makes all the difference. It is well known that Lord Palwarth has bred from the best of his own stock for a great number of years. They are close bred, and improve the stock wherever used. If he were to follow the advice of the writers in the *Agricultural Gazette* he would not stick to high-bred ones, but would select thick-fleshed, well-wooled sheep from "A pains-taking breeder," and would, I have no doubt, spoil his own flock, and thereby also injure the breed of the Border Leicester throughout the country. "So it is with Bates and Booth cattle of high descent. The big prices are the very things that keeps the strains pure and helps to fertilize the whole Shorthorn world. There is a certain potency in a small quantity of this high-bred blood—latent it may have been in the original—but when mixed with that of more plebeian origin it finds its way into those thick-fleshed animals which "pains-taking breeders" like to see."

Mr. Charles G. Boemer, of Verve, Switzerland County, Indiana, reports the result of microscopic examinations recently made by him to determine whether pork in that locality was affected with trichina. Out of 187 slaughtered hogs examined, 11 were found to be affected. Three of these contained encysted trichina spiralis, and eight various other forms. The parts examined were the ham, shoulder and tenderloin. A magnifying power of from 50 to 100 diameters most distinctly revealed the parasite when present; a higher power cut off the light too much. He also found in the muscles of a rat he examined, trichina indetical with those in the flesh of swine.

Stock and Dairy.

Corn Fodder.

For several years past I have grown corn as a second crop after early potatoes, and have found it valuable both for late roasting ears and fodder. We usually dig our early potato crop between the 4th of July and the 10th of August, and as fast as the potatoes are taken out put in corn by running furrows with one-horse plow four feet apart, and three deep, in which we plant corn thick enough to insure one every 10 or 12 inches, then throw a good furrow on the corn and follow on the top of the rows with a roller. I keep 15 horses and mules and 5 cows, none of which have been fed with hay from the 1st of October to the present date only as chopped feed with middlings from the mill, but have had plenty of corn timothy hay. My horses and mules are kept at work steadily and kept in good condition. I consider my corn crop, grown on potato, ground worth more than a crop of turnips. As evidence of value placed on corn fodder by stock men, I have known the blades taken hundreds of miles to feed to race horses in preference to feeding good hay. —[E. T. (market gardener), Jefferson Co., Ky.]

MAIN SUPPORT OF TWENTY-EIGHT HEAD OF STOCK.

The article condemning sowing corn so unsparingly should not pass without notice. Mr. Beckman's manner of curing was where the trouble lay; any kind of feed cured in that manner would be worthless. I will describe my mode of management and the results: As soon as we got our corn planted last spring I put a plow into a four-acre lot that never had any manure on it, but had not been run down; had it plowed, followed the plow, and dropped in every second furrow-seam, about 18 inches apart, from 10 to 20 grains of corn, then took a two-horse harrow and harrowed in. I had designed to work some with shovel plow, but it came on very dry, and there were no weeds, so it was not worked at all. In September it was as tall as common corn, but was very thick on the ground. I hired a man to cut it up, as corn is usually cut, and tie it in shocks, paying him \$2 per acre. We hauled some of those shocks day before yesterday, and I think Mr. B.'s cattle would have eaten them without steaming. The cost of that lot of feed (and I did not get less than 18 tons of it off those four acres) did not exceed \$20, and it has furnished the principal support for 28 head of horses and cattle for the last two months, and some left to feed next month.

As I have remarked, last summer was very dry, and I did not mow ten tons of hay with a stock of 30 head of horses and cattle to winter, and after mowing over 10 acres of ground the 1st of July, and getting about three tons of inferior hay, I thought something must be done. There came some rain about the 10th of the month, and we plowed five acres of the lot that gave us the above-mentioned crop of hay, and sowed corn broadcast about the 20th of July. Sowed about 1½ bushels of seed to the acre; harrowed it in; did not touch it till we were threatened with frost; got one of my neighbors to cut it with a self raking reaper, got three or four hands to stand it up in moderate-sized shocks, and tied it up well and let it stand until we wanted to use it. It would average about six feet in height, and there was not less than 20 tons of dry feed on the lot, and I find the account stands thus: For plowing five acres, \$10; seed, harrowing, and cutting, \$15; shocking and use of land, \$20; 20 tons of feed at \$10 per ton, \$200; profit, \$125.

Now to sum up—those two lots of fodder, nine acres in all, have wintered 28 head of milch cows and grown horses up to this time, with less grain than we usually use when we have hay. My cows eat it well, and we have not had occasion to throw away five bushels of waste. We cut and steam it, and our cows milk well and give a good yield of butter to the quantity of milk, and as good quality as we ever had from hay. This was done without manure, grown on land that was in good condition and we put no extra work curing; stood it up in moderate sized shocks, and let it stand until we wanted to use it. I will say this much more in favor of sowed or drilled corn, that I can get enough more off my ground to well afford to plow up old fields, and take off a couple of crops until the sod gets pretty well rotted, and then re-seed to grass, and I would rather have it to cut and steam than any other feed I have ever handled. My experiment proves an assertion that I have frequently made, to wit, that fodder-corn should be cut as

soon as it tassels; my stock eat the late sowed much better than that which was planted early, and had small ears.—Chas Jenkins, Mahoning Co., Ohio.

ITS IMPORTANCE IN DAIRY PRACTICE.

I think Mr. B.'s first mistake was in sowing Southern corn. It could not have been fully matured by the 24th of August. It is a very difficult matter to cure sowed corn that has not reached its full growth. The second mistake was the bleaching process. "After curing for several days, turning twice in the mean time," he "hauled it upon a meadow and spread out for several days and then bound up in stooks." Then, in consequence of heating under the bands, it was "all spread out again, turning several times," &c. No wonder that "it is good for nothing." What kind of grass or clover would stand that amount of bleaching and be good for anything? Fodder-corn is becoming a very important part of dairy farming, since it can be sown as late as the middle of June with good success, after an early drouth has shortened the grass crop.

The common practice here is to cut with the reaper, if the growth is not too large nor the ground too soft. Let it lie a day or two if the weather is fair, and set up in shocks large enough to stand firmly, and bin it not too tight. It is better to bind with two bands, one quite near the top. Let it remain until cold weather. There is a great deal more fodder corn injured in the barn than in the shock. There is another method practiced where it is intended to follow the corn with wheat or rye: Sow early with an early variety, so as to get a mature growth. To harvest, bind in small bundles, set three or four together, let stand a week or two, as you can afford the time before plowing; then haul on a meadow, or some grass plot near the barn, and set up in large shocks and let remain until wanted, when it can be carried to the barn or hauled in as needed, a sled-load at a time. Not every farmer has barn-room enough for everything raised on the farm, and corn will stand the weather better than straw, while straw is already in the barn, and it is considered a pretty hard job to store away several tons of fodder in a loft without being able to bring the elevator into use.—Cor. N. Y. Tribune.

Method of Making Fine Cheese by the Cheddar or English System, from Tainted, Sour and Fine Milk.

The milk that is delivered at cheese factories is not always in the same state, sometimes being tainted or partially putrid,—sometimes sour, or nearly so,—and sometimes it is what it ought to be, perfect. I propose to describe the process, first, when the milk is all right; second, when it is partially sour, and third, when tainted.

1st. The evening's milk, when delivered at the factory, ought to be cooled so that its temperature will be from 58° to 62° in the morning. When the morning's milk is added, it is heated to 80°, then enough rennet is added to coagulate the mass in as nearly forty minutes' time as possible. When the curd has attained sufficient consistency, it is then cut four times, twice with the horizontal curd knife, and twice with the perpendicular one, with a short interval between each cutting. The curd is then gently manipulated and heated to 96°, care being taken to prevent the curd from packing on the bottom of the vat; the time required for heating being from an hour to an hour and a half. The stirring is continued for ten or fifteen minutes after the heat has been attained; the curd is then allowed to pack on the bottom of the vat where it lies undisturbed until the separation of the whey from the curd becomes necessary. Up to this stage the process is almost identical with that practiced in manufacturing cheese in the usual manner.

In the manufacture of the American cheese [I will so designate the method usually practiced, to distinguish it from the grinding process which I will term Cheddar,] it is of importance to determine the precise time at which to separate the whey from the curd. But in the manufacture of Cheddar cheese, it is not of the same importance, as the whey can be separated from the curd from half an hour to an hour and a half before acidity is developed enough to be perceptible; and on the other hand the whey can be left on the curd till the acid is distinctly perceptible without materially affecting the quality of the product. As the acid or souring generally makes its appearance about noon in summer, the Cheddar system gives the factory hands more time for dinner.

When the whey is drawn off and the vat tipped down one end, the curd is then heaped on each side of the vat, leaving a space in the middle to allow the remainder of the whey to pass off. I may here state that where the "shute" or flood gate is not used, there ought to be, in the Cheddar system, a faucet in the vat, to allow the whey to pass off as it drains from the curd. After the curd has laid in a heap on the bottom of a vat for fifteen minutes or half an hour, and the original particles of curd have become amalgamated into a solid mass, it is then cut into convenient pieces with a knife and turned over, and so left until the curd has become sour enough for grinding and salting; which is determined by the taste of the whey that drains from the curd. This whey should have a sharp, sour milk taste, which can be understood by any intelligent cheesemaker after a few days' experience. The curd is then torn by hand into strips of two or three pounds weight and allowed to cool a short time, in order to allow the butter in it to become solid enough so as not to escape during the operation of grinding. The curd is then ground into small pieces, averaging about the size of hickory nuts. Five hundred pounds can be ground by the hand with McAdam's curd mill, in from five to ten minutes, according to the toughness of the curd and the muscle of the operator. The salt is then immediately added and mixed thoroughly at the rate of from 1½ to 2½ lbs. per 1,000 lbs. milk, according to circumstances and the season; the curd is then ready to be put in the hoops for pressing.

