

FARMER'S ADVOCATE

AND HOME MAGAZINE.

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THE FARMER'S ADVOCATE

—AND—
Home Magazine.

WILLIAM WELD, Editor and Proprietor.

The Only Illustrated Agricultural Journal
Published in the Dominion.

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The Month.

STOCK.

Be sure and look well after all calves, lambs and pigs this month; do not let one die for the lack of care or attention. Make up your mind to this—that you are determined to have larger and better-paying stock. Early maturity is what has and what will pay. To obtain this you must give all young stock sufficient nourishment, and make them comfortable. If you see dogs, sticks and boots liberally applied to farm stock, you need not look for much comfort or happiness in the house; most probably that farm will ere long have a new occupant. If you see thriving stock, that farm is safe.

The prospects are such that you may expect a much higher price for beef and mutton, and that there will be more profit from this branch of the farm than from any other; therefore we advise all to take extra care of the young stock, and also to feed liberally to the old. No farmer was ever made rich who fed niggardly. It is fat that pays; put it on the stock, and keep it there as long as the animal is in your hands. It will also pay you to purchase older steers from bad feeders this month, and to secure lambs or sheep to be delivered in the autumn. If you have money you can profitably use it now in preparing for summer and fall shipments of live stock or dead meat for the European market. It will pay you even if you have to get a car-load of American corn, which is now cheap. Do not kill and sell any good sheep or horned beasts to drovers or speculators this month, or for the next five months, except your fat stocks; rather purchase stock and feed them well.

If our subscribers act on these hints judiciously they may gain a good march ahead of those who do not take our agricultural journal.

If you have an opportunity to procure a good brood mare which has size and appearance, to raise good horses, it will pay to do so. Dispense with small, inferior mares as soon as you can.

The prospects are that there will be more money made from butter than from cheese this season. At the same time there will be more money lost in it, as was the case with most manufacturers last year—that was by those who did not understand the requirements of the present market. The basket-loads carried to the store in the hot sun did not pay the merchant last year. Good butter must be properly made, handled and un-mixed with poor grease. Lots of the butter sold to country storekeepers was only sold as grease. Good, prime butter will pay.

POULTRY

are and should be profitable. See that you have a good lot and that they are not neglected.

SPRING WHEAT.

This makes us scratch our head. Here are letters, many of them asking which we think is the best wheat to sow this spring. If the chances were that spring wheat would not answer better than it has on our sons' farms (as they now manage the farms) we should do as they do—sow none. They are tired of trying spring wheats; they have lost money by it, and so have we for the past twelve years. The only kind they would sow last year was the Lost Nation, procured from Prince Edward Island; that yielded better than any other spring wheat in that locality, but it was not a paying crop. We have not heard of a single field of spring wheat that yielded a profit last year in this part of the Dominion; in the northern and eastern parts of Ontario there may have been some good pieces, but they were scarce. Spring wheat is badly shrunken. The hot weather in some cases and the midge in others caused sad loss last year. In some localities the Red Fern has eclipsed all other varieties; in others the Club and Fife wheats are preferred. The Russian, or, as some call it, the White Russian, has its votaries, and the Red Chaff or Farrow is preferred in other parts. We have some good reports about the Gordon wheat, but have none in regard to the Rio Grande or McCarling varieties. We have heard of a wheat selling at an enormous price by traveling agents, but have no report of it from seedsmen. There were two new varieties introduced last year from the States, namely, the Champlain and Defiance. We have received one good report of the latter from Canada and no report of the former. This season two varieties will be brought in from Scotland, but we cannot say which will be the best. We cannot tell you which wheat to try or which to discard this year. If you have one variety that is answering better than another in your

locality, sow it; if you sow any, you may try different varieties that may be advertised in catalogues. Perhaps some may answer better next year.

The winter wheats have been the most profitable in this part of Ontario. The best farmers here pay but little attention to spring wheat now; grass is more profitable.

BARLEY

has been more profitable than wheat, and in this locality we should rather risk profit from it than from spring wheat.

PEAS

for seed are now in great demand despite the injury done by the pea-bug last year; from its effects there are so many buggy peas that any person having good peas free from bugs will make a good profit from them. We have heard of \$1.50 being offered for clean, pure Crown Peas, free from bugs. Many will sow these buggy peas if they can do no better; although some may grow them, the plant is apt to be weak and will not resist the effects of either wet or dry weather equal to a firm, sound pea. The crop will be reduced more than the cost of sound peas would amount to. A good farmer will always sow the best grain he can get; a shiftless farmer has no objection to shrunken or foul grain, if it is only cheap.

SPRING HARROWING OF WINTER WHEAT.

We extract the following from the Philadelphia Record:

"Just as soon as the ground is dry enough to get on in the spring, run the harrow across the wheat and the rye fields. Don't be afraid of harrowing too much or pulling the grain out. Run the harrow along the drill rows, and then back again; or, if you run first down and then across, so much the better. The tillering of both wheat and rye will more than make up for any plants destroyed. After harrowing, sow the grass seed, clover and timothy of the usual quantities; after which go over your fields with the roller, and you will not only be surprised at your grain crop, but will be even more at your fall clover in the stubble."

To the same effect the Country Gentleman says:

"Harrow wheat in spring as soon as the ground is dry enough to bear the team. This breaks the crust, destroys small weeds and gives the plants a start. It may be repeated every week or two, until the wheat is a foot high or more, if the smoothing harrow is used. Timothy sown with the wheat last autumn, if several inches high, will not be injured, but rather benefited by the passing of this implement. It is only small plants and weeds which are destroyed. Clover seed sown at the last harrowing and slightly covered will usually germinate quite as well as when sown earlier without harrowing."

Protect us from Danger.

It is really astonishing that with all the Agricultural Colleges, Veterinary Surgeons, Professors of Agriculture and Agricultural Boards, Societies, Granges and stump orators in the United States and Canada, these numerous dangerous diseases amongst stock should have been allowed to exist and spread for a series of years, without our Canadian Government taking steps to prevent their introduction to our Dominion ere this. The present action of the Governments of Canada and England is only as yet to protect us from Pleuro-Pneumonia. Our American neighbors, and some Canadians also, have attempted to conceal the existence of the disease, even since our Government has taken slight steps to prevent our stock from being contaminated. From American agricultural journals we learn that the disease has existed in that country for forty years; that steps had been taken to eradicate it twenty years ago in one of the Eastern States; that it is now to be found in all the Eastern States, and as far west as Ohio. This disease is not so easily stamped out as some may imagine. The U. S. Government may now possibly act vigorously, but such a foothold is now gained that prohibition only can prevent the possibility of its infecting our stock for the next ten or fifteen years. According to their own veterinary authorities, it may not be seen for three generations, and then re-appear.

What can we trust to inspectors when we find that the ship load of cattle that was destroyed in England during the past month had been passed by two inspectors and pronounced sound? Also, some strong American partisans or Americans even had the audacity to attempt to confute the British inspectors and try to prove that the disease was not the Pleuro-Pneumonia; further, Americans on this side of the Atlantic state that the cattle shipped on the vessel were all from the Western States and Canada, and that the disease never existed in either of these sections of the continent. This must show a greater necessity for rigor in preventing the spread of the disease in our country, because, as they state, the cattle were healthy and came from uninfected districts. Some one or more of the cattle must have had the virus of the disease inherited from sires or dams, or perhaps from great-grand-dams or sires; or they must have caught the disease from being shipped on the cars or vessel in which diseased animals had been previously shipped.

It is our opinion that our Government should extend the limits of the time of prohibition. There is a possibility of its being introduced to Manitoba or British Columbia, but this is not very probable; still we know not what injury might be effected by a designing person on the future prosperity of our farmers.

What England wants and will pay for is the best and purest of everything the world can produce. If we can but keep these diseases away that are so numerous, prevalent and destructive to different kinds of farm animals in the States, we shall be able to command a much higher price in the markets of England and the world than any country where these diseases are prevalent. No live animal of any kind should be allowed to be imported into this Dominion from the States to mingle with our stock. The through-transport trade should only be allowed in cars kept for American stock, and large, isolated, doubly-enclosed yards should be set apart for the shipment of their stock alone. There should be a strict watch kept, and notice given at once if any unknown disease should make its appearance in any part of our Dominion.

We would again direct the attention of our Government to the dangers of diseases in swine in the

States. There is a possibility of these diseased animals being imported to this country.

The loss to Britain alone caused by Pleuro-Pneumonia is estimated at twelve million dollars for the past twelve years, equal to one million dollars per annum. The Americans are now taking steps to try to stamp it out, but from the long time they have allowed it to remain and spread, they will have a difficult and expensive undertaking, which we doubt will not be accomplished in our day, perhaps never. Ten thousand dollars has been granted to effect this check and spread of the disorder; we doubt if ten million dollars would do it, or cover their loss.

On Political Economy.

As the representative of the independent and leading farmers of each Province of this Dominion, we would beg to call your attention to the immediate requirements for enabling us to restore this country to prosperity and preventing us from becoming a repudiating or bankrupt nation.

We respectfully ask for an immediate and great reduction in our general expenditure for Government; also a large reduction in the salaries received by many who live on our hard earnings and render but little or no service for such. We consider that we pay far too much for all public institutions, that they have been erected at too great an expense—far too large and grand for this Dominion. The interests of officers, contractors and city ornamentation have been more regarded than our interests. The weight of maintaining so many expensive legislators, so many expensive public institutions, and such a number of full-pay and half-pay officials, bears too heavily on the small number of farmers who have either encumbered or unencumbered farms.

Grants to local railways in well-developed parts of this Dominion may for the present be abandoned.

We also ask that the present bankruptcy law may be abolished, and that steps may be at once taken to cause the disgorgement of property now held by friends or relations of fraudulent bankrupts.

We also request that more stringent measures may be taken to prevent the possibility of our stock (particularly cattle, swine and poultry) from being injured by the dire diseases that have taken root in Europe and in the United States. Also, that steps may be taken to prevent the repetition of inferior American products being fraudulently sold under the name of Canadian products in the British markets.

We would also request that the luxuries of the rich be made to bear a more just proportion of taxation, and further, that all who live in a luxurious style be made to pay their just tribute towards the maintenance of our Government. The poor are too heavily taxed for the education of the rich. We have been living beyond our means; we must curtail expenses. We should all help to bear the burden and divert impending danger, if possible.

A much higher qualification is needed for our legislators and for our electors. Our franchise is too low; an empty bag cannot stand upright. Compare the expense of the British Members of Parliament to the country with the expense of our legislation, and estimate the wealth that one represents with the other. We must come to the conclusion that we pay far too dear for our whistle.