2d. Mode of procedure when the milk we have to handle is from whatever cause) sour or partially sour. You are well aware that when milk is partially sour it will coagulate in the same length of time as sweet milk with the addition of considerable less rennet. But I usually add more rennet, instead of less, so as to have the coagulation occur very quickly. As soon as the rennet has completed its office, I commence cutting and working curd much more rapidly than usual. In such cases I use very little heat in scalding, seldom heating over 86° or 90°, according to the severity of the case, and in some instances when the milk is very sour, I do not think that it is advisable to heat the curd at all after coagulation.

I reason in this way: Just as good cheese can be made without scalding at all, as with it. The reason that we scald the curd, [if heating it to a temperature of 98° can be called scalding] is to develop the acid sooner; and if, when the curd is inclined to develop acid sooner than usual, we heat to a temperature of 96° to 98°, we hasten the action of the acid, which is the very thing we are trying to avoid. In other words, when the acid in the curd is developing too fast of its own accord, we develop it still faster by means of heat, and thus aggravate the evil.

After this curd is cut up, the whey must be removed from it as fast as it makes its appearance, and as soon as practicable the vat must be tipped down and the curd thrown to the upper end of the vat. The curd at this stage is very sloppy, as it contains considerable whey. One person should now cut it into small pieces with a knife, and another turn the pieces over and pile them in heaps, so as to liberate the whey which will run off in a continuous stream. When the curd has assumed a proper consistency, it must be ground and salted; the quantity of salt used must be according to the amount of whey contained in the curd, which is generally in such cases considerably more than usual. In extreme cases, the whole process from the adding of the rennet to the mixture of the salt, can be performed in less than an hour. So, when we have a vat of sour milk to handle, we must add more rennet to counterbalance its action on the nitrogenous ingredients of the milk, and thereby causing the cheese to ripen much quicker than if less rennet had been added.

I have found by experiment that the cheese made from sour milk in the above manner will cure as fast as other cheese, but they require more annatto to make them of the same color as the other cheese, those sour milk spores appearing to have a destructive effect upon annatto; and that such cheese will have a tendency to mould, but the flavor will not be objectionable.

3d. When the milk to be made into cheese is tainted or has an excess of putrefactive spores. This tainted milk occurs in some localities in hot weather, and I think that the milk is damaged in most cases before it is drawn from the cow. But of course it can be greatly aggravated by being brought in contact with unclean milk-pails, strainers, cans, &c.

In handling such milk I prefer to have the temperature of the evening's mess about 68° or 70° in

the morning before for I maintain the cooled, so as not ing, the better the milk is properly

With the single cooling of the tainted milk as of the whey from the whey to be slightly perceptible off and the curd is badly tainted bottom of the original size; in under the action an offensive odor be allowed to be important, as the whey as the odor and as the drains from and are, in a great

The acid ought kill the taint withstanding the will be a fine cheese of acid has been ground and salted as when not ventilated as milk presses.

One other fact more milk to make than when it is the curd has to and of course the less will be the

I have endeavored grinding. I wish it. In the first instance, to make a pound; and, in the judgment of the so much skill as I think that Cheddar process time appear much faster.—Cheese

We are inclined following abstract

The extent of its productions corn, the meat is the most of food, but it constitute milk power of change therefore under whether there Since certain v in Germany, of quality of milk This is as philosophy in your dwelling not from the stove would be How are breed the primary qualities of the of the cow extended learned and quality of milk The improvement first by food at in increasing the will do under the quality and quantity of the char feeding. But ordinary cow milk This I have prepared I began with through a season from twenty-five pound from the ratio before the season I gained three pounds of a similar experience gained a large

the morning before the morning's milk is added, for I maintain *the less that tainted or putrid milk is cooled*, so as not to be absolutely sour in the morning, the better the product will be obtained, if the milk is properly handled.

With the single exception of the difference in the cooling of the milk, the process is the same with tainted milk as with good milk, until the separation of the whey from the curd. When tainted, we allow the whey to remain on the curd until acid is slightly perceptible, whether the curd is on the top of the whey or not. The whey is then drawn off and the curd handled as before. When the curd is badly tainted, and lying in a mass in the bottom of the vat, it will swell up to twice its original size; in fact it rises very much like dough under the action of yeast, and when broken emits an offensive odor.—The exact degree of acidity to be allowed to develop at this point is the most important, as well as the most difficult thing to determine in the whole management of floating curds, as the odor and taste of both the curd and whey that drains from it very much resembles acid, and are, in a great many instances, mistaken for it.

The acid ought to be developed just enough to kill the taint and no more; and the result, notwithstanding the assertions of some to the contrary, will be a fine cheese. After the requisite amount of acid has been determined upon and the curd ground and salted, [using the same amount of salt as when not tainted,] the curd must be cooled and ventilated as much as possible before being put to press.

One other fact I wish to mention: It requires more milk to make a pound of cheese when tainted, than when it is not. One reason for this is that the curd has to be made more acid when tainted, and of course the more acid there is in the curd the less will be the quantity of cheese.

I have endeavored to tell you how I practice grinding. I will now try to tell you why I practice it. In the first place, I think it requires less milk to make a pound of cheese under equal circumstances; and, in the second place, it does not tax the judgment of the cheesemaker so much, or require so much skill and attention; and, in the third place, I think that the cheese made properly by the Cheddar process will be closer and at the same time appear more rich and buttery and will cure faster.—*Cheese Market Review.*

Special Feeding.

BY E. W. STEWART.

We are indebted to the *Utica Herald* for the following abstract of this paper.

The extent of dairy industry, the cash value of its productions, exceeds the cotton, the wheat, the corn, the meat, and even the hay crops. The cow is the most economical manufacturer of animal food, but she can only select the elements that constitute milk, from vegetable food; she has no power of changing the elements. Dairymen should therefore understand animal nutrition, and know whether there is any advantage in special feeding. Since certain very partial experiments were made in Germany, dairymen have been told to seek quality of milk in the breed, and not in the food. This is as philosophical as it would be to seek heat in your dwelling from the pattern of the stove, and not from the fuel supplied. The best possible stove would be of little account without proper fuel. How are breeds produced? Has not the food been the primary element in developing the milking qualities of the breeds? As far back as the history of the cow extends it has been the belief of the learned and unlearned, that both quantity and quality of milk may be increased by special feeding. The improvement of all animals has been caused first by food and climate. Whatever food will do in increasing the aptness of an animal to fatten, it will do under like circumstances, in increasing the quality and quantity of milk. Skillful feeding induces the characteristics which may be fixed by feeding. But feeding must be continued. An ordinary cow may be greatly improved by feeding. This I have proved by experience. With one cow I began with oil-meal and bran, and continued through a season. Thus I gained a pound of butter from twenty-five pounds of milk, instead of one pound from thirty pounds of milk, which was the ratio before the special feeding. After another season I gained one pound of butter from twenty-three pounds of milk. This was a heifer. I tried a similar experiment with a six-year-old cow, and gained a large increase of milk. This was done

before coming in, and keeping it up through the season. The increase was one-third the quantity of milk and one-half the quantity of butter. This cow gave 6,278 pounds of milk in her twentieth year. The flavor of flesh is also changed by feeding. This is proved by the domestication of fowls and animals. The flavor of milk, butter and cheese are also changed by feeding.

"The German experiments of Kahn have resulted disastrously upon the public mind. The experiments only reached over fourteen days. This was too short to test it. You cannot expect to modify the quality in two or three weeks. It must be pursued for one, two or three seasons. It is unfortunate to weaken the confidence of the dairymen in the power of food as his great reliance in the production of quantity and quality of milk."

Artificial Coloring of Cheese.

The *Massachusetts Ploughman*, in an editorial, "more about cheese," refers to the artificial coloring in terms not at all favorable. He says:

The use of annatto to color the cheese artificially is somewhat common in this country, though probably not so much so as in many other countries. Annatto, or annotto, is made from the red pulps of the seeds of an evergreen tree of the same name, found in the West Indies and in Brazil, by bruising and obtaining a precipitate. A variety is made in Cayenne which comes into the market in cakes of two or three pounds. The quantity used is rarely more than an ounce to one hundred pounds, and the effect is simply to give the high coloring so common to the Gloucester and Cheshire cheese, and to many made in this country. This artificial coloring is continued from an idle prejudice, somewhat troublesome to the dairymen, expensive to the consumer, and nothing to the taste or flavor of the article. The annatto itself is so universally and so largely adulterated, often by poisonous substances, such as lead and mercury, that the practice of using it by the cheese maker, and if requiring the high coloring by the consumer, might well be discontinued.

Improvement of Dairy Stock.

From a newspaper report, we learn that a statement was made at a meeting in Boston of the "Milk Producers' Association," that twenty years ago the annual production per cow in New England was 200 gallons of milk, and that now it is more than double that quantity. Such a statement coming as it does with considerable authority, indicates a great improvement, either in cows or in the manner of keeping and caring for them. To double the average product in twenty years, is to make a remarkable improvement. But when we look at the figures, we see at once, not only that this advance ought to have been made, but also that there is room for a great deal of improvement in the future. Let us examine the statement. The average cow in New England gives 400 gallons, or more than five quarts per day. This is very far below what ought to be done, although it is above the estimated average of cows in the State of New York, as given by Dr. Sturtevant. This estimate is that the average cow yields only thirteen hundred and fifty quarts, and the average of superior dairies is eighteen hundred quarts. This allows only a trifle over four and one-third quarts per day for each of the common, and a little less than six quarts for the superior classes of cows, if they go dry two months of the year. That those who make butter, and judge of cows by the quantity of butter instead of milk obtained, may get a fair idea of the income received from these cows, let us consider how much butter can be made from one of them in a year. Allowing twelve quarts of milk for one pound of butter (and on an average it will probably take as much as that), we have as the product of the average New England cow, one hundred and twelve and one-half pounds; and of the "superior dairies" of New York, one hundred and fifty pounds. Every one must admit that these figures are very low, and indicate an opportunity for continued improvement. And as there are numbers of cows which we know produce more than double the average amount and a great many more which far exceed it, there must be a vast number which fall far below even the low average given, and whose rate of production is almost down to nothing.

It is plain that something ought to be done to still farther improve our dairy stock. Either better breeds should be introduced, or better cows of the same breeds that we now have should be obtained, or better care and feed should be given—some of these things ought to be done. And just

to show what has been done by one man in New England, we will state that the record of "Maplewood" herd in Fitchburg, Mass., as reported in the agricultural papers, shows that in 1872-73 sixteen Ayrshire cows averaged twenty-five hundred and eighty-nine quarts of milk, and according to our former allowance of twelve quarts of milk for one pound of butter, equal to two hundred and fifteen and three-fourths pounds of butter per cow. Years in which a less number of cows were kept, this yield was considerably exceeded. For so large a herd, we think this is a very good record. Now, if the cows throughout the country could show such an average, what an increase both in production and profit there would be. And we know no reason why cows cannot be as productive elsewhere as Fitchburg. If the same care were exercised in selecting good stock, and in feeding and tending it, just as good results could be obtained. This subject is worthy of the thoughtful attention of every man who is fortunate enough to own a cow. We hope the hints thrown out will be considered and acted upon, and that the time will soon come when the average production of cows in this country will not be less than twenty-four hundred quarts per year.—*Live Stock Journal.*

A General Road-Law for Cattle.

It seems strange that anyone can find an argument in favor of permitting stock to run at large on the public highways, yet now and then there are attempts to defend the practice. One of the most common, and the one having most weight with unthinking people, is that it is a great oppression of the poor man. This, if true, would be a strong argument. Even if not true, it is one that if raised as a question always frightens the legislator. He depends for his position on the votes of the poor man as well as on the rich, and if the cry is raised that he has any disposition to oppress the poor, the whole class takes sides against the candidate and his election is lost. We think it probable that there is no one who reflects at all on the subject that can defend on any grounds the practice of permitting cattle to run at large on the highways; and it must be that this permission which is as unjust to the whole community as it is defenceless, would not be tolerated for a moment by any law-making body, were it not for fear of the cry of the oppression of the poor.

But so far as its being a measure of this kind, the fact is generally the reverse. In all those places where cattle are allowed to run at large, it is mostly found that the stock belongs to people who are not poor, but merely people who can very well afford to keep cattle in their own pastures, if they were so disposed. Thousands of poorer men who do not own anything of the kind, are in continual danger of annoyance and trespass from the cattle of their richer neighbors. Once in a while a poor man may have his solitary cow, which he turns along the roadside to pasture, but in the majority of cases there is enough to make a drove which no poor man owns. We are quite satisfied that the "poor man" cry has no foundation, and that any legislature which desires to act justly and fairly in legislating against the nuisance, need not for a moment fear any serious effects from it.

But lately we have seen another argument. It is that roadside cattle—goats, sheep, cows, and so forth, are public benefactors and ought to be encouraged. They are usually half starved, so it is said, and are glad to eat anything. So all sorts of noxious weeds that grow alongside the highways, and which in other events go to seed and scatter weeds on everybody's land, are eaten off and so prevented from doing any damage. This looks well on paper, and to a law-maker, who has no knowledge of the subject, might be thought a strange one; but the truth is that generally these noxious weeds are avoided by cattle, and they rather grow stronger and produce more seeds for having the more harmless vegetation eaten away, and the whole ground given up for their more perfect development and maturity. Usually, our law-makers have tried to dodge the main question, and prevent the running of cattle in spots by a sort of local option. Let them pluck up courage and pass a general law forbidding the cattle from running at large anywhere. It may be that there are some back-wood places, where population is sparse, and where no possible injury results to anyone from the practice. In such cases no one would be there to have the law enforced, and so no one would be hurt. It is only where people are likely to be injured that any appeal to the law is likely, and all such ought to have such protection when they desire it. Let us have a general law by all means.—*Germantown Telegraph.*

Fireside Selections.

A Farmer's Wife I'll be.

I am a wild and laughing girl, just turned of sweet sixteen,
As full of fun and mischief as any you have seen;
And when I am a woman grown, no city beau for me,
If e'er I marry in my life, a farmer's wife I'll be.

I love a country life; I love a joyous breeze:
I love to hear the singing birds among the lofty trees.
The lowing herds, the bleating flocks make music sweet for me,
If e'er I marry in my life, a farmer's wife I'll be.

I love to feed the chickens, I love to feed the cow;
I love to hear the farmer's boy whistling at his plow,
And fields of corn and waving grain are pleasing sights for me;
If e'er I marry in my life, a farmer's wife I'll be.

I love to see the orchards where the golden apples grow;
I love to walk in meadows where sparkling streamlets flow.
The flowery banks and shady nooks have many charms for me—
If e'er I marry in my life, a farmer's wife I'll be.

Let other girls who love it best, enjoy the gloomy town,
And dusty streets and dirty walks, to ramble up and down;
But flowery fields and shady woods, and starry skies for me,
If e'er I marry in my life, a farmer's wife I'll be.

Prairie Farmer.

Hints.

TO BE READ AND REMEMBERED BY AS MANY YOUNG ONES AS POSSIBLE.

Do not waste valuable time by waiting to see what turns up, but turn up every available stone yourself to see what chances lay under it.

If you wish to progress in life, take every opportunity of improvement which comes within your reach. The best means to attain success is to qualify yourselves for superior duties. Depend upon it, that young man is more likely to secure a good position in life who becomes proficient in two or three continental languages before he is twenty-one, than the youth who is an expert at billiards or cards.

Never take the advice of those persons who are always finding fault with everybody and everything. When put upon their mettle, these universal fault-finders generally represent the genus "duffer" in every possible way.

It is of no use finding fault with a trade while you are obliged to stick to it to get your living. While you are at it make the best of it. Leave it as soon as you can get a better, but never give it a bad name while you are in connection with it.

Do not spell the word difficulty with the right letters which form the word, and pronounce it as impossibility. Too many persons put the meaning of the latter word to the former, which accounts for so many difficulties in life never being overcome.

The nearest way to wealth is often the farthest from honesty.

The man who turns his back on his work of a Monday, often has to pull a long face at his necessities on a Saturday.

Never expect others to do that for you which you ought to do for yourself. Interest is very useful to help a man on in life, but if you cannot get that help try to do without it. The man who sat still and expected his friends to make his fortune for him, came to the workhouse at last.

Christmas comes but once a year, when it is good to be merry and wise. But if you are merry at Christmas without being wise, you may have cause to be sad all the year round.

Many authors who write very pleasant stories are very unpleasant men themselves, when you come to know them. Actions speak louder than words. You cannot tell a man's disposition by the cut of his coat.

Emigration is not a cure for every ill which befalls a working man. He may go further and fare worse. Though he may have friends in a new country, they may be very distant to him even when he is near to them. It is a mistake to presume that competency or position can be attained in other countries without great sacrifices any more than in Canada. Never go to a country without seeking the advice of some one who has been there before. Strong arms and robust health are of more use than gentility and deportment in a rising country. In many places a blacksmith can sport his pony and trap, while a dancing-master is glad to sweep a crossing.

Never borrow if you can possibly help it; but if you do, pay to the hour promised. Many a young

man loses a friend through making him a permanent trustee and creditor.

When you marry, never let money be love's substitute, because the former soon disappears, while the latter lasts a lifetime.

In your journey through life try to make as many friends as possible, for they are sure to be useful even in after years. Friendship is like bread cast upon the waters, and often turns up when least expected. For every enemy you make yourself you may safely count a score, because he will do his best to convert everybody who knows you into an enemy besides himself.

Labor Conducive to Long Life.

In view of the short duration of life entailed by some occupations, it must be regarded as a consoling, yea, a sublime fact, that labor in general does not tend to shorten life; but, on the contrary, by strengthening health, lengthens life; while on the other hand, idleness and luxury are productive of the same results as the most unhealthy occupations. Dr. Guy, an Englishman, in calculating the average duration of life in the wealthy classes, arrived at the very surprising result, with regard to adults, that the higher the position in the social scale, the more unlimited their means, the less the probability of a long life.

We have so long been accustomed to consider the possession of riches as the best guarantee for physical welfare, that many will be surprised to hear that "the probability of the duration of life lessens, with regard to adults in each class of the population, in the same degree as the beneficial impulse for occupation is lacking. If a person who for a long time has lived an active life, retires from business, it may be taken for granted, with a probability of ten to one, that he had seized the most effective means to shorten his life. Of all conditions of life, idleness is hardest for nature to combat; and this is especially true of persons who have accustomed themselves to a busy life."

Earth Eating.

It is well known that in different parts of the world there are people who eat earth; among them are some of the natives of Java, who eat a red kind of earth as a luxury. This earth, which is soft and smooth to the touch, has been analyzed by a German chemist, who finds it very rich in iron, with a small quantity of potassa and soda.

Some tribes eat earth to stay the pangs of hunger by filling their stomachs, and because at times they can get nothing better; but the people of Java eat their earth, baked in thin cakes, as an agreeable variety in their general diet. The cakes when slightly moistened, are rich and unctuous, and the enjoyment in eating is supposed to consist in the sensation produced by a fatty substance. It is a curious fact in the history of human habits.

Saying "Hateful" Things.