It is our intention to take up the above subjects separately, and to treat on each more fully as we feel inclined, if suitable to our readers and ourselves.

EMIGRATION.

Steps should be taken to make this Dominion a more suitable place for British farmers who have wealth to invest in agriculture. A better class should be encouraged to come amongst us. By the recent emigration expenditures we have had the scum of Britain sent here from factories, &c., who know nothing about agricultural labor. They have been like ticks on our sheep, the more they have the poorer they are. The franchise has been given to such, and the wealth of our country is becoming endangered almost as much as in the Southern States, where the debts are so great that if, in some instances, the whole State were sold and all its contents, the debts could not be paid. None but men of stability, having unencumbered freehold estates, should be allowed a voice in our Legislatures.

More stringent laws should be enforced to prevent labor or trade strikers from interfering with persons willing to work (see reports of Grand Trunk strike).

An alteration should be made in the mode of electing officers to our Board of Agriculture and Arts; this institution has become too expensive to remain as it now is, and we presume it will be about bankrupt within a year unless immediate retrenchment and care is taken.

Public servants who receive public money should show some value for the money they receive. Too high salaries are paid to some officials, and too large pensions are also paid to persons who have not earned or deserved them.

In Britain we find men of sterling wealth, who are trained and reared for politicians, men who are able and willing and do attend to the ruling and directing of the British nation, without having their minds burdened with the all-absorbing policy of this continent—the grasping of the public money. They are men of wealth and means, and can afford to employ their time in that high and honorable position of British legislation. This is the great foundation of England's strength; it springs from the firm and certain tenure of property, and the fixed state of her laws. Many of the laws may appear to us as erroneous, but are there not ten times less corruption and fraud there than we have on this continent? It is notorious that nearly all our railways, telegraph lines, stock companies, public improvements, etc., have been brought into prominence by buying up or feigning statesmen, and that individual or company interests have been the main moving powers. Great contracts have been given and great privileges accorded undeservedly to unworthy parties; real merit and just right have been thrown to the winds and disregarded. The great cause of this is because the standing and position of our legislators are too low. Men of straw, by means of a fluent tongue, by false and deceptive means, gain power. Our choice is limited to too small a number of capable men. We are paying too much for all the good we get. We have far too many legislators and officers to pay, considering the quality.

We deem it time to put in the pruning knife and to use the sieve; we should endeavor to have a less number of paid officials and better men. We feel sure that if our Ontario Agricultural Board were reduced to half the number of members, it would be of advantage to the country, and we think the same applies to higher and lower stations.

As both our Dominion and Local Legislatures are now in session, we hope that either one or the other, or both, may take immediate steps to advance the interests of this Dominion and arrange expenditures more in conformity with the Mother Country. We have not the wealth of that nation and should not exceed it in expenditure.

Mr. Slow and his Friends.

BY T. H.

(Continued from Feb'y. No.)

Enter Mr. Strict Economy :

"Good day, Mr. Slow, I hope you and the wife and the family are all well. I had business up the line, was going to see my old friends Mr. Sharp, Mr. Dollar, and Mr. Management; have been intimately acquainted with them for many years, though I do not visit them as often as in their younger days; they are all well to do and I think care less for my society than formerly, though very much of their success in life is due to the friendly advice I gave them in former days, which I am glad to see they have profited by. The snow being deep and the traveling heavy, I thought I would call in and rest awhile, and have a friendly chat with you; though I must own I have not classed you among my intimate friends, nevertheless I hope we may become more intimate in future; and as I am naturally fond of talking when I have got a good listener, I trust you will allow me the privilege of saying a few words in a friendly way. To begin, then, I thought I saw Mr. G. Management going across the fields as if he had just left your house. I hope I am correct in supposing he has been having a friendly chat with you, in fact I feel sure of it, as I noticed the boys were at work fixing up the cattle shed, and one of them rubbing down the cows with a whisp of straw. All very right and proper. But as I was about to remark that Mr. M. is a very fine man and a good friend when you come to know him, and will teach you many things most valuable to know; yet would I offer a few remarks on my own observations and experience. I am, as you are probably aware, pretty well to do, and have practiced my principles all my life until it has become a fixed habit with me. I began early to save, a little, a very little at first, as I had only my earnings, and wages were very low when I was young; but I was diligent and careful, wasted nothing that I could readily save, bought nothing I could not pay for, unless it was something I could not possibly do without, and which I saw would bring me a handsome return. To be sure I went in debt for my farm and some necessary implements to work with, also some good bred stock, but I took good care of all these and they soon repaid me for all my attention. I always looked well into a transaction to see if it would return a profit for the outlay. I always made my payments promptly, even though I had to borrow a little money at times to meet my engagements; by these means I avoided paying heavy interest, and never had any costs to pay. I avoided the taverns as much as possible, though I always paid for such accommodation as I received. If I made use of a stable I paid for it, or if I enjoyed the benefit of a bar-room fire I left sufficient remuneration with the landlord to reimburse the outlay, but I drank no whiskey. I ran but few store bills. I bought as much as possible for ready money, and bought only useful and necessary articles; these I soon learned to buy cheaply for cash, and afterward to take good care of them; thus I moved slowly along, always looking well ahead, avoiding every superfluous expense so long as I owed a dollar, earning a dollar or two by an extra effort, sometimes only fifty cents, or even twenty-five when I could not do better; took care of it when I got it; always looking to see there was a margin of profits, and that I was not losing more than I earned by neglecting more important matters. The result was I soon got ahead, stopped paying interest, and had money to lend; this I invested carefully, looking more to the security than to a high rate of interest; always got my interest

punctually, and never lost any principal; consequently I have had very few drawbacks in my career, and have had more real enjoyment than most men, because I have had few disappointments except such as were absolutely beyond my control; therefore I look forward to a comfortable existence for the remainder of my allotted time, knowing that my family will be comfortably provided for, should I be suddenly called away from them, as I feel sure that the same principles will be strictly adhered to by them after my departure. And now, Mr. Slow, take my advice and try my method. It is never too late to begin to act right, and I feel sure you will never regret having made the acquaintance of your sincere friend and well wisher, Strict Economy. I must now take leave of you and proceed on my journey. Good day." Exit S. E.

Mr. Slow, to wife.—"Well my dear, I declare this has been one of the luckiest days of my life. We have made the acquaintance of two of the best and most influential men in this country both in one day. I am only sorry I did not know them sooner, they seem so friendly and so disinterested. I wonder we never thought of these things before. I declare I feel ever so much better than I did in the morning, things seem so much more clear than they ever did before; and I do believe that more than half our difficulties are of our own creation, and just for the want of a little waking up, so that people may see things in their proper light. I declare it sets me to thinking more than I ever did before. But let us get ready for bed now, for it's getting late, and I feel anxious to get up early in the morning and see if I can't begin to work on this new system. I want to begin to put it in practice right off. I see I have lost too much time already."

"But, Mr. Slow, you remember what Mr. Management said about reading a chapter in the Bible before going to bed?"

"Oh yes, I had forgotten that; but it is getting late now and the children are all gone to bed, so we will say our prayers to night, and begin the Bible to-morrow night."

"Well, I will remind you of it to-morrow night."

"Yes, do."

"And now let us retire."

Cultivation of Sorghum for Sugar.

The production of sugar for home use is said by agricultural writers to be the most important practical question of the day before the American people. We have inquiries on the subject from some of our readers, asking for further information on it, showing that in Canada, as well as in the States, the importance of encouraging the growing of all that farms can profitably produce for home consumption is engaging our attention.

Sorghum has been sown in different parts of the United States for some years, and the experiments of making from its juices syrup and sugar have been from all the reports very successful. One variety especially, the Early Amber Cane, is spoken very highly of. At the last Minnesota State Fair the officers of the State Agricultural Society, in order to demonstrate the real value of the cane, and also to test the evaporators and mills used in its manufacture, purchased an acre of cane, which, when stripped and headed, weighed 19,914 pounds. In a field row of 290 feet in length, with hills three feet apart, there were raised 456 stalks of cane, and 282 suckers unfit for sugar making purposes. The average height of the cane stalks was ten feet, and the average weight two pounds each. Messrs. Kenney and Rice, who are associated in the pro-

duction of sugar from this cane, claim that they can realize from fifty to one hundred dollars per acre in its cultivation for sugar. The area devoted to the cultivation of this crop increased since 1875 from 1,534 to 2,789 acres. It is said there is no difficulty in producing 200 gallons of syrup on an acre of good land, cultivated precisely as corn. Another reports from 160 to 260 gallons per acre as the yield. The per centage of sugar has found to be less when fresh cut and ground than after laying a while before being ground.

The Commissioner of Agriculture, U. S., in his last report, says of the variety of sorghum called the Minnesota Early Amber, "I procured as much of the pure well-cured seed as possible, and distributed the same in every Congressional district in the United States. The results of this distribution have been uniformly favorable, and the variety is recognized as a great acquisition, yielding everywhere a large amount of rich saccharine juice, which, under proper treatment, gives a first-class article of cane sugar and syrup, the yield being from 120 to 250 gallons of heavy syrup to the acre." His concluding remarks on the subject show that while sorghum has been proved to merit a trial here, any experiments should at first be on a small scale. He says: "The experiments thus far made have scarcely been sufficient to accurately determine the actual cost of the production of sugar from these sources, but they have sufficed to settle the question of its production with no other care than is required in making good butter and cheese."

Renovating Fruit Trees.

The very great disparity of the fruit offered for sale in our market must proceed from some cause. There are offered in our market here for sale as choice fruits as are to be found anywhere on the continent, while there are exhibited in the same market fruit of the same variety scarcely worth a picking. This may, we admit, be partly owing to the soil and to the natural position of the orchard. But there is another reason for this disparity. When the fruit trees are properly cared for and supplied with a sufficiency of food, the fruit is almost invariably of excellent quality, good size and handsome appearance; when, as a neglected or starved tree, it bears wretched fruit. There are throughout the country too many farms, gardens and orchards in this neglected condition. Good healthy trees have been quite the exception. Starved, stunted, half dead trees are the rule. We have seen such orchards, planted many years, and not paying interest on the expenditure and ground rent for the site. Were there no other remedy than grubbing out the old trees and re-planting, there would be some excuse for allowing the trees to remain as they are. But there is a remedy, easy of application for all.