What a strange disposition is that which leads people to say "hateful" things for the mere pleasure of saying them; you are never safe with such a person. When you have done your best to please, and are feeling very kindly and pleasantly, out will pop some underhand stab, which you alone can comprehend—a sneer which is masked, but which is too well aimed to be misunderstood. It may be at your person, your mental feeling, your foolish habits of thought, or some little secret opinions confessed in a moment of genuine confidence. It matters not how sacred it may be to you, he will have his fling at it; and since the wish is to make you suffer, he is all the happier the nearer he touches your heart. Just half a dozen words, only for the pleasure of seeing a cheek flush and an eye lose its brightness, only spoken because he is afraid you are too happy or too conceited. Yet they are worse than so many blows. How many sleepless nights have such mean attacks caused tender-hearted men! How, after them, one awakes with aching eyes and head, to remember that speech before everything—that bright, sharp, well aimed needle of a speech that probed the very centre of the soul! *Hous hold.*

Curious Things About Ice.

Besides the fact that ice is lighter than water, there is another curious thing about it which many persons do not know, namely, its purity.

A lump of ice melted will always become pure distilled water. When the early navigators of the Arctic seas got out of water, they melted frag-

ments of those vast mountains of ice called icebergs, and were astonished to find that they yielded only fresh water. They thought that they were frozen salt water, not knowing that they were formed on the land, and in some way launched into the sea. But if they had been right the result would have been all the same.

The fact is, the water in freezing turns out of it all that is not water, salt, air, coloring matter, and all impurities. Frozen sea water makes fresh water ice. If you freeze a basin of indigo water it will make it as pure as that made of pure rain water.

When the cold is very sudden these foreign matters have no time to escape, either by rising or sinking, and are thus entangled with the ice, but do not form any part of it.

Laughing Plant.

In Arabia there grows a plant, the seeds of which produce effects very much like "laughing gas." It grows to the height of three or four feet, bears yellow flowers, and has black seeds very much like beans in size and shape. These have a sweetish taste, and a flavor something like opium. These seeds, when ground and eaten, operate in an astonishing way. The person begins to laugh boisterously, then dances, sings, cuts capers, and is uproariously funny for about an hour, when he falls into a deep sleep, from which he awakes totally unconscious of what has happened. But like a man who has been intoxicated, we suspect, he feels the more tired and stupified for it.

Varieties.

The greatest height at which visible clouds ever existed does not exceed ten miles.

Curses always recoil on the head of him who imprecates them. If you put a chain round the neck of a slave, the other end fastens itself around your own.

The drying of grapes, for making raisins, is becoming a large industry in California, the highly saccharated juice of the American grapes peculiarly fitting them for the purpose.

The man is rich who has a good disposition—who is naturally kind, patient, cheerful, hopeful, and who has a flavor of wit and fun in his composition. The hardest thing to get along with in this world, is one's own self. A cross, selfish fellow, a desponding and complaining fellow—a timid, care-burdened man—these are all born deformed on the inside. Their feet do not limp but their thoughts do.

The Shaster, or Hindoo bible, forbids a woman to see dancing, hear music, wear jewels, blacken her eyebrows, eat dainty food, sit at a window, or view herself in a mirror, during the absence of her husband; and it allows him to divorce her if she has no sons, injures his property, scolds him, quarrels with another woman, or presumes to eat before he has finished his meal.

Sunflowers were recommended by a commission of European servants called by Bismarck to rid the air of the taint occasioned by the heaps of dead near Paris. They called the sunflower a precious plant for that purpose, as having a great power of absorbing the nitrogenous matters in which the soil would be so rich, as yielding an excellent oil from its seed, good forage from its leaves and having a combustible stalk which can be used in the domestic fireplace.

A strange incident was witnessed in England lately. In the afternoon, when the Park was crowded, a Mahomedan excited great astonishment by unrolling his praying mat on the greenward, kneeling down, and with his face turned towards Mecca, gravely performing a long act of devotion. A considerable crowd assembled to contemplate the Mussulman, whose nationality was unmistakably that of an Indian subject of the Queen, and who appeared to be wholly unconscious of the curiosity he excited.

THE GERM OF GREATNESS.—He that can understand and delight in greatness was created to partake of it; the germ is in him; and sometimes this admiration, in what we deem inferior minds, discovers a noble spirit that belongs to the great man who awakens it; for sometimes the great man is so absorbed in his own greatness as to admire no other; and I should not hesitate to say that a common mind, which is yet capable of a generous admiration, is destined to rise higher than the man of eminent capacities, who can enjoy no power or excellence but his own.—*Channing.*

Uncle

To My

I have ordered the choicest Balsam of Phlox Drummond, Amaranthus, &c. prices that we charge. We give for one new puzzle or chat Department:—six Col. Chene packages choice the 20th of May.

I shall take a See what a be dise has. Tom, have you We had a big I looked in th toad. We feared a t

I am compose 9, 6 is a useful My 13, 3, 8, 14 bird. My 15, 1 3, 9, 16 is a d drink. My w U. S. statesman

33. Place th way that by ad to 100.

34. Place fo

35. I am lea And also I always And if My dress And I Although Sometime But afte That in

36. Mr. Ho to fatten, and eight pens, so t could count nin four that he wi H.'s pens so th being only nine they were fat e and slipped out more belonging so as to have st done?

37. What's Might And is 'Tis tha Whose And fu From it Withou Source 'Tis tha Health, The th

38. In sprin In sum When And in

39. Luke h Pearl H Silas h And J

Uncle Tom's Department.

To My Nephews and Nieces.

I have ordered from England a small lot of the choicest Balsams, Asters, Stocks, Hedderwigii, Phlox Drummondii, Cockscombs, Zinnias, Globe Amaranthus, &c., and many of them cost such high prices that we can only put a few seeds in a package. We give you three of these choice packages for one new subscriber. Prizes for the best three puzzles or charades (original) for Uncle Tom's Department:—1st, one Janesville Grape-vine; 2nd, six Col. Cheney Strawberry plants; 3rd, three packages choice flower seeds. Answers to be in by the 20th of May. UNCLE TOM.

31. HIDDEN FRUIT.

I shall take a nap, please do not disturb me. See what a beautiful plumage the bird of Paradise has. Tom, have you been lame longer than I? We had a big gale Monday. I looked in the mill and saw at the bottom a toad. We feared a tempest was coming. HATTIE HAVILAND.

32. HIDDEN NAME.

I am composed of sixteen letters. My 10, 3, 4, 9, 6 is a useful animal. My 7, 4, 2, 12 is a bird. My 13, 3, 8, 14 is an animal. My 9, 7, 8, 16 is a bird. My 15, 14, 14, 6, 4 is an animal. My 5, 15, 3, 9, 16 is a domestic fowl. My 1, 11, 12 is a drink. My whole is the name of a distinguished U. S. statesman. F. LOWRY RICHARDSON.

33. Place the several figures under 10 in such a way that by adding them down they will amount to 100. TABITHA WEST, McGillivray.

34. Place four nines so as to equal one hundred. FRANK PARKINSON, Teeswater.

CHARADES.

35. I am least of the feline race, And also fill a humble place; I always grow above the ground, And if I'm sought am easy found; My dress is silky, soft and white, And I always am the child's delight; Although I am of noble birth, Sometimes I lay upon the earth; But after all I'll let you know That in a tree I always grow. JNO. H. HOUSER, Canboro.

PUZZLES.

36. Mr. Honest having 24 sheep that he wished to fatten, and he being blind, had them placed in eight pens, so that in going to them every day he could count nine in a row. Mr. Cheat also having four that he wished to fatten, placed them in Mr. H.'s pens so that he could not detect them, there being only nine in a row. Mr. C. finding out that they were fat enough to sell, went one dark night and slipped out his own four, also taking four more belonging to Mr. H., then placing them again so as to have still nine in a row. How was this done? JOHN FOWLER, Bellevue Farm.

RIDDLES.

37. What's that which often set at nought Might well by royal hands be sought, And is for wounding uses wrought. 'Tis that which wounds but sheds no blood, Whose might has the whole world subdued And furnished all mankind with food. From it empires take their rise Without a human sacrifice; Source of all trade and merchandise, 'Tis that which every land befriends, Health, wealth and sweet contentment sends, The throne upon its might depends. E. M., Monckton.

38. In spring I look gay, decked in comely array; In summer more clothing I wear; When colder it grows I fling off my clothes, And in winter quite naked appear. JENNIE M. LYNN, Linton.

39. Luke had one before, Pearl had one behind, Silas had one in the middle, And John, poor fellow, had none at all. BESSIE, Oxford Mills.

40. What is it that grows in the woods and sings in the town, and earns its master many a crown? TOM RUSTON.

SQUARE WORDS.

41. A Biblical personage, a robber, a bird, to turn aside, a division of the year.—CANADIAN CLIFF
42. A title, a division of the earth, a girl's name, part of a musical instrument. JAS. H. CROSS, Caledonia.
43. A man's name, a city of Europe, a woman's name, tidy. JAS. H. HOUSER, Canboro.

I received a letter from my niece, Effie Hanes, "Sunshine Hall," together with a piece of poetry, but, owing to its length, I regret not being able to publish it. UNCLE TOM.

Answers to April Puzzles.

21.—Champlain. 22.—Persevere and succeed. 23.—1, Elba, Lear, balm, army; 2, Long, opal, name, glee. 24.—Sin, ire, net. 25.—Rural. 26.—A crown. 27.—A thistle in my foot. 28.—Ship. 29.—Inn, fan, sigh (infancy). 30.—1, Scow; 2, trach.

ANSWERS RECEIVED TO APRIL PUZZLES.—Frank S., Paris; Tabitha West, McGillivray; G. A. Gordon, Colborne; J. W. Ryan, Montreal; E. M., Monckton; F. Lowry Richardson; Miss Alice Dunlop, Midland; Jas. H. Cross, Caledonia; Jno. H. Houser, Canboro; Thos. J. Ritchie; W. Wright, Chicago; Bella McDougall, West Winchester; Maggie C. Millar, Spencerville; Lizzie York, Osgoode; Canadian Cliff, South Granby; Thos. Inch, Ottawa; Frank Lawson, Nilestown; Willie A. Rutherford, Millbank; Minnie A. Johnston, Cornwall.

ANSWERS FOR MARCH RECEIVED TOO LATE FOR APRIL No.—Jas. H. Cross, Caledonia; Jos. Hynes, San Francisco; E. Finn, Winnipeg; E. W. Burley, Cressy; Jas. Lyons, Quebec; Thos. Jas. Ritchie, South Dunmore; Margaret J. Stevenson, Diamond.

Comiques—Selected.

What is a modern poet's fate? To write his thoughts upon a slate— The critic spits on what is done, Gives a wipe,—and all is gone!—HOOD.

A bed and a pillow of precious stones— Give very poor rest to aching bones.—"LIFE IN CHINA."

The mouse that trusts to one poor hole, Can never be a mouse of any soul.—POPE.

Critics on verse as squibs on triumph wait, Proclaim their glory and augment their state; Hot, envious, noisy, proud, the scribbling fry Burn, hiss and bounce; waste paper, stink and die.—YOUNG.

Why is a garden's wiled maze Like a young widow fresh and fair? Because it wants some hand to raise The weeds that have no business there.—MOORE.

If you are wise, just use your friend, Like a cigar, I say; Suck him as long as you can draw, Then throw the wretch away.—"KNICKERBOCKER."

There's many a man hath more hair than wit.—SHAKESPEARE.

The sun which yearly melts the polar ice, Has quite the contrary effect on vice.—BYRON.

Some have at first for wits, then poets passed, Turned critics next, and proved plain fools at last.—POPE.

If beads long and bushy true wisdom denote, Then Plato must bow to a hairy he-goat.—LUCIAN.

Man is a steerer; life is a pool; We wrestle and fustle, For riches we bustle, Then drop in the grave and leave a' to a fool.—HOGG.

Marriage is like A cast of dice!—Happy indeed his lot Who gets a good wife, one of morals pure And withal easy temper; but alight on A gauding, gossiping, expensive jade, And Heaven deliver thee! There is not In the habitable globe so dire a torment As this devil in she's clothing!—EPICHAURNUS.—PETER.

Ah, gentle dame, it gars me greet To think how money counsels sweet How mony lengthened, sage advices, The husband frae the wife despises.—BURNS.

Three cups of wine a prudent man may take; The first of these for constitution's sake; The second to the girl he loves the best, The third and last, to lull him into rest. Then home to bed; but if a fourth he pours, It is the cup of sorrow, and not ours.—KNICKERBOCKER.

Inspiring, bold John Barleycorn! What dangers thou canst make us scorn! We'll tippeny we'll fear no evil, We'll usquebae we'll face the Devil.—BURNS.

Oh! who would fight, and march and countermarch, Be shot for squirence, in a battle-field, And shovelled up into a bloody trench, Where no one knows? and all for fame! Not I!—TENNYSON.

Humorous.

Spring is on hand. Lettuce have peas. Why is the letter T like an island? Because it is the centre of water.

Why is a man ascending Vesuvius like an Irishman waiting to kiss a pretty girl? Because he wants to get at the crater's mouth.

Why should a novel-writer be an extraordinary looking animal? Because of his tale coming out of his head.

Time to begin gardening, prepare hotbeds for early plants, boxes to keep the bugs off from the cucumber, and a pile of stones to throw at your neighbor's hens.

A man may grow to weigh a ton Who feasts his mind with pungent fun; But he who scorns its simple way Oft yields to crime an easy prey.

A reporter graphically describes the effect of a storm in the North Sea:—"While the storm was at its highest the vessel heeled to the larboard, and the captain and another cask of whiskey rolled overboard."

There is, in a Western State, a woman so cleanly that she rubs the dirt off the firewood before she puts it into the stove. Another woman tries to beat this by pulling the growing beets every morning and washing the dirt off them.

He blushed a fiery red; her heart went pit-a-pat; she gently hung her head and looked down at the mat. He trembled in his speech; he rose from where he sat, and shouted with a screech, "You're sitting on my hat!"

Sunday-school teacher said to one of her pupils: "Johnny, why don't you invite your friend Billy to come to Sabbath-school with you?" Johnny looked up with a grin full of intelligence, and equally full of teeth, and said: "I know you, teacher; you want to get Billy inter the class so's you can get a chromo for a new scholar."

Piety and business are very pleasantly blended in the following copy of a circular, which has recently been issued by a commercial firm in Bombay: "Sirs: We have the pleasure to inform you our respected father departed this life on the instant. His business will be continued by his beloved sons, whose names are stated below. The opium market is quiet, and Malwa 1500 frs per chest. 'O grave, where is thy sting? Oh death, where is thy victory?' We are yours, truly—"

A certain Bishop in the House of Lords rose to speak, and announced that he should divide what he had to say into twelve parts, when the Duke of Wharton interrupted him, and begged he might be indulged for a few minutes, as he had a story to tell which he could only introduce at that moment. A drunken fellow was passing by St. Paul's at night, and heard the clock slowly chiming twelve. He counted the strokes, and when it had finished looked towards the clock and said, 'Hang you! Why couldn't you give us all that at once?' There was an end of the bishop's story.

A farmer's lad was crossing a field where a very wild and ferocious bull was allowed to roam at large. When the boy had about reached the middle of the field, he suddenly saw the bull, with head lowered, rushing furiously at him. Being accustomed to manage cattle, he was in no way disconcerted, but ran to a tree near by and commenced running round it, with the bull after him; presently he caught the bull by the tail and commenced belaboring him unmercifully with a stick. The bull, finding that "tail" was turned, started off at a run (the boy swinging on to him), but the faster he ran, the more the boy belabored him, until finally he commenced bellowing. "Oh," says the boy, increasing his blows, "you may bellow, but I'd like to know who started this."

One of the students at Davidson's College, who was too lazy to do anything right, was in the habit of cleaning out his lamp chimney by running his finger down as far as he could and twisting it round. After he had cleaned it out in this partial manner, one day not long ago, a fellow student took it up and carried it to the residence of one of the professors, with the inquiry, "Why is it that this chimney is smoked just up to this point and no further?" The learned gentleman entered into an elaborate scientific explanation of why it was, arguing with great lucidness, and citing various authorities to show the correctness of his reasoning. When he had finished, the student said to him, "No, sir, you are wrong." "Why is it then?" inquired the professor. "Because the fellow's finger wasn't long enough to reach any further," replied the student!

Minnie May's Department.

Prizes.

I offer, this month, two prizes for MINNIE MAY'S DEPARTMENT:—1st. prize, 3 packages of flower seeds (a choice lot, ordered from England), for the best original article on "The Flower Garden;" 2nd. prize, 3 packages do., for the best collection of recipes for cooking, &c. The recipes must be those that have been tried and found useful. Copy to be sent in not later than the 20th inst.

"MINNIE MAY."

Chicken Jelly.

Take a large chicken, cut into small pieces; bruise the bones and set the whole into a stone jar, with a cover that will make it water tight. Put the jar in a kettle of boiling water, and keep it boiling for three hours. Strain off the liquid, and season it lightly with salt, pepper and mace, or with loaf sugar and lemon juice, according to the taste of the person for whom it is intended. Return the chicken fragments to the jar, and set it again in a kettle of boiling water. You will find that you can collect nearly as much jelly by the second boiling. This jelly can be made from an old fowl.

How to Make an Omelet.

One of the last articles from the pen of Pierre Blot is given to the readers of *Harper's Bazar*. We copy so much of it as may assist in preventing the appearance of those abominations of the table, poor omelets:—"It is of the first importance to have an omelet pan, and never use it for anything else. When the omelet is made the pan should be put away in a dry place, upside down; when needed put it on a slow fire, and as soon as it gets heated a little take a kitchen towel, wipe it well, but never wash an omelet pan unless something unclean happens to get into it. Proportions, about one ounce of butter for four eggs, and a pinch of salt. Process: Salt the eggs and beat them with a fork. Have a brisk fire; put the butter into the pan, and set it over the fire. Shake and move the pan in every way so as to melt the butter as fast as possible, and without allowing any of it to turn brown. When melted turn the eggs in, and by means of a fork stir so as to heap up the part cooked, allowing the other part that is liquid to come in contact with the pan, and so on until nearly the whole is solidified. Then it is doubled up; that is, one-half is turned over the other with the fork, commencing on the side of the pan to which the handle is attached. Then have a warm dish, which you place on your left hand, take hold of the handle of the pan with the right, the fingers underneath and the thumb on top; raise the left side of the dish inclined, and then have the right side of your left hand so as to have the right side of the dish inclined, and then turn the pan upside down right over the dish, and the right hand moving from right to left, so that the upper side of the omelet when in the pan will be the under side when in the dish, and you have a soft, juicy and tasty omelet, as smooth as the dish on which it is placed. An omelet cannot be made too quickly. Many cooks fail in making omelets as by their process, it is made too slowly, and it is either dry or burned and tasteless."

Strawberry Syrup.

Make a syrup the proportion of three pounds of sugar to half a pint of water. Boil and skim until clear. Have ready the strained juice of field strawberries. It is best to let it drip through a bag without pressure, so as to be clear. Allow two and a half pints of strawberry juice to the half pint of water. After you add this, let it boil hard for not more than five minutes. Take it from the fire before it loses its fine color, and pour hot into self-sealing jars—the kind that only need the top to be screwed on. This syrup preserves even the odor of the fresh strawberry when opened months afterward, and flavors ice-cream delightfully.