In almost every instance the poor fruit is the result of starvation (the term starvation is as applicable to vegetable as to animal life). Their roots are extended in vain in search of food; disease is the natural result of the want of food; the trees cannot produce such fruit as they would were they supplied with suitable nourishment. These trees might be healthy, and fruit-bearing abundantly, were they strengthened in time, and in our climate there is no season more suitable to do it than the present. Farmers have the means for renovating their starving trees. The farmyard furnishes all that is necessary. Spread over the surface of the fruit garden half decomposed manure, not merely around the trunks, but as far as the roots extend, and two or three inches thick. Leave the rest to the weather. The spring rains will bring the supplies of food within reach of the roots, and the trees will soon receive the needed nutriment. The deep hue of the foliage, the richer bloom, and the young healthy branches will give a promise of more abundant fruit and of a better quality.

The Canadian Cattle Trade.

BY D. MACEACHRAN, F. R. C. V. S., PRINCIPAL MONTREAL VETERINARY COLLEGE.

In the last two numbers of the *L. Journal* we endeavored to point out to our readers the desirability of their paying more attention to breeding cattle fit for exportation, and suggested the propriety of using well bred Shorthorn bulls so as to produce size, quality, early maturity, and fattening properties, which are the essentials in raising cattle for beef. We also pointed out that both the necessity for, and the means of accomplishing it, are within their reach.

Since our last issue events have transpired which are likely to lead to a large demand for Canadian cattle, and which we are sure will more than emphasize our suggestions, and will convince our farmers that if they would hold their own as cattle breeders they must improve their stock, and from this time forward they must raise their calves and feed them for beef, instead of killing them for veal, and milking their cows at very unprofitable returns for food and labor.

Our Dominion Government, with praiseworthy watchfulness of the interests of the agriculturist, acting on the suggestion of the Hon. Minister of Agriculture, commissioned the Principal of the Montreal Veterinary College to investigate the truthfulness of certain reports of contagious diseases prevailing in the United States.

On the 15th of January he left for Washington, District of Columbia, Virginia and Maryland, where he found a very fatal disease known as Pleuro-pneumonia, or Lung Plague, was prevailing to a considerable extent in the above named places. He also made enquiries at Philadelphia, but failed to discover it there. At New York (Brooklyn), the whole of Long Island and New Jersey it is also prevalent.

These facts being communicated to the Canadian Government, within a few days an order was passed in Council prohibiting cattle from entering Canada from the United States for three months. Shortly after an order was passed in England that all cattle from the United States, from the 3rd of March next, would not be permitted to enter any port in Great Britain, but would be slaughtered at the port of entry within three days after their arrival. Canadian cattle being allowed to enter as hitherto. By instructions from the Government, Prof. McEachran also visited the following places in Canada, viz.: Sarnia, London, Woodstock, Hamilton, Toronto, Kingston and Ottawa, and being personally familiar with the health of the stock in the whole Province of Quebec, reported the entire absence of disease of a contagious nature in Ontario and Quebec, a fact which ensures open market for Canadian cattle in England.

Now it remains to be seen whether or not our farmers are in a position to supply the right sort of stock for the English markets. We fear that they are not.

Now that the Government are determined to guard well the health of our stock, to prevent by all means in their power the introduction of foreign contagious diseases, by a rigid system of quarantine and inspection, and the immediate checking of any spontaneous outbreak of disease among our herds by scientific investigations and immediate action, it but remains for our farmers to commence at once to breed such cattle as will meet the requirements of European markets.

In this connection I would inform our readers that they will strengthen the hands of the Minister of Agriculture in his earnest desire to protect their interests by preventing the introduction and spread of disease, by at once notifying the Department of Agriculture at Ottawa of the occurrence of any outbreak of disease of a contagious character.

The *Scientific American* says:

A GREAT MARKET FOR OUR CATTLE AND OTHER PRODUCTS.

Under rules lately adopted by the British Government, which went into effect on New Year's day, the United States will have the advantage over many other countries in landing cattle in the United Kingdom, as from Russia, Austria-Hungary, Turkey, Greece, Italy and Roumania live cattle cannot be landed, and from Germany, Holland, Belgium and France, cattle can only be

landed at six ports, under strict inspection, to be slaughtered within ten days of their arrival; but cattle from Denmark, Sweden, Norway, Spain, Portugal and the United States are exempt from compulsory slaughter or quarantine.

The immediate effect of these rules will be to confine the large supply of cattle required by England to a few purveyors, among which the United States is much the largest producer, as the severity of the regulations will practically prevent the nations in the second list from engaging actively in the live cattle trade, and those in the last list, with the exception of Canada, have comparatively few cattle to export.

More than 60 per cent. of the people of Great Britain are dependent on foreign food supplies, while her steadily growing population is increasing this dependence every year.

The numbers of live animals imported into the United Kingdom during the year 1877 were about 300,000 cattle, 1,000,000 sheep, from 40,000 to 50,000 swine, 30,524 horses, and the imports of last year are believed to largely exceed those numbers. Since the 1st of last May and up to the 1st of September there have been an average of 3,000 cattle a week shipped to Great Britain from Montreal, Boston, New York, Philadelphia and Baltimore. This trade, however, is in its infancy as yet, and will, without doubt, grow immensely before long, when the best methods of shipping have been devised and the prejudices against American meat been overcome. With the immense quantity of cheap grazing lands we have, we can defy competition to other countries in raising cattle.

Returns of British grain imports from the various countries for a period of nine months ending Oct. 31, 1878, show:

Russia.....	7,432,443
Germany.....	4,112,184
France.....	11,061
Turkey, Wallachia and Moldavia.....	200,857
Egypt.....	193,194
United States (on Atlantic).....	20,903,997
United States (on Pacific).....	4,208,942
Chili.....	49,994
British India.....	1,577,342
Australia.....	1,309,559
British North America.....	1,968,545
Other countries.....	214,284

Total..... 42,182,102
From this it will be seen that the total quantity received from the United States was 25,112,939 cwt., or 59½ per cent. of the total importations.

The annual importation of food into Great Britain is about \$800,000,000 worth, of which a large proportion will be drawn from this country if we pay proper attention to the business. To make the most of this grand market every facility should be given to the shippers by cheapening freights, lessening the amount of handling or transferring from cars to vessels, or *vice versa*, and increasing our inland water transportation facilities, as the difference of a cent or two per bushel in the cost of freighting or handling grain may largely influence the trade in that article and make all the difference between a very profitable business and a losing one.

The above statistics, as in view of existing regulations, are of very great interest to our readers, and will serve to show the vast extent of the market which is thus thrown on us to supply. Surely we can, with a little exertion on our part, at least double the number of animals—horses, cattle, sheep and poultry—fit for exporting. Farmers, at once give this subject your serious consideration, and thus better yourselves and promote the commercial prosperity of the country.

PLEURO-PNEUMONIA.

As we find considerable interest manifested by the public in the disease, lung plague or pleuro-pneumonia, which is at present prevailing in the United States and raging in several places in England, we present our readers with a few facts regarding it, so as to enable them to comprehend the character of the plague, and to realize how important for their interests it is for them to do everything in their power to prevent its introduction to Canada.

It is perhaps the most insidious and certainly the most deceptive of all the cattle diseases. Once it gains a foothold in a country it would seem to be impossible to prevent it from spreading, and that in the most unsuspected ways. When we consider that about six weeks may elapse from the

date of infection till the development of the symptoms, during which time the animal may change hands repeatedly, and may be carried on steamboats or railways, which it infects, and renders all animals afterwards carried on the same cars or boats liable to contract the disease. The diseased cattle may be driven into public markets and there mixed with healthy ones, which become infected; and thus it goes—these conveying it to others, and so on till a whole country is infected. So very contagious is it that cattle have contracted the disease by merely being placed in a field where the diseased stock have been months before.

Of its fearfully fatal nature, and the great loss it occasions to any country so unfortunate as to have it introduced, the bitter experiences of France and Great Britain amply testify. The mortality is seldom less than 50 to 60 per cent. According to the statistics of the losses caused during seven consecutive years in 217 communes of the Department of the Nord, it would appear that the annual mortality in a bovine population of 280,000, was 11,200, or a total in nineteen years of 218,000 head, whose value is estimated at fifty-two million francs.

In Australia for 13 years about 1,404,097, worth about \$42,500,000.

For six years ending with 1860 considerably more than a million of cattle died from this disease in Great Britain, worth about \$60,000,000.

Enormous losses, it will thus be seen, this disease imposes on these countries; losses which we, as a young and comparatively poor country, could not expect to stand. Therefore let us be unremitting in our exertions to avert such a serious calamity. Let nothing come between us and our duty in regard to such a serious question. The disease is a subacute or chronic inflammation of the lungs and their coverings, of a very contagious nature, peculiar to the bovine species, as a rule occurring only once during the life of an animal. It is always attended by fever, a high temperature, quickened breathing, a short, painful, husky cough, the animal standing with the head protruded, elbows turned out, pulse quick and secretion of milk arrested. As it progresses the symptoms become aggravated, weakness increases, the expirations are painful and emitted with a mournful grunt and heaving at the flanks; she refuses all food, cough and breathing get worse, diarrhoea sets in and she dies in from one to ten weeks. After death the organs contained in the chest are in various stages of disease—the lungs, especially the left, are solid, heavy, adherent to the ribs, and when cut exhibit a characteristic marbled appearance and emit foul odors.

All parts of the body, but especially the serum from the lungs, the blood, secretions, excretions, hair, hoofs, horns, etc., are all capable of conveying the virus to other animals; manure, litter, bales of hay or straw, clothing or utensils, clothing of attendants, even dogs or other animals coming in contact with the diseased animals, may be the medium of conveying the disease to healthy ones.

PENETRATION OF ROOTS.—Mr. Foote, of Mass., has traced the tap root of a common red clover plant downward to the perpendicular depth of nearly five feet. The Hon. J. Stanton Gould followed out the roots of Indian corn to the depth of seven feet, and states that onions sometimes extend their roots downward to the depth of three feet; lucerne, fifteen feet. Hon. Geo. Geddes sent to the museum of the N. Y. State Society a clover plant that had a root four feet two inches in length. Louis Walkhoff traced the roots of a beet plant downward four feet, where they entered a drain pipe. Prof. Schubart found the roots of rye, beans and garden peas to extend about four feet downward; of winter wheat seven feet in a light subsoil, about forty days after planting. The roots of clover one year old were three and a half feet long; those of two years' old plants, four inches longer.

In making your arrangements for the coming season let there be room for improvement of the farm stock. This can now be accomplished at so little expense that we are often astonished that farmers—who are always on the alert—fail to perceive the advantages within their reach.

Dairy.

Dairymen's Association.