Isinglass boiled in spirits of wine will produce a fine transparent cement, which will unite broken glass so as to render the fracture almost imperceptible and perfectly secure.

Dutch Sauce for Fish.

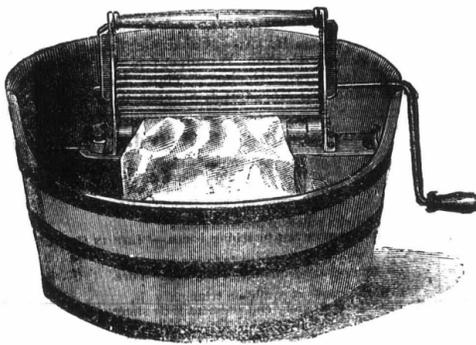
Half a teaspoon of flour, two ounces of butter, four tablespoonfuls of vinegar, the yolks of two eggs, and juice of half a lemon; salt to taste. Put all the ingredients, except the lemon juice, into a stew-pan: set it over the fire, and keep continually stirring. When it is sufficiently thick, take it off, as it should not boil. If, however, it happens to curdle, strain the sauce through a tammy, add the lemon-juice, and serve. Tarragon vinegar may be used instead of plain, and, by many, is considered far preferable.

To Destroy Bugs, Ants, etc.

No insect which crawls can live under the application of hot alum water. It will destroy red and black ants, cockroaches, spiders, chinch bugs and all the myriads of crawling pests which infest our houses during the heated term. Take two pounds of alum and dissolve it in three or four quarts of boiling water; let it stand on the stove until the alum is all melted; then apply it with a brush while nearly boiling hot, to every joint and crevice in your closets, bedsteads, pantry shelves and the like. Brush the crevices in the floor of the skirting or mop boards, if you suspect that they harbor vermin.

Washing Day.

Of all the days of the week perhaps none is found more disagreeable, or which requires the physical powers of our wives and daughters to be exerted so much, as washing day. When the body is over-taxed the mind is apt to become irritated, and sometimes discomfort ensues in the household. Perhaps the inventive genius of man



WASHING-MACHINE.

has been exerted more to procure a superior labor saving machine to lighten this work than any other, as thousands of washing machines have been invented, and there are many kinds in use that are giving more or less satisfaction. We have introduced several kinds into our household, but up to the present time no article of this kind has pleased them so well as one we procured from Messrs. Morrison Bros. & Co., of Hamilton. This machine is very simple. It has three wooden rollers—two large and one small—on which are placed several stout rubber bands, as shown in the accompanying cut. There are two requisites to work this machine successfully; one is to have boiling water and do the work quickly; the other is, the machine requires a quick motion. It does its work well, without tearing off buttons or injuring the clothes. The manufacturers warrant satisfaction and durability, and they are a very reliable firm. The machine is small, and can be put on any wash tub.

Spices.

While spices of all kinds are so largely used in every family, it may be interesting to know something of the history of the trees or plants which bear them.

The Nutmeg is a native of the Moluccas. It is largely cultivated in Sumatra, and has been introduced into the West Indies. At the time of the crops the trees are completely covered with nuts, and over them the giant Canari trees spread their branches, to protect the precious fruit from the heavy winds which, but for these guards, would destroy the tree and fruit. The nutmeg is the kernel found within the stone or nut of the tree. The nut has a shining black shell, which is itself surrounded by layers of the substance known as

mace. There are two kinds of nutmegs—one of an oval shape, the product of a wild plant—the other nearly round, is raised from the plant under cultivation, and much superior to the former. The nutmeg is much employed in cooking, but is said to possess great narcotic powers, if taken in large quantities, and should therefore be used with care. Mace is the membrane which surrounds the shell of the nutmeg.

The Clove-tree, Guava and Pomegranate all belong to the Myrtle family. The stem of a full-grown clove-tree is from eight to twelve inches, and sometimes considerably more, in circumference, and the highest branches usually from forty to fifty feet above the ground; though there are many trees not higher than a cherry-tree, and laden with fruit. The tree does not begin to bear till seven or eight years old, but remains fertile till seventy-five or a hundred years old. It is a native of the East; but is now cultivated in the West Indies and other parts of the world.

Ginger is the tuber of a plant originally a native of Gingi, in India, whence its name. It is now largely cultivated in the West Indies. There are two kinds—the white and black—which, however, differ only in the mode of their preparation. The black is inferior. This spice is stimulating to the digestive organs, and not only agreeable but wholesome, though it should be used with moderation.

Cinnamon is the inner bark of a tree which grows both in the East and West Indies. The best quality is scarcely thicker than paper, and comes in long pieces of a light yellow color. The dark colored cinnamon is inferior.

Black Pepper is the fruit of the pepper vine of the East Indies. When purchased ground, it is almost universally adulterated. The ordinary pepper of the shops does not contain more than an eighth or sixth part of genuine pepper, and the very best one-half—the rest being ground rice or husks of mustard. It is a powerful stimulant, carminative and rubefacient, as a condiment peculiarly useful to people of cold habits or weak digestion.

White Pepper is merely the black pepper soaked in water till the outside skin softens, and can be easily rubbed off. It is greatly inferior to the black pepper, having only about one fourth its strength, and a mere trace of its more valuable constituents.

Allspice, Pimento or Jamaica Pepper, is the berry of a tree which grows in South America, and in the island of Jamaica. It is an agreeable aromatic, and the mildest of all the common spices.

Hints for the Household.

Carbolic acid sprinkled in small quantities about a room will abate those intolerable nuisance, fleas and mosquitoes.

ACHING CORNS.—Why do our corns ache just previous to rains? Because our feet swell with sudden depression in the density of the air; and the hard corn, not being elastic, is painfully stretched and pressed.

CLEANING TINWARE.—An experienced house-keeper says the best thing for cleaning tinware is common soda. She gives the following directions: Dampen a cloth and dip in soda and rub the ware briskly, after which wipe dry. Any blackened ware can be made to look as well as new.

HOW TO MAKE COMMON HARD SOAP.—Put in an iron kettle five pounds unslacked lime, five pounds soda, and three gallons of soft water; let it soak over night; in the morning pour off the water, then add three and a half pounds of grease, boil till thick, turn into a pan until cool, and then cut in bars.

TO WASH HAIR BRUSHES.—Hair brushes, however dirty, may be washed and kept good for years, without loss of stiffness, by putting a small handful of soda into a pint jug of boiling water. When the soda is melted, put in the brush and stir it about till clean. Rinse it in cold water, and dry in the sun or by the fire. The quicker it dries, the harder the bristles will be.

One of the best methods of securing the success of rose cuttings, is to stick the slip about an inch deep into clean river sand with properly prepared soil about an inch below to receive the roots as they strike. The clean sand prevents the roots from rotting. A correspondent succeeded with this when every other mode failed.

Potatoes

The Garden method for the simplest and surest is to plant potatoes take them up as they grow. By this very simple method of ground may be carried into effect is to trench as if wire chats should be until wanted, wire worm ground is in a quite thick, and them. Then you satisfied that the cost and it is a capital wanted for the of wire worm, of land newly potatoes on, in The pest soon toes They low and very few o

This substance a certain oil; an wheat, &c. S seed of Indian and ashes, it is smut. But it of the fungus, on a lack of vi and, consequent spores in the s on decaying tr root can only the growth and a greater power the puccinia. cation of the must have an composition of the particular by each kind ledge has been in attempting these. On the manure and it supply the ma possess all the tion of the ro

The Delamatic matter a bones and pota its original for in the form of combined with the bones ar action. If th that is, witho very fine and of fine muck of for three week ate all the am of wheat or ot tion of other s

During a r Farmer's (Clu farther north more beautifu apple, was ins was conceded variety are gr same is proba Lawrence, bot stated that t noted hardne in Pennsylvan testimony sh northern secti suitable sorts, from not prop and soil. Suc

Notes of the Garden & Farm.

Potatoes and the Wire Worm.

The *Gardener's Magazine* gives the following method for exterminating the wire worm: The simplest and surest way to get rid of wire worms, is to plant potatoes everywhere as a first crop, and take them up afterwards and cook them for poultry. By this very simple means of procedure, any piece of ground may be completely cleared of wire worms. As a matter of course, it requires judgment to carry it into effect. The wise way of proceeding is to trench and manure in the usual way, as if wire worms were unknown. A lot of chats should be saved, and kept in the dark until wanted, because if they get green the wire worm will not take to them. When the ground is in a nice condition, dig in the potatoes quite thick, and in a week take them out and cook them. Then you may seed and go ahead, thoroughly satisfied that the ground is clear of wire worms. The cost and trouble amounts to almost nothing, and it is a capital use for chats where they are not wanted for the pigs. Potatoes will rid any ground of wire worm, and it will actually pay in the case of land newly broken up from pasture to grow potatoes on, in order to carry away the wire worm. The pest soon passes away in land devoted to potatoes. They love the root, they are lifted with it, and very few of them get back to earth again.

Value of Soot.

This substance contains ammonia, carbon, and a certain oil; and is, therefore, applicable to corn, wheat, &c. Some writers have asserted that if the seed of Indian corn be mixed with this substance and ashes, it is not so liable to be affected with smut. But it seems more probable that the growth of the fungus, or rather its development, depends on a lack of vitality in the plant from some cause, and, consequently, there is a resting place for the spores in the same way as other fungi are produced on decaying trees and logs. If this is the case, the soot can only act like other manures in stimulating the growth and vitality of the corn, thus giving it a greater power of resistance against the intrusion of the puccinia. In order to make a successful application of the mineral manures, the agriculturist must have an approximate idea of the natural composition of his soil, as well as the knowledge of the particular materials necessary to and exhausted by each kind of crop; and the want of such knowledge has been the cause of the numerous failures in attempting to make a profitable application of these. On the other hand, in applying barnyard manure and its various composts, he cannot fail to supply the materials necessary; for such manure possess all the elements which assist in the formation of the root, leaves, stem and fruit.