The annual convention of the Dairymen's Association of Western Ontario was opened for the consideration of topics relating to the dairy interest, on the afternoon of Feb. 19th, at Ingersoll. The principal item of interest was a well-considered paper on Butter, by Prof. Bell, of Albert University, Belleville, which will be more fully noticed in another column.

In the evening the subject of beet-sugar was considered by E. A. Barnard, of Montreal. Mr. B. took a very hopeful view of the prospective advantages likely to arise from the introduction of beet-raising in this country both as a means of producing sugar and cattle-food. He stated that the results of analyses have shown that beets grown in Canada had been found to contain a larger per cent. of sugar than in France, where they were grown so largely and so profitably. The soil and climate of Canada are well adapted to the production of beets, and larger as well as richer crops can be grown here than in the sugar-producing countries of Europe. Recent improvements in manufacture and in the dessication of the roots have so reduced the heavy outlay formerly required as to place the means of erecting factories within the reach of men of moderate capital. As the removal of the sugar from the pulp affects but little the feeding value of the roots, there seems to be offered in the cultivation of beets a prolific and lasting source of revenue to our agricultural people, especially to dairymen, the exhausted pulp having proved to be an excellent milk-producing and healthful food for cows.

On invitation of the President, Mr. L. B. Arnold followed with some interesting remarks upon a new process of handling and preserving butter, and, as he urged, greatly improving and prolonging the delicious aroma of new-made butter. The process consists in gathering the butter in the churn in pellets or granules the size of grains of wheat or small shot, which is done by cooling the contents of the churn to 54 or 55°, by turning in cold water when the butter begins to come, and just before it would gather into a lump if its temperature were not reduced. Any expert can soon learn to gather butter in this way with a little practice. The butter is not to be worked at all. It is cleansed of buttermilk by washing in brine, by putting it into its granular form into a tub of cold brine and stirring it carefully, and repeating the washing till the buttermilk is all washed off and the brine be left clear. It is then left in the brine for an hour or so, and then put into sweet and clean packages, still in its granular form, and the packages filled with a saturated brine of pure salt and headed or sealed, as the case may be, to make them air-tight. There is no salt applied and all working is avoided so as to leave the butter in its pellet form to be covered with brine. Thus put away it will keep as well as canned fruit, and retain its flavor just as fresh as when it was first taken from the churn. In this condition it will bear transportation to distant markets or remain in a common cellar without alteration. When wanted for use it can be taken from the brine and seasoned to suit the consumer, and put in any shape desired.

After some discussion, adjourned.

At 9:30 a. m. of the 20th the convention was called to order by President Hopkins, and a paper by G. H. Beall containing some excellent remarks, mixed up with some foul scandal, was read by W. A. Hazzard, of New York City.

Rev. W. F. Clark took exception to the scandalous imputations upon scientific men laboring in

the dairy interest; that, instead of doing harm, such men had done unspeakable good.

Prof. Arnold, of Rochester, being called on, said that it was only a burst of vengeance originating in thwarted aspirations connected with the election of officers for the International Dairy Fair Association. It was an attempt to execute threatened mischief, but would probably harm no one so much as the author.

A committee appointed to consider the address decided to expunge the offensive language from the records.

The next paper was read by Prof. Arnold on "Cheese and Cheese-making." His paper opened with an explanation of the difficulties and disagreements in regard to what cheese was best and most desirable to manufacture. Cheese, he said, had two values—one as food, and another as a luxury. Its food value depends upon its digestibility, which he showed depended largely upon the treatment in manufacturing. He showed, by reference to experiments, that cheese made upon the Cheddar plan, by drawing the whey while sweet and refining the curd in the vat or sink by keeping it warm and out of the contact of whey as much as possible, and avoiding the use of sour whey in every way it can be done—the cheese was much more digestible, palatable and durable, than when treated with acid and allowed to lie in the whey till the latter became sour. The more acid involved in the manufacture, the more indigestible the cheese, and the less valuable for food.

The value of cheese as a luxury depends upon the flavor, which should be the flavor characteristic of new cheese. The flavor of cheese, Mr. A. said, was all due to its fatty matters, which underwent change in the process of curing. They were as much affected by manufacture as the cheese matter, and were best in the Cheddar process, and depreciated by the use of acid.

At the close of the discussion, on motion of J. L. Grant, a committee of 12 on weekly markets was appointed.

In the evening a paper was read by X. A. Willard on the outlook of the dairy, in which he reviewed the source of supply and demand for the British market. He considered the demand more than supplied, and that none but fine goods, either of butter or cheese, could be sold for remunerative prices. He urged more care in manufacturing, and since American cheese made on the acid plan had a good reputation in England, he advised making acid cheese for that market, and to let them take care of their own digestion. Mr. W. urged very strongly that dairymen do everything they can to promote the consumption of cheese by our own people. That if the people of Canada and the States could be induced to use as much cheese per capita as the English, it would save them the necessity of looking after a foreign market.

Mr. Ballantyne took issue with Mr. Willard in regard to the English preference for acid cheese. He was well acquainted with the requirements of the market, and their preference was for cheese made on the Cheddar plan.

Mr. W. explained that he did not mean acid cheese, but only cheese made on the acid plan.

Quite a little discussion grew out of a different meaning applied to the same or similar terms used by the different speakers, which was finally reconciled by explanations, and all agreed that the practice of drawing the whey early and ripening the curd in the vat without the presence of whey, as recommended by Prof. Arnold, was the best method, whether it was called sweet curd, acid process or Cheddar plan.

The evening was occupied by W. F. Clark, of Guelph, in an entertaining discourse on dairying

in its connection with general farming. He favored mixed instead of special farming, and that dairying should only form a branch of the farming operations, and not its only or chief business—a proposition which would probably have been controverted had the audience been made up of dairymen instead of cheese makers. He urged better farming and more of it; more fertilizing by saving and making manure, and by the use of clover. He considered clover one of the farmer's best friends, as it gives him food and fertility at the same time. He closed with the exhibition of some amusing cartoons, representing Farmer Shiftless and Farmer Thrifty, illustrating their stock and premises.

The remainder of the evening was spent in answering questions from the question box, which were mainly directed to Messrs. Arnold and Ballantyne, who promptly returned satisfactory answers.

It was moved by Mr. Losee, seconded by Mr. Morton, "That one of the most efficient means of promoting the improvement of the quality of cheese would be the employment of some competent person to visit the factories and deliver lectures at certain places during the season of manufacturing, and would therefore strongly recommend to the directors of this Association the employment of some person for such purpose, and would respectfully suggest the name of Professor Arnold as one eminently qualified for the performance of such duties."

After some remarks favoring the resolution by Messrs. Losee, Chadwick, Clark, Bell and Caswell, it was unanimously adopted by a rising vote, and the meeting adjourned till next morning.

Thursday a. m.—At the appointed hour the few who assembled were called to order, and after sometime spent in executive business, the remainder of the morning was spent in discussing the report of the committee on weekly sales, which resulted in the recommendation of collecting cheese in depots at the principal places (Stratford, London, Ingersoll and Woodstock), to be kept for inspection and weekly sales. Nothing of special interest was transacted in the afternoon. After some formal business a final adjournment was moved.

In pursuance of the resolution of Mr. Losee in relation to employing some competent person to visit factories the coming season, we learn that the Association has completed arrangements with Prof. Arnold to spend the entire season in visiting factories and giving lectures upon occasions, excepting during the month of June, his previous engagements in the States requiring this exception.

We believe Mr. Arnold would do more good in one summer in traveling from dairy to dairy, than the expenditure of ten times the amount of money in other ways.

Oleomargarine.

The total number of oleomargarine factories that were started in the United States and Canada were sixteen. Of these thirteen have been closed and the others are, it is said, running at a loss. This failure is attributed to the low price of genuine butter. The makers of butter have it in their power to keep the spurious stuff out of the market by making better butter than that too often offered for sale in the market. With the really good product of the dairy oleomargarine manufacturers may attempt competition in vain.

QUALITY OF AMERICAN CHEESE.—A high American authority says: "The mark of solidity in the make of our cheese is one of the errors we have committed this year. The complaints of porosity, large and numerous holes, big eyes, etc., even in the best season, are more frequent than ever."

Annual Convention of the New York State Dairymen's Association.

The New York dairymen were in council on the 4th and 5th of February, President Folsom presiding. From his address we take the following interesting remarks:

Advantages of these meetings:

"The advantages of these conventions cannot be too highly estimated. They are not only a personal but a public benefit. They make known and familiarize to all the best practices of the best minds, the result of study and investigation, and enable us to produce an article that enters the world's markets with favorable competition. They afford the merchant an opportunity to become acquainted with the science of dairying, whereby he can explain more intelligently what is wanted; wherein the production is defective, to criticize to such an extent that the dairymen can understand the necessity of remedying all faults that may exist, whether it be imperfect manufacturing, careless boxing, undesirable shapes in cheese, or the want of flavor and solidity in butter."

New York, Canada and the West:

"While other States are using their utmost endeavors to excel in the specialties they are manufacturing, we in New York State cannot boast of any progress; in fact, to some extent we are retrograding. There are more complaints this last season on the general quality of goods than we have had for the preceding five years. Canada has certainly improved in cheese, and to-day ranks in Europe as producing better-keeping qualities than we do. The West has excelled to a degree that she demands and commands more money for her creameries than we obtain."

Want of solidity in American cheese:

"The defects in the English cheese this season seem to be lack of keeping qualities and bad flavor, which surely is serious enough, but to add to it imperfect make, as has been the case with American cheese, is indisputably more damaging. The want of solidity in the make of our cheese is one of the errors we have committed this year. The complaints of porosity, large and numerous holes, big eyes, etc., even in the best dairies, are becoming very serious, and this season are more frequent than ever. Surely a remedy for this apparently growing evil may be found."

Want of keeping qualities:

From general observation of the make of the past season we find that the cheese, when they have reached a point at which they can be called fully ripened, commence to degenerate very quickly, in fact much more so than in former years. This we attribute to the rule which dairymen have adopted of making a cheese to cure in ten to fifteen days, while formerly from four to five weeks was required for the same process. This may have a great deal to do with this great evil, and we offer it as a suggestion, hoping it may prove to be one through which some practical cheese-maker may see a remedy."

Edam cheese—South American ports:

"The judges suggested that a cheese made similar in shape to the Edam cheese, round in appearance, and having a tough and heavy rind, as being the most suitable for army use, inasmuch as possessing these peculiarities they would better stand the changes of climate which so often occur in army movements. In making such a cheese, however, we must not lose sight of quality, and that under this rough exterior we must have a perfect full-cream cheese, sufficiently salted to stand all climates. Cheese have been shipped to Brazil during the past summer, but were found utterly unfit for use upon their arrival, in consequence of the intense heat to which they had been subjected during the voyage, not having been properly manufactured. We would here say that the cheese suitable for army rations is just what is needed for exportation to the South American ports."