Manure for Wheat.

The *Delaware State Journal* says: "Wherever organic matter abounds in the soil, a free use of bones and potash will speedily restore it back to its original fertility. In sandy soils, organic matter in the form of peat, muck or leaf mould should be combined with the bones and potash. The finer the bones are ground, the more speedily their action. If the bones are ground in a raw state—that is, without steaming or burning—and ground very fine and mixed with three times their weight of fine muck or peat, or leaf mould, 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."

Apples at the North.

During a recent discussion in the New York Farmer's Club, the opinion was expressed that the farther north apples can be raised, the better and more beautiful they are. The Fameuse, or snow apple, was instanced as an illustration of this. It was conceded that the best specimens of this choice variety are grown in and about Montreal. The same is probably true of the Pomme Grise and St. Lawrence, both excellent apples. It was further stated that the Fameuse and other varieties of noted hardiness are not nearly so good when grown in Pennsylvania, New Jersey and Virginia. Such testimony should encourage our farmers in the northern sections of Ontario to plant orchards of suitable sorts. Discouragement has often resulted from not properly studying adaptations of climate and soil. Such tender apples as the Rhode Island

Greening and Newtown Pippin will not answer expectations, in high latitudes. It is a good plan, in buying trees, to leave the selection to the nurseryman, if he be competent and trustworthy, advising him of the locality, soil, exposure, &c., that he may choose the sorts accordingly.

Garden Hedges.

One of the many difficulties that a gardener has to contend against is to screen his grounds from the cutting wintry blasts. A keen January north-easter coming across a large expanse of open country on to a plantation of conifers and shrubs, will not only cause them to present a miserable appearance, but often so injure them that they will look as if they had passed through a severe fire. When grounds are placed in this position, there is nothing better than to stem the blast by a thick plantation of Scotch and Spruce Fir.

But when the position is open without being exposed, hedges will be found to be sufficient to stem the cold winds. The gardener should be careful to have hedges in keeping with his grounds. There is nothing more unsightly than a common Hawthorn hedge near a garden hedge, for, although a great deal of sentiment is written about the "shade of the thorny bush," it is decidedly more in keeping with the farmer's field than the gardener's domain. It is very frequent that in large grounds hedges have to be made to hide an unsightly patch of ground or a part of a vegetable garden. Then, if the position is not too much exposed, there is nothing more suitable than the *Cedrus deodara*. This, planted in some good fat loam, at convenient distances apart, will not fail to give satisfaction. For the first year or two they can be allowed to grow freely, and then when they have begun to close toward each other, their outside branches should be carefully pruned so as to allow them to grow upwards and expand into a thick and shapely hedge. The only other juniper that really makes good hedges is *J. virginica*, commonly called the "red cedar."—*Gardener's Magazine*.

Lime as a Fertilizer.

A correspondent of the *New England Homestead* says:—

"There is no substance used as a fertilizer so liable to loss by misapplication as lime. It should be slaked, but not wet enough to form mortar when applied to the soil. If it is thoroughly wet, it cannot be advantageously applied as manure until it is dried and powdered, and then it has but little value. It should be applied when dry-slaked and caustic, on a dry day, when the land is dry enough not to lump it, and be well worked in with a fine harrow. If there are many lumps from the size of a pea to a walnut, these lumps will rapidly, by exposure to the air, change to carbonate of lime, and will be so insoluble that you will see them for years in the soil. It wants to be immediately dissolved; and as it takes some forty pounds of water to one barrel of lime, it will be at once seen that on dry land it should be applied in small doses, and even on heavy land in small doses, even if necessary to apply often."

Substitute Wanted.

The comparative failure of the potato crop, and the present very high price of that hitherto useful vegetable, will make it necessary to find some substitute for the food which has long been of almost universal use, not only with the natives of Erin's Isle, but all classes and nationalities. Hitherto it has been to all intents and purposes the diet of the poor, but the very high price that has to be paid now for potatoes leaves them within the reach of only the most wealthy. Now, under these circumstances, it will become necessary to find some substitute which will take the place of the potato. Grocers say that beans are being extensively bought for this purpose, and that they are the best thing of the kind in the market. If beans are found to fill this bill, will it not be well for farmers and gardeners to plant larger crops during the coming season? It is now well known that the potato crop is now so uncertain that it will hardly do to depend on that alone for a staple vegetable to last through the winter.—*Godrich Star*.

The *Sherbrooke Gazette* gives a detailed account of the operations of the Canadian Meat and Produce Company, and confesses astonishment "at the amount of work done, and the evident extent and magnitude of the business that will be carried

on when once the Company is fairly in operation." We learn that there have been shipped to England already 200,000 lbs. of fresh meat; 50,000 lbs. of tinned meats, soups, &c.; 45,000 lbs. of salted meat; 500 hides, and large quantities of poultry, game, &c. The works seem to be exceedingly well arranged, but considerable improvements in the shape of a large permanent establishment and homes for the employes are contemplated. The *Gazette* says:—"Already the farmers in the adjoining townships have begun to realize the advantages resulting from the location in their midst of a regular and remunerative cash market for their beef, cattle, pork, poultry, &c. We believe no better investment was ever made by the municipalities than the bonus which secured the location of this Company."

Oats for Horses.

Of all the cereals there is none that we are inclined to give a higher place to than the oat. Wheat is, it is true, the breadstuff above all others, and every other variety has its own place and its peculiar property in which it excels every other grain, but there is none more healthful or more strengthening as food for man—none that confers power and vigor to the horse, man's best friend, more invariably and in a higher degree than oats, if in good condition and of good quality.

And there is no grain in which there is a greater difference between the samples. Oats well saved is a giver and preserver of health; oats badly saved, musty and mouldy, are injurious to the health, and the horse should never be allowed to eat them. The lightness of his skin and his strong hair, if he be fed on them, are unmistakable symptoms of failing health and strength, brought on by unhealthy provender. Let the oats be cut while there is diversity of opinion if they are ripe or not. This not only prevents mustiness; it also preserves in the grain all the nutrition and agreeable flavor that would, if allowed to be too ripe, have escaped from the farina. Let the crop not be stacked or housed till perfectly dry, and you need have no dread of must. Scent, taste and touch to the hand will all bear testimony to its quality.

It was lately stated at a meeting of a Farmer's Club in England that oats contain on an average 4½ lbs. of husk in every 14 lbs. of grain, and that the proportion of husk being so great, the nutritive qualities of oats are less than is generally supposed. We do not agree with some in considering the husk as of no value in food. Though not digestible, there is a nutriment extracted from it in the stomach's laboratory, and it exerts a certain though undefined action in assisting the digestion of the farinaceous essence of the grain.

Oats vary greatly in value, as they do in weight. When equally well saved, the heavier they are the more valuable for either feeding or milling purposes, and the less in proportion to their farina is the husk. Some varieties of oats are much heavier than others, and the weight of the bushel or quarter of oats varies greatly according to the countries in which they have been grown. The Irish potato oats weigh 42½ lbs. to the bushel. The grain is short, thick, and, when well saved, peculiarly bright in color, and has but 3 lbs. of husk to the bushel. The American oat (U. S.) weighs only 24 to 32 lbs. to the bushel, and of this there are, it is calculated 14 lbs. of husk. The Canadian oat, weighing 41½ lbs. to the bushel, has of husk 14 lbs. From this we see how superior our oats are to those grown south of our border, though not at all equal to the Irish potato oats. —S.

ERRATA.—In the notice of Tiffany's Combined Brick and Tile Machine in April number, where it read "six or eight feet high," read SIX OR EIGHT HIGH; and "ninety-five per cent." should have been TWENTY-FIVE PER CENT.

Prizes.

The following prizes will be given to any one sending in one new subscriber during this month:

Twenty-five cents worth of any of the seeds or plants advertised in this paper. For a Janesville grape-vine two subscribers must be sent, or 25 cts. additional may be sent with one name. Any time this month will answer for the grapes, strawberries or flower seeds; the wheat and oats should be in your hands by the 20th. It is not safe to sow flower seeds for out-door culture until the 3rd of June; they will be better if sown early in hot-beds or boxes, and planted out about the 10th of June. You are not safe from frost until that time.

Boys and girls, get a grape vine; you will be highly pleased to have grapes two weeks earlier than any of your neighbors, and a vine that will thrive farther north than any other.

To Our Correspondents.

We are obliged to hold over till our next issue some good practical essays and other communications. The great and increasing number of our agricultural correspondents is to us a flattering testimony of their estimation of the FARMER'S ADVOCATE.

It is an established rule of the press that communications should be written in ink, on one side of the paper, and bear the writer's signature. The name is required for our own information, and will not appear in any instance in which the writer prefers to remain unknown.

The Farmers of Canada.

The ADVOCATE is your paper, devoted exclusively to your individual interests. In its success, and in the extension of its circulation, you should feel a personal pride. A very little effort on your part will secure it a handsome club at your post-office, and in proportion as its circulation is extended, will it confer substantial benefits on you personally. See, therefore, that it is brought to the attention of your intelligent neighbors, and that they become subscribers. And when you cannot devote such attention to it as it deserves, induce your Post-master or some other competent person to attend to it.

Short-Horns and their Prices.

Some few weeks ago the opening sales of short-horns for this year commenced, and it may be a subject of interest to our readers to learn the results, and whether the value of the breed has maintained last year's prices when submitted to the practical test of the auctioneer's hammer.

The results of these sales, as seen below, prove that notwithstanding the very great depression in the value of property and securities in the United States, the short-horn has maintained the high prices of last year, and even in some families have increased, notably so in the cases of animals of "Bates" and "Princess" pedigree; while in the "Gwynne" family, which is an offshoot from the "Princess," but of miscellaneous sires, the prices were below those of last year.

The first day's sale was that of C. C. Parks, at Waukegan, near Chicago, where 104 cows and heifers and 17 bulls were sold for a total of \$73,755, being an average of \$605 a head all round; the prices ranging from \$2,500, for a Bates "Peri" cow, down to \$90 for a bull calf. Nine of these were bought by Canadian breeders.

The next day's sale was held at Chicago, in Dexter Park, where the herd of Elliot & Kent was sold—62 animals bringing \$34,000, an average of \$549 each. Here the highest price was for a Princess cow—sold for \$3,425; while seven other heifers, of same family, sold from \$1,900 for a yearling, to \$750 for a two months old calf!

Mr. Kissenger's herd was sold the day following, when 41 animals sold for \$24,780, being an average of \$605 each; the prize bull, Kissenger's Breast-plate, selling for \$2,000.

This ended the week, and resulted in the total sale of 227 short-horns of all ages, for \$133,985, or an average of \$591 each. This would have been much higher, but a large number of bull calves, not in very taking condition were sold, and so reduced the average price considerably.

However, taken as a whole, the business proved to be in a very healthy condition, and looking over the names of purchases one is struck with the number of new breeders who buy a cow or two for their farms, to commence with, and breed bulls for their neighbors.

Commercial.**Crop Prospects.**

We learn from our latest reports from England, that the prospect of the winter crops is very favorable. The condition of the land at the time of sowing the fall wheat was such as the farmer most desires, and the advantage thus received has not, in any perceptible degree, been lost. Our latest reports report the weather there warm and favorable, and the good promises given of the coming crop have their usual depressing effect on the present prices of produce.

From the wheat-growing districts of the United States, we have not such favorable reports of the fall wheat as from the United Kingdom. The tone of the Western papers is discouraging. There is much anxiety for the wheat crop, especially in Michigan, Minnesota, Iowa, Missouri and Kansas. The fall wheat has been winter-killed in many places; the frost, as with us, has been very severe, but not so continuous; there have been frequent rain storms, with the inevitable consequences, thawing and freezing, and winter-killing. Added to this is the lateness of the spring, retarding, and, in some instances, preventing the sowing of spring wheat. These gloomy accounts are, most probably, exaggerated, but there is doubtless ground for anxiety among the farmers of the West.

In this Canada of ours, we believe the prospects are encouraging. The fall wheat promises well so far. We have been making enquiries in many sections of the country, and, as far as we can learn, the farmers are very hopeful of good returns. There is, of course, uncertainty yet; but, with favorable weather, our prospects are good.

Produce Markets.

ENGLAND.—MARK LANE.—Wheat and corn, downward tendency. Imports of wheat into the United Kingdom, week ending April 21, 95,000 to 100,000 quarters.

LIVERPOOL.—Wheat and corn, downward tendency. Californian White Wheat, per cental, 9s 1d to 9s 5d; Red American Spring Wheat, per cental, 8s 7d to 9s 1d; American Western Mixed Corn, per quarter of 480 lbs., 3s 6d; Canada Peas, per quarter of 504 lbs., 4s.

NEW YORK.—Flour, dull, and in buyer's favor. Receipts, 14,000 bbls; wheat, \$1.18 to \$1.32 per bush; corn, 92c to 93c; barley, unchanged; oats, steady, 73c to 77c; butter, 15c to 17c; roll butter, 20c to 25c. Cheese, 10c to 11c. Eggs, 12c to 13c. Hay, \$12 to \$14 per ton. Wool, 30c per lb. Potatoes, per bag, \$1.20 to \$1.30. Cordwood, dry, \$3.75 to \$4.00; green, \$3.50 to \$3.75.

DETROIT.—Wheat, \$1.22 to \$1.23; corn, 75c; rye, \$1.05; barley, \$2.25 to \$2.60; Canadian, \$2.65 to \$2.75; potatoes, 60c to 90c.

MONTREAL.—Flour market quiet, and transactions limited; extra, \$4.90; strong bakers, \$4.75.

LONDON, ONT.—White Wheat, Deihl and Treadwell, per cental, \$1.60 to \$1.70; Red Winter, \$1.50 to \$1.62; Spring, \$1.50 to \$1.63. Barley, \$1.60 to \$2.00. Peas, \$1.20 to \$1.25. Oats, \$1.32 to \$1.35. Corn, \$1.10 to \$1.20. Rye, \$1.10 to \$1.20. Buck wheat, \$1.15 to \$1.25. Keg butter, 15c to 17c; roll butter, 20c to 25c. Cheese, 10c to 11c. Eggs, 12c to 13c. Hay, \$12 to \$14 per ton. Wool, 30c per lb. Potatoes, per bag, \$1.20 to \$1.30. Cordwood, dry, \$3.75 to \$4.00; green, \$3.50 to \$3.75.

SPECIAL ADVERTISEMENTS.**FARMERS!**

THE LARGEST ASSORTMENT OF
AG'L IMPLEMENTS IN AMERICA

Is manufactured at the

AYR AGRICULTURAL WORKS

Combined Reapers and Mowers, Single Mowers, Single Reapers, Separating Threshing Machines, Grain Drills, Hay Rakes, Field Rollers, Gang Plows, Plaster Sowers, Cultivators, Turnip Sowers, Double Mould Plows, Side Hill Plows, Subsoil Plows, Steel Mould Plows, Cast Mould Plows, Potato Diggers, Corn Shellers, Circular Saws, Dras Saws, Grain Choppers, Straw Cutters, Pulpers, Root Cutters, Horse Powers of all sizes.

Send for New Illustrated Catalogue and Price List.
Address—

JOHN WATSON,

4-lin Ayr P. O., Ont.

THREE YOUNG AYRSHIRE BULLS FOR SALE—First class
THOMAS GRAY, Oshawa P O

NEW SEEDS.**M'COLL BROS.,**

NURSERYMEN AND SEED MERCHANTS,

Have issued their

Illustrated Catalogue and Amateur's Guide for 1875,

Containing 76 pages, printed on fine toned paper, and embellished with over one hundred cuts of Vegetables and Flowers. Sent gratis and post free to all who apply. We send seeds to all parts of the Dominion free of postage charges.

Our seed business has been placed under the management of

MR. GEORGE MCBROOM,

Late Proprietor of the Market Square Seed Store, whose knowledge of the business and acquaintance with the best growers in Europe and the United States, gives us unexceptionable advantages in procuring every article of the finest quality and true to name. Address—

MCCOLL BROS.,
Seed Merchants, London, Ont.
5-1t

NORWAY SPRUCE, &c.,

Nice transplanted Stock, 9 to 12 inches, \$4 per 100, \$25 per 1000; 15 to 18 inches, \$6 per 100, \$40 per 1000; 20 to 24 inches \$8 per 100, \$60 per 1000.

HEMLOCK SPRUCE,

twice and three times transplanted, 18 to 22 inches, \$8 per 100, \$75 per 1000; 2 to 3 feet, \$18 per 100; \$150 per 1000.

SCOTCH, AUSTRIAN & WHITE PINES,

2 to 3 feet, 18 per 100.

AMERICAN ARBORVITÆ,

4 feet, \$20 per 100.

Splendid Norway Spruce, 2 to 2½ feet, trimmed and stocked, \$25 per 100. A full assortment of

EVERGREENS & OTHER NURSERY STOCK,

including Greenhouse and Bedding Plants. Address
STORRS, HARRISON & Co.,
Painesville, Lake Co., Ohio.
4-2



JUST PUBLISHED!

GEORGE J. CHILD'S

ILLUSTRATED CATALOGUE

of Farm,

FLOWER AND GARDEN SEEDS.

\$50 GIVEN AWAY IN SPECIAL PRIZES

24 New Varieties of Vegetable Seeds
Given Away.

Send for a copy at once.

LONDON SEED STORE,

City Hall Buildings, Richmond St., London, Ont.
P.O. Drawer 23.

FOR SALE—Improved Berkshire Boars bred from imported stock; 1 aged 1 year past; 2 eight months old. These are really choice stock animals. Address—**JNO KENNEDY, Hyde Park P. O., Ont.**

FOR SALE.—3 Bulls, 2 Ayrshire and 1 Durham. One 1 yr old Ayrshire Bull took first prize at the Provincial Exhibition 1874; 1 coming 4 years old—color of both, red and white; 1 Durham, coming 3 years old, colored. These are all prize animals, registered pedigrees. Address—**JAS NIMMO, Camden East**
4-in

Wood Ashes

One of the waifs of the Overseer of the gre waifs that are borne sufficient curiosity t at our busiest mome a basket enclosing fr into the hands of an more than common something of the un planted, and it beca ing Willows in the E

The waif we have much importance, b ment's reflection on and what we hope it have sped their cour

The inhabitants of have hitherto been Assiniboine river, manuring his fields, on the banks of the slopes immediately a pended on the sprin Lake Winnipeg.

No greater value manure some years a ba. The writer kn a-see to be assembled manure, the accumu increased so from tir an obstruction to ev or cattle, in the old

Farmers have of more of their manur some of them appre of the grounds of th in which one of the Why are not the ash served more carefull away for bars of soa day we see them gat from the country, w which they should b every pound of man

Some farmers hav value of ashes as a doubt could have or Wood ashes are ver, ents of plant food, be available for thei wood ashes we hav constituent of food cultivate with such field or garden; for tato, it is an elemen desirable to add to bonic acid, and ma heap of ashes caref So it is with oth phosphoric acid, si magnesia. All the analysis to be store away so carelessly,

That wood ashes the best and most e a moment's thought cal. The tree from