Effect of unusually luxuriant herbage, and following the American style, on English cheese:

"The last season, although a favorable one for English butter-makers, has been a very bad one for cheese-makers, on account of the large amount of rain which has fallen, making the herbage more than usually luxuriant, increasing the quantity of milk but injuring its quality, and resulting in a poorer quality of cheese than usual."

"Some makers, also, have doubtless become discouraged at the low prices ruling, and have turned their attention to making a cheese more after the

American style, which ripened quickly and enabled them to market them in from four to six weeks, instead of the two or three months which ruled formerly."

Make butter or cheese, not both:

"Farmers must either make butter or cheese. No skimming—it does not pay to make skim cheese, for every pound of butter the farmer takes from the cheese he loses $2\frac{1}{2}$ pounds of the latter. So it does not in general pay unless butter is very high. The home trade should also be increased by the cheese trade inaugurating some method by which retailers shall sell cheese at less profit than they generally take. It is a perfect shame the price that is charged the American public for cheese at retail."

An English Dairy Company.

In order that our readers may see the great importance attached to the purity of milk by milk-sellers and consumers, we extract from London *Land and Water* the following account of the operations of the Aylesbury Dairy Company:

"The Aylesbury Dairy Company, limited, commenced some thirteen years since, and has during that time, step by step, organized the most complete system of arrangements ever contemplated in this country or elsewhere for securing a perfect state of purity with regard to their milk, which, as we shall presently see, enables them to supply it to their customers not only pure in quality but entirely free from the contaminating influences which, under ordinary circumstances, milk is always exposed to."

Twice during the 24 hours—at night and early in the morning—milk is received fresh from the cow from the numerous farms in almost all parts of England with whom the company contract. These are periodically inspected by an engineer and medical officer in the employ of the company, the duty of the latter being to inquire into the health of the people engaged on the different farms, and that of the former to see that the sanitary arrangements are properly carried out, to carefully examine the source whence the water is supplied, and to make a plan of each farm, which is kept at the head office.

Cases have been found where the whole of the drains went into the streams from which the water supply was taken, but before any milk is received by the company all this has to be altered. Not only are the cows, the drainage and the water supply of the 60-odd farms which engage to send milk, under the strictest supervision, but also the laborers and their families. Every possible sanitary precaution is taken, and in the event of any illness breaking out on the farm, no milk is, under any circumstances, allowed to be sent until after the medical officer has made his report and pronounced it free from infection.

If our readers were to visit the numerous railway stations of this metropolis at a late hour of the evening, or near midnight, they would see quantities of milk-cans arriving from all parts. These cans, on reaching London, are at once taken to St. Petersburg Place, where a scene of great activity prevails all through the night. The milk in each can is first tested, a sample being taken, and is then got ready for the morning delivery—again tested and sealed up, and by 5:30 a. m. all the carts have left the premises for their rounds, which comprise some 13,000 calls daily; and up to the present, no matter how bad the weather, this hour has been punctually adhered to. The same thing takes place at 1 p. m., when the milk received from the country in the morning is sent out for the afternoon delivery.

One curiosity to be met with in the company's stables, seldom seen by Londoners, is a number of Spanish mules in splendid condition; these are used as well as horses for the milk-carts, and, strange to say, none of them show any vicious propensities.

A very important matter is the cleansing of the cans, and this is effected in a most perfect manner by steam, which is forced into them and removes completely any impurities. All the water used in the establishment is boiled, and there is a 3,000-gallon tank always kept filled. This method of using steam and boiling water not only cleanses the cans better, but also prevents the milk from becoming contaminated, which has frequently happened when the pails have been carelessly washed with impure water.

Not content with receiving the milk perfectly pure from the county, the company go much further, and carefully guard it from any impurities while in their hands in London. To accomplish this they have built houses for all their work people, so that both married men and single have to live on the premises.

Farmers' Meetings.

The meeting of farmers in council is a good omen of the progress of agricultural knowledge. The meetings of Farmers' Clubs in Britain are always very interesting and highly profitable. In America similar institutions are attended with similar beneficial results. In this number of the *ADVOCATE* we give an epitome of a very interesting meeting of the Farmers' League of New Brunswick. The *New England Farmer* has a condensed report of a meeting of a Farmers' Club in Sheesbury, Mass. The first topic discussed was the manufacture of manure:—

Mr. Hadwen introduced the subject of manures, for discussion. He advocated the carting of manure from the barn to the land as soon after being made as possible, as being more economical than composting, and rendering the manure more available as plant food. If the manure was spread upon the land in the fall and winter, and plowed in the following spring, it would all be found there.

Dea. Merriam believed in composting as the best policy, and spreading and harrowing it as near the surface as possible.

Mr. Prouty believed in spreading the manure at any season on the land, except upon a hillside, where it might wash.

Mr. Willard gave the results of some of his experiences as a farmer for sixteen years. He said he did not believe in burying manure. After being properly pulverized or mixed, he would put in six cords to the acre, plowing near the surface.

Mr. Chamberlain urged the application of improved systems of agriculture to New England soil. While she was at the head in manufacturing enterprise, she was half a century behind the times in the great science which feeds the world.

The meeting closed with a discussion on the question of the inability of New England to compete with the west in certain agricultural products, the general reason given being that the western lands are new and productive, but the farmers there were fast skinning it of its richness on a large scale, without adding to it, and in the course of years there would be a reaction, if the farmers of New England would take advantage of circumstances by rejuvenating the productiveness of their own soil and applying to it the same energy and skill they now give to manufactures.

HOME-MANUFACTURED SUPERPHOSPHATE.—The *Maine Farmer* says: "Mr. A. C. Emery purchased 100 pounds of ground bone, placed it in a half-hogshead tub and applied 40 pounds of sulphuric acid, adding water as desired. In five days' time the whole mass was reduced to a consistency of thick jelly. Water was then added, and 300 lbs. of plaster used as a dryer, the whole being worked and shovelled over until it could be readily handled. The phosphate so made was applied to one acre of corn and one of potatoes, both being manured sufficiently, and a small quantity was left, which was applied to his wheat field and to a plot of grass ground just to see what it would do. The result of this manure in the two latter instances was most marked, while the corn was heavy—the growth being dark colored and stout, and the potatoes good. The entire cost of the phosphate was \$7.40, and Mr. Emery thinks it the best expenditure in the way of purchased manures he ever made."

WHEAT IN ROWS.—I have been growing wheat in rows and cultivating the same in the spring for the last six years. I have cultivated the space between the rows as often as three times, and have found no trouble in regard to the ripening of the wheat. I sow in scores, twelve inches wide, perfectly flat on the bottom, leaving a space of ten inches between the wheat rows for cultivation, also for a free circulation of air and sunlight. My yield has been from 48 to 71 bushels to the acre since I have devised this plan—never less than 48 bushels. Last season my yield was 57 bushels to the acre.

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Agriculture.

New Brunswick Farmers in Council.

The New Brunswick Farmers' League met on Feb'y 5th in the Agricultural Hall, Hampstead. In the absence of the President (Mr. Sharp), Harmon Humphrey, Esq., of Sackville, took the chair. The list of accredited delegates present was read by the Secretary, S. L. Peters, Esq., as follows:

- Sussex and Studholm Agricultural Society—D. S. Sinnott, O. R. Arnold.
- Queens Central—John Slipp, B. F. Merritt.
- Queens Co. Farmers' League—S. L. Peters, L. P. Farris, Thos. O'Donnell, J. McD. Belyea, Geo. L. Colwell.
- Westmoreland Co. League—Wm. George, Howard Trueman, Harmon Humphrey.
- Sunbury Co. League—W. Dell Perley, C. B. Harrison, G. A. Sterling, R. W. Foster, H. B. Mitchell.
- Cambridge Agricultural Society—Israel Slipp, Chas. E. Colwell.
- St. John Agricultural Society—Thos. Davidson, F. W. Hatheway.
- Kings Co. Farmers' League—J. E. Fairweather, J. D. M. Keator, Chas. J. Smith, J. B. S. Raymond, George Barnes, A. Kennedy.
- York Co. Grange—Chas. McGibbon, Leverett Estabrooke.

There was a good attendance. Many of the farmers in the neighborhood were present. From the report of the Secretary we take the following interesting extracts:

OBJECT OF THE MEETING.

Among the agriculturists of our Province there exist hearts as true and loyal to all principles of right as are found among others of our citizens whose associations in life give greater opportunities for the cultivation of social amenities. Meeting as we do for the discussion and deliberation of questions affecting the most important interest of the Province, and that without aid from the Provincial exchequer, I think we may fairly claim to be in earnest in our efforts and particularly desirous that our Province shall not be a laggard in the progressive agriculture of the age.

NEW BRUNSWICK BECOMING A WHEAT-PRODUCING PROVINCE.

From advices received from different sections of the Province, we learn the very gratifying fact that many of the counties have quite sufficient wheat for home consumption, while in all the counties more or less has been grown. Probably at no period within the last twenty years have our farmers been in less fear of an advance in the price of flour. The success of the past year will probably cause a still greater quantity to be grown in the present year. Other grains have given an average yield, and have been cultivated to about the usual extent.

THE POTATO CROP AND MARKET.

Our farmers have been able to dispose of their surplus stock at fair prices for shipment to the United States, to dealers who have bought for that market. And just here permit me to remark that it would seem to be a fair subject for inquiry why our people who desire to take advantage of the American market are required to pay a duty at least three times the amount that Americans are required to pay to enter our markets. Potatoes going into the American market from the provinces are subject to a duty of 15 cents per bushel, or about 33 per cent. of their value, while Americans can enter our markets paying only a duty of 10 per cent. We do not know the exact quantity, but we certainly will not be charged with over-stating the facts when we say that fully 50,000 barrels of potatoes have been shipped from this Province to the U. S. during the year, and the shipments in small quantities are still going on. Now, had we been allowed to enter the markets of the United States with our agricultural produce on the same conditions that they enter our markets, our farmers would be rejoicing in the possession of some \$37,000 for potatoes alone, in addition to the sum usually received by them. Quite an item when times are hard.

FRUIT.

In fruit culture, it is very gratifying to know that our farmers are becoming fully alive to its importance, and orchards are being planted very generally throughout the Province, many of which are fast coming into bearing. There appears to be

no good reason why New Brunswick may not produce fruit of excellent quality, and at least sufficient to supply the demand for home consumption.

STOCK.

There appears to be a growing desire on the part of many of our farmers to secure imported stock of horned cattle, and consequently animals of pure breed are sought after. Great advantages are to be derived by becoming members of a good agricultural society, in order to secure the services of pure-bred animals. We take it for granted, of course, that an agricultural society that is alive to its own interests will support or purchase nothing but animals of pure breed.

OUR BEEF AND PORK.

Pork has probably not been so low in price for the last 25 years as it is to-day. Our markets are to a considerable extent supplied from the West, and many farmers are holding their stock in hope of a more buoyant market. The same may be said of beef, of which we are now receiving large supplies from the Upper Provinces. To determine how and under what conditions the farmers can take advantage of the English market for their beef, pork and poultry, is, I am pleased to say, one of the subjects proposed to be discussed during the present session.

AGRICULTURAL IMPLEMENTS.

For the last four years our own manufacturers and mechanics have shown a firm determination not to allow our own markets to be altogether supplied from abroad; and the spirit of enterprise and perseverance which they have shown in striving to meet the wants of the country, is very praiseworthy and should be heartily encouraged. We trust that the farmers of this Province will not lose sight of the fact that when it is possible for them to secure the article they desire of Provincial manufacture, it is greatly in their own and the country's interest for them to do so. To encourage home manufacture must certainly mean a market for home products. The greater the encouragement given the more are our manufacturers warranted in producing manufactures giving employment to a certain part of our population. In like proportion is there a demand created for agricultural produce. Thus are the two interests sustained—the farmer buying from the manufacturer, and he buying again from the farmer, each purchasing in a home market such articles as they may need, so far as they can be obtained or supplied upon fair terms.

Results of Agriculture.

Without agriculture there is no wealth. Gold and silver are not wealth—they are its equivalent representatives; commerce produces no wealth—it simply exchanges it, manufacturers and acts combine it. Agriculture is the prolific source of wealth—the rest simply handle it when produced and delivered into their hands.

The earth breeds savages, agriculture breeds enlightened nations; it breeds houses and ships, temples and seminaries; it breeds the factory; sculpture and printing are its offspring. The wheels of the workshop, the sails of commerce, the pen of genius, the pencil and chisel of the artist, the eloquent tongue of the orator, the scheming brain of statesmen, the equipages of wealth, the banquetings of pleasure—all that renders earth in its tides of life anything but a great sculpture, move and have their power of being, because the fields yield their fruits to the patient toil of the husbandry.

We might manage to live without merchants, mariners, orators, poets; perhaps we might possibly survive the loss of demagogues, but sure am I we could not live without plowmen.

The state of husbandry in any country is the test of its enlightenment. The thermometer of civilization rises and falls as drives the plow.—[Western Farmer.]

NEW CLOVER PEST.—Professor Lintner, of New York, says "that last year one undesirable insect was prevalent over the States. This is the clover seed worm, probably a dipterous insect belonging to the same family as the wheat midge and the Hessian fly. The perfect insect has never been recognized. The larvæ feed on the growing seeds in the clover heads, so that whenever they prevail in large numbers no seed attains maturity, and the crop is not worth harvesting." Mr. R. J. Swan states that in Seneca county many fields of clover saved for seed were not cut at all on account of this insect.

Snow Drifts—Our Winter Travel.

No macadamized highway that ever was constructed is superior to our Canadian roads in winter when the snow has once been well compacted by travel. The heavily laden sleighs, as well as the light cutter, skim over the road, scarcely requiring any exertion from the horses. There are, however, drawbacks sometimes met with in the snow drifts that block up the roads in places, and bar all further progress. It is no trifling undertaking to cut through a heavy drift that blocks up the road for a long distance. This winter a person driving five miles was compelled to turn five times into the neighboring fields, finding it impossible to make his way otherwise. The snow had taken entire possession of the road by great drifts filling the road from fence to fence, in one place for a full half mile at one stretch. In not a few places the necessary travel was interrupted for some days, till the farmers turned out in a body to open a way for the teams. It is a question well worthy of our consideration, "What can we do to prevent this interruption to travel and commerce." The great cause of this accumulation of snow on our roads is the close fences on either side. The snow is blown into the road and the fence prevents it going further.

The substitution of wire fences for board fences are recommended by many on this account. The wire offers no impassible barrier to the drifting snow, and the road is not blockaded with drifts. For this reason and others wire fences are now generally used in the United States.

But there is one objection to wire fences along the roads. Some protecting shade is necessary to prevent the sweeping of the snow off the higher and mere exposed parts of the road, and this necessary protection is not given by the wire fence. Were its use generally adopted here the parts of the roads that are exposed to the gales would be quite unfit in some places for sleighing. An effectual remedy for this would be the planting of evergreen trees along each side of the road. This would afford a wind-break such as would prevent the sweeping winds making the road bare in places, as it would if there were no obstacle but the wire fence, and it would not have the same effect as a board fence of collecting heavy drifts.

The row of evergreens would also be beneficial for other purposes. They would add very much to the appearance, and consequently to the value of the property. They would be very useful to shade cattle in the heat of our noontide dogdays, and would serve to moderate the temperature of our climate in winter. There is a perceptible diminution of cold in the vicinity of evergreens in the severest winter. This is a noteworthy fact, to which all who have our yearly experience bear witness. The expense of planting rows of evergreens is very little. It is not necessary to purchase from a nurseryman. A farmer and his team, and one additional help, can dig in the young trees, spruce, hemlock, cedar, or pine, and plant where required in a very short time all that are needed.—Of all the improvements that can be made on a farm at very little cost, this will be found to be one of the most profitable.

EXPERIMENTS IN WHEAT CULTIVATION.—Experiments have been made in Michigan in cultivating wheat, and the results are not only satisfactory but astonishing. A committee was appointed to oversee the experiments and make the report. Sixty-eight pounds of seed per acre were sown in drills 16 inches apart, and 90 pounds were drilled in the usual way. That in the 16-inch drills was cultivated with a horse wheat-hoe once in the fall and twice in the spring; the other of course was not cultivated after sowing. The report says that the 16-inch did not lodge or crinkle, while the 8-inch lot did so badly. The average yield was 69½ per cent. greater in the 16-inch drills than in the 8-inch. It is further remarked: It is as reasonable to believe that grain crops should be benefited by cultivation as that potatoes, corn, cabbages and other crops should be. Hoing wheat in Europe is not an uncommon practice, and farmers in this country have begun it with success.—[St. Louis Republican.]

SUGAR FROM PEARL MILLET.—A few seeds of pearl millet, which had been sown late in the season to test its value as a forage plant, produced a large growth of blades and stalks. The presence of saccharine matter in considerable quantity was so apparent that the stalks were stripped and put through the mill, and the juice gave a fair quantity of readily crystallizable sugar of good quality.

Indian Corn.

When on the farm no grain crop ever gave us so much pleasure as the corn. We used to like to prepare the ground—manure and hoe it, and then the rapid and luxuriant growth, the handsome leaves and the fine silk were all pleasing; also the cutting of the stalks, husking the corn and taking home the fine loads of golden pumpkins—the fine cribs full of corn being always a source of pleasure. And in the winter, how nice it was to feed the hens and hogs and give the young and old cattle a few cobs daily.—This course of treatment renders the stock fond of the owner; it used to pay us and would pay you.

No grain is so easily threshed or shelled. Then we used to have fresh corn-meal and a large pot of mush for breakfast. We know of nothing so good, wholesome and cheap for breakfast as mush and milk. If we were to farm again we should have a good field of corn. It never failed us; although we had it cut badly by the frost one spring, still we had a good crop. After the corn crop, the land was as clean and as fit for any kind of crop as if it had been summer fallowed. We grew several kinds in different fields and at different times; we preferred the large eight-rowed yellow at that time. We tried some of the Dent varieties—the Red or King Corn and the Dutton or White Flint, but the Yellow Canadian pleased us the best, taking all things into consideration. We have had more green feed from sowing the Dent or American corn broadcast than from our common yellow, but we now have our doubts if our own corn is not as good as the American, when quality of feed is considered. We considered our corn crop the finest crop to look on, the most profitable and the most reliable since we left the farm to attend to this journal and fly all over the country, and sometimes to be shut up in our office. We have not now the same opportunity to give personal attention to each kind of grain or stock as then, therefore we must depend on others to report details about such.

Every part of our Dominion is not as advantageously situated for raising corn as the Western Peninsula; even here many do not take such a favorable view of corn as we do. For instance, many leading dairymen prefer to raise peas and oats or other grain for winter feed, although most of them like to have some corn for soiling or feeding the cows in dry times in summer, as corn will grow and keep green and fresh in the hot summer, when too hot for crops to grow.

As a general rule, the corn procured in your locality is the best to plant, although sometimes a change of seed or a new variety is more profitable.

We now give you two illustrations of corn introduced by James J. H. Gregory, of Marblehead,

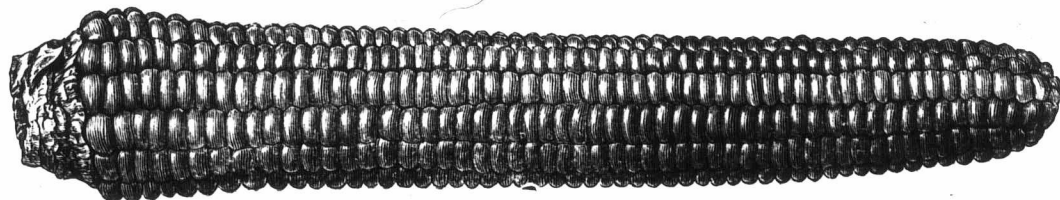
Mass., who has kindly lent us the accompanying cuts. We have not tried the variety called "Longfellow's." Mr. G., in his catalogue, says the ears are of remarkable length, some of them fifteen inches, and that often two or more good specimens grow on one stalk; the cob is quite small. It is the largest kernalled variety of yellow field corn we have ever found, and is safe to plant in this latitude.

The Compton's early field corn, Mr. G. states,



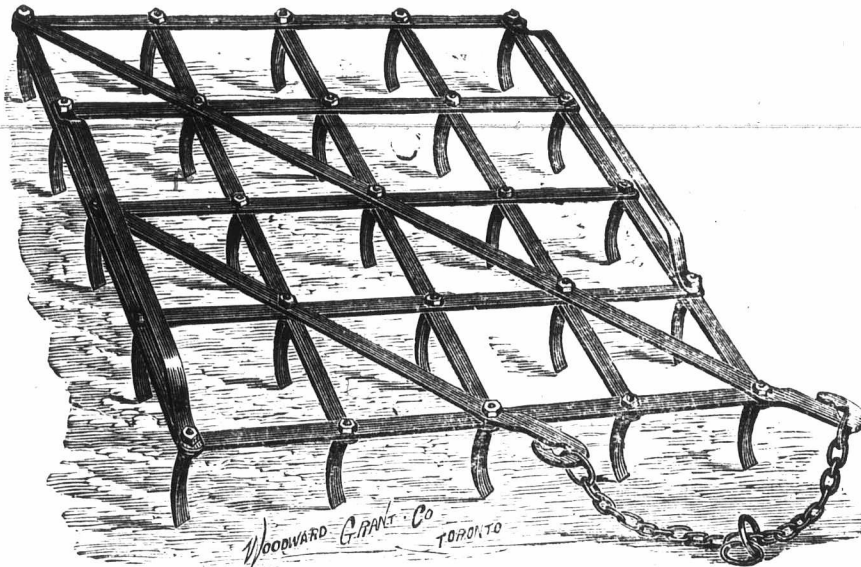
LONGFELLOW'S.

is decidedly the earliest large-eared variety of field corn in cultivation, and he has raised 200 bushels of ears to the acre. We had some of this corn tried in Canada, and every person that we have seen or heard of who had tried it, speak in the highest terms about it. We had a small piece planted on a poor piece of ground close to the city, and we were quite astonished to see the fine ears it produced. We consider ourselves safe in recommending a trial of this variety for general



COMPTON'S.

purposes. Some farmers prefer the large Western corn for soiling—it will produce a heavier body of stalks; but some of our dairymen prefer quality in their feed, and have the sweet corn; the bulk of fodder is less, but the nutritious quality is increased, because it contains so much more saccharine matter than the coarser variety.

**COPP'S CULTIVATOR HARROW.**

The accompanying cut represents a cultivator exhibited by Messrs. Copp & Co., of Hamilton, Ont. It appeared to us such a useful implement that we requested them to have the above cut made to represent it, as in this way we can show more fully its advantages. The teeth are diagonally flattened, and made on the crooked form of the English "Hop Shim," as it is called there—that being

considered the best cultivator for hop gardens and root culture. As soon as we saw this cultivator we felt satisfied that it was an excellent implement, and, in our opinion, superior for many purposes to the cultivators or gang ploughs so much in use. The form of the teeth and mode of sharpening will take the cultivator to a good depth and will leave the ground pulverized better than the common cultivator; the subsoil will be broken and uneven, very different to land where

the subsoil is smoothed over and packed by the plough or common cultivator. It will require two good

horses in some grounds to use this implement right. On hard clay lands and in the hands of good farmers we feel sure that this implement would be of immense value. The difference in the crop on one or two acres would sometimes pay the price of this implement, which, we believe, is only about \$10. We form this judgment from the appearance of the implement. We presume that Messrs. Copp & Co. would only use the best material, as they are a large and responsible firm.

Eastern Dairymen's Ass'n.

The Association met at the City Hall, Ottawa, Feb. 26th. The chair was taken by Mr. K. Graham, of Belle-

ville, who made a few introductory remarks. There was quite a large attendance.

Prof. Arnold, of Rochester, gave an address on "Cheese as Food."

Prof. Wetherall, of Boston, gave an address on the subject of "Specialities in Farming," from which we extract the following:—

"The Canadian farmer claims he has an advantage over the farmer in the States, in having a shorter route to the English markets. Thus the Dominion farmers were sharp competitors of the farmers of the States in the markets of Great Britain. The products of both countries that find their market in Great Britain were the same. As regards beef-making, both in the States and in Canada, too little attention was paid to breeds and breeding of cattle. For grazing and feeding for beef, for the home market and the foreign demand, more attention must be had with reference to using good bulls for

producing grade animals for the shambles. It was manifest, therefore, both in Canada and the United States, that in sections where beef-making is a speciality, as is true of the Western farmers in the States and those in Canada, who raise cattle for beef, and where cheese-making was the speciality, as in Ontario,—good, better, best, must be the standard of all who are prosecuting this special branch of industry."

On the Wing.
TO OTTAWA.

After completing our labors on the February issue, we took a trip to Ottawa to see the Minister of Agriculture about the dangers that threaten our greatest agricultural interest, that is, the health of our flocks and herds, which is in danger of being injured by dangerous diseases.

We called at the office of the Minister of Agriculture in the morning, but he could not then spare time to see us, being fully engaged. He appointed 4 o'clock p. m. for the interview.

During this interval we walked into the market to see how our brethren fared in this part of the Dominion. Many poor-looking farmers were there, most of them having one horse, and that a poor one—looking more like ponies than real good horses, some of which we thought we could have lifted if we got our back under them. These horses were hitched to poor-looking sleds, some of which were rough, home-made affairs. The horses were poor, the loads poor, and the farmers appeared poor. The farmers of Western Ontario would be

citizens have not time to go out of the city; thus the hucksters buy at a lower price from the farmers and charge the citizens for their trouble.

These poor farmers, trying to get a little money to pay their taxes, or rent, or procure a little clothing, should not have been so over-burdened by their task-masters as to have such fees exacted from them. What has been done, and is being done now at the seat of Government, might be done by other corporations. We request that some Member of Parliament now in Ottawa will at once enquire into this disgraceful procedure, and bring in some Act that will curtail the powers of senseless or dishonest municipalities to defraud the poor farmers in such a manner in any other part of the Dominion.

We instructed our artist to make the accompanying cut, to depict the case more forcibly than pen alone can do it. We do not mean to imply that all are poor farmers in this locality, but a greater proportion are poorer than in the West.

On our way home we stayed a night in Toronto. We heard there was expected some good, interest-

many a speech, with hardly anything else in it. Not finding this interesting, we got heartily tired of wasting our time in listening, so we walked into the reporter's room. We were informed there that this M. P. P. had his editor preparing the speech since the commencement of Parliament, and that it was being reported merely to publish in his pocket-paid paper. The house adjourned about 8.30. That was the day's work we have to pay for. We shall give you more about Ottawa at our leisure.

Officers of Agricultural Societies for 1879.

ALGOMA—W M Simpson, President; Geo Alderson, 1st Vice do; Thos McCulloch, 2nd do; Chas J Bampton, Sec.; W H Carney, Treas.

CRAMAHE—Geo Wirm, President; J H Chapman, Vice do; H J Scripture, Sec-Treas.

NORTH HASTINGS—J M Ashley, President; W Kingston, 1st Vice do; Joseph Doak, 2nd do; Thos Eno, Treas; P Fargey, Sec.

EAST YORK—A D Milne, President; Captain Reesor, 1st Vice do; Alfred Mason, 2nd do; James Robinson, Sec-Treas.

OTTAWA AGRICULTURAL INTEREST—Market Fees, \$3.60. To M. P.'s.



TORONTO AGRICULTURAL INTEREST—Neglected or obstructed. To M. P.'s.

ashamed to be seen driving such unsightly sleds and horses. The complaints we heard were loud, long and numerous about the impositions under which these poor farmers groaned. One great cause of complaint was the

MARKET FEES.

Some artful dodgers about Ottawa have passed a by-law regulating the market fees so that a person has to pay 15c. for each kind of product brought on his sled. We heard of one man who had paid \$3.60, another \$2.45, and we saw several who had paid over \$1. The way they fleece the farmers is this: The fee is 15c.; if a person has meat and a hide he has to pay another fee for the hide, and if he has vegetables on the load, another 15c. And then the weighing; they had a by-law that all grain should be weighed on the market, and thus farmers had to unload, reload, then take their grain to the merchant or miller, and weigh it again. These unjust—we might almost add, thievish—laws have so disgusted the farmers that they are establishing a market in the suburbs of the city. This is also a loss to the farmers, as

ing speaking in the Parliament buildings, and we went there at seven o'clock. While waiting there we went into the reading-room and asked to see the agricultural journals. We were informed that there were none; there had been one sent, but some person had carried it away. Here was a room full of papers, all kept on file—perhaps hundreds, for ever Member is supposed to have one; some Members have several to advocate their cause. These papers the farmers have to pay for both directly and indirectly, yet so little do most of these M. P. P.'s care for agriculture that the whole stock of the country might become diseased and taxes might be collected in any manner, so long as some of them could create an office or get a contract for an intimate friend; and the farmers have to pay for it. What we want and must have is Members who will look after the interests of farmers better, or we may say to them the same as the French farmer is saying in this illustration.

A certain M. P. P. had the floor and was delivering a long oration, just such as we have read in

The Sugar-beet and Mangel Wurzel.

The N. Y. World says:

"The sugar-beet is in reality a mangel wurzel. As the industry of manufacturing sugar from the beet grew, and seedsmen were called upon to supply seed of the best variety for this purpose, they selected the long white mangel wurzel. These, however, were not entirely white, and further improvements in them were made to the end that all coloring should be eliminated. The improved sugar-beets of commerce grow almost entirely under ground. They are more nutritious than the mangel wurzel, are equally hardy and productive, more palatable to stock, and consequently to be preferred. Davy found in 1,000 parts the following quantity of nutritive or soluble matter: Mangel wurzel 136, and sugar-beet 146. Mangels in turn differ from table beets in their general coarseness of structure and the larger size to which they grow. The elements entering into the composition of each are the same in kind."

Belts made of raw cow's hide, simply dried in the sun, cut perfectly straight, with the joints carefully stitched square and even, with saddler's hemp, have been found in practice to last longer than leather belts, besides being less than half the cost.

Stock.

United States Stock Disease.

We extract the following from the New York Tribune, contributed by Prof. James Law, of Cornell University:—

MALIGNANT ANTHRAX—PRECAUTIONS.

Mr. Tallman C. Bookhouf, Delaware County, N. Y., reports the loss of 11 members of his dairy herd from May 27 to December 4, ranging in age from seven months to nine years; all in milk except the calves, and all in better than average condition. The details he supplies pretty fully, as follows:

The first one died before turning to pasture. Each had four quarts daily of oats, buckwheat, corn, barley and wheat shorts, mixed, with what good hay they could eat three times a day. Stock turned out June 1; grain left off June 10; September and October fed sowed corn twice a day; fed green stalks until frost, and cured stalks until December 1. Pasture is high ground, most of it dry; has been seeded mostly within thirteen years; has three living springs with troughs; there is some wet and swampy ground along the stream flowing from one of the springs; would not exceed three-quarters of an acre; grass and hay mostly clover and timothy. The symptoms of those that died, and those that recovered, are as follows: In the early stages of the disease, some uneasiness (very little), lifting up of feet, lying down and remaining some time in that position, breathing more hard than usual, drawing up of the abdomen at times; at other times stretching, curbing the head and neck, drawing the back down, abdomen up; they will eat, chew cud, drink, to within a short time of death. There is heat at top of head, and along the spine, also near end of tail—tail down between legs; a slight discharge of mucous from the nostrils, saliva in mouth, swallow often, raise wind from stomach. When lying down, rest nose on manger, breathe hard, nostrils stopped up, make water frequently, little at a time; manure hard and dry, and other times thin with some slime mixed with blood; death always follows in short time after this appearance, generally in two hours. Cows all hold out their milk till last stage of disease; have had cows die with udder full, and others would dry up in a day. Carcass after death looks healthy, paunch full of undigested food, manifold full and dry, last stomach contains a watery fluid, and in a high state of inflammation; gall full of thick brown bile; spleen in every case was the same; in cutting open spleen the contents would run; lungs had some red blotches on them, also the wind-pipe; along the back over the lungs there were also bloody places. There was also bloody fluid inside of carcass. The flesh about the stomach was clotted with blood; there was a sickening smell coming from inside of carcass; a bloody discharge from nostrils shortly after death. The intestines were full of a sort of putrid slime, watery and bloody.

The cattle evidently suffered from malignant anthrax, either imported into the pastures from other stock, or, what is much more probable, developed in connection with the general plethora of the subjects—the rich, but swampy ground, drying out in summer, and the excessive heat of the past vernal season. Mr. Bookhouf should thoroughly wash with chloride of lime solution every part of his premises in contact with which any of the sick animals have been, fence around the wet, swampy parts of the pasture, and the graves, so that no cattle can approach them, and should not even use the hay from such places for some years to come. It may even be needful to seclude the whole of the pasture from cattle and to cultivate the same, taking a succession of other crops before it is again laid down for grass.

The following is an extract from the Michigan Farmer:—

BLACK LEG, BLACK QUARTER.

J. A. Morill, of Brockway Centre, Michigan, writes:

"Will you please inform me through the columns of the Farmer how to prevent and cure the disease known as the Black-leg? A good many cattle here, principally yearlings, have it; they are taken generally by being stiff in the limbs; the blood will seem to settle in one quarter

of the animal and go through all the flesh; by passing the hand over the parts it feels like a pumice; they only live from 12 to 24 hours after being taken."

Answer.—This disease is known by several names, as black quarter, quarter evil, joint murrain, bloods triking, shoot of blood, etc. Young stock in full condition are particularly subject to those attacks, in consequence of the feverish condition of their system. The premonitory symptoms of this disease are very obscure, hence frequently overlooked. The pulse is full and hard, increased to 60 or 70 pulsations per minute, showing the congested condition of the capillaries, in some remote part. Respiration disturbed, tongue somewhat swollen, muzzle dry, breath hot, neck extended, eyes full and bulging, horns hot, with coma or stupor, unwillingness to move, and when forced to do so has a staggering gait, loss of appetite, etc. Rapid debility follows and the animal dies. Prevention, give the following: One pound epsom salts, one ounce of Jamaica ginger, not pulverized, mix well, and divide into six powders, one to be given morning, noon and night dissolved in half a pint of warm water; between each dose give one of the following powders every two hours on the tongue, gentian root pulverized, hyposulphite of soda (not hyposulphate) pulverized, of each two ounces, cinchona bark and Jamaica ginger root pulverized, of each half an ounce; mix all together and divide into ten powders. As a preventative scotons in the dewlaps have been used with seeming advantage. When great debility is present, the liquor ammonia acetates, in two to four ounce doses, has been used with good effect. If there is a regular veterinary surgeon in your neighborhood we would advise you to consult him, as this disease will not admit of any mistake.

Black-leg or black quarter has been known in Canada, but it is not of the contagious or dangerous character as the other diseases that are now spreading in the States.

WHAT AILS MY HOGS?

A. W. A., of Mundy, Genessee county, writes: "I write to obtain some information as to what ails my hogs? They are lame in the forefeet, one foot at a time; this foot seems to be somewhat feverish just at the edge of the hoof and hair. I have thought sometimes that it was a founder, but suppose that it would be in both feet at once? The hogs run out in my yard all the time, not on any floor. They are last spring's pigs, of the Poland-China breed. I got one of them from Anderson in the fall, and it was lame when I got him? They have been lame for five or six weeks, first in one foot and then in the other. If you can tell me what is the matter I shall be much obliged, as I am a subscriber and mean to remain one."

Answer.—Diseases of the feet have attacked all classes of animals, more especially cattle, sheep and swine, the result of inflammation of the feet. Particularly is this the case where the animals are turned upon meadow lands. The symptoms as above described are more of a rheumatic character. Treatment: Separate the animals affected, and give half drachm doses of pulverized stramonium seeds in the feed night and morning.

In previous issues we have spoken of Texan cattle fever, pleuro-pneumonia, hog cholera, trichina in pork, and foot and mouth disease. We feel satisfied that the voice of every real Canadian farmer will support us in asking our Government to use every proper means to prevent the spread of any of these diseases in any part of this Dominion. We believe the first steps taken by our Government are in the right direction. We hope to see hogs and poultry prohibited from being shipped into this Dominion from where diseases exist. We cannot tell what inestimable damage may be done if our stock should become contaminated. Diseased food affects man. Perhaps the cause of the plague in Russia, which is sweeping whole districts to eternity, may be traced to bad meat. If we can keep our stock healthy we shall be able to command a higher price for meat than those nations which have diseased stock. John Bull will not complain of price, but he must have the purest and most healthy meat, butter and cheese that this world can produce.

A Hot-bed of Pleuro-pneumonia.

In Moore's Rural New Yorker we have a sketch of what is justly called "A Hot-bed of Pleuro-pneumonia," at Belleville, a village in Long Island, N. Y. In connection with a large distillery there are wooden buildings, cow-stables, containing between 700 and 800 cows, fed exclusively on swill. The attention of the Brooklyn Board of Health was some weeks ago directed to the condition of the cows by reports of pleuro-pneumonia among them, and by an unusually high rate of mortality among the children of the city, which was attributed to their use of milk from the diseased animals. We quote the following:

"The cows are tied in opposite rows of stalls varying in width from 37 to 42 inches, the ropes being barely long enough to let them lie down. Between the rows of heads facing each other is just sufficient room to allow one to pass, but behind the animals are wider spaces from which the fast accumulating excrement and urine are swept away once a day. Evacuations are almost constant, as the nature of the food stimulates the kidneys so as largely to increase their secretions, besides rendering the faeces very abundant and almost liquid. The only provisions for light and air are the doors. When these are closed the interior is dark and the air noisome. The cows never stir from the place. From the moment they first enter it until they cease to give milk in satisfactory quantity, and are fattened for the butcher, they take no exercise beyond these three-by-ten-foot stalls, get no change of food from that unwholesome swill, and breathe over again that filth-reeking atmosphere, until the lungs become diseased, the body feverish, and the udder dry or nearly so. Small wonder that the wretched victims of cruelty and greed have become a source of sickness in the community, of possible infection among other herds, and of danger to our live-stock export trade. For right here is the most notorious hot-bed of pleuro-pneumonia in the country. A few days ago we visited the stables ourselves, and although permission to examine the animals was refused, we saw and learned enough of the condition and surroundings of the inmates of the buildings to enable us to guarantee the correctness of the above account of the matter."

The German Government are taking active measures to prevent the spread of the rinderpest, which is causing fearful havoc in the agricultural districts of the Empire. The imperial authorities have established quite a cordon of gens d'armes and police along the whole frontier of Russia, with strict orders to prevent any import of cattle from Muscovy. France, too, is on the alert, for an official decree was published on the 14th ult. prohibiting the importation into or transit through that country of sheep and horned cattle from Germany and Luxembourg.

An Australian paper states that at the annual sale, Aug. 20th, at Victoria, of the Canowie sheep (Australian), twenty Merino rams sold for \$11,180, or about \$555 each. Prices ranged from \$1,000 downwards, while the average is the highest hitherto known in South Australia. These rams are reported as having good frames, fine constitutions, their wool being long and staple, of excellent quality and heavy in weight. The average weight of the wool on the Canowie estate last year, from 52,997 sheep, was 8 pounds 15½ ounces for each sheep and 4 pounds 5½ ounces for each lamb. These sheep are grass fed, and endure a change of climate and food remarkably well.

A Canadian correspondent of the London Times says: "There are some 250,000 head of cattle and 500,000 sheep at present being stall fed in the Province of Ontario for shipment to British ports in the spring. Exporting firms intend to dispatch one vessel a day laden with sheep and cattle from Montreal and Quebec as soon as navigation opens. A Toronto firm is at present in negotiation with the British Government for supplying the troops stationed at Cyprus and Gibraltar with beef and mutton after next spring."

Occasional feeding of salt is very important to the health and vigor of animals. One-half of the ash of animal blood consists of salt, without which the vital fluid cannot be in a natural or healthy state.

Miscellaneous.

Preservation of Harness.

Though the harness is an article of every day use, there are few who know how to care for it so as to ensure its durability, and to keep it looking clean and neat. A harness that has been upon a horse's back several hours in hot or rainy weather, becomes wet; if not properly cleaned, the damage to the leather is irreparable. If, after being taken from the horse in this condition, it is hung up in a careless manner, traces and reins twisted into knots, and the saddle and bridle hung askew, the leather when dried retains the shape given it while wet, and when forced to its original form damage is done the stitching and the leather. Those who use harness are not altogether in fault for this; they would take care of it if they knew the extent of damage that would result from their carelessness, and that they do not is the fault of the manufacturer. It is a mistaken policy that leads the manufacturer of any line of goods to neglect giving needed information to the buyer. Every harness manufacturer would study his own interest by accompanying each harness sold with printed rules for preserving the same.

The first point to be observed is to keep the leather soft and pliable; this can be done only by keeping it well charged with oil and grease; water is a destroyer of these, but mud and the saline moisture from the animal are even more destructive. Mud, in drying, absorbs the grease and opens the pores of the leather, making it a ready prey to water, while the salty character of the perspiration from the animal injures the leather, stitching and mountings. It therefore follows that to preserve a harness the straps should be washed and oiled whenever it has been moistened by sweat or soiled by mud. To do this effectually the straps should all be unbuckled and detached; then wash with a little water and brown soap, then coated with a mixture of neatsfoot oil and be allowed to remain undisturbed until the water has dried out; then thoroughly rub with a woolen rag; the rubbing is important, as it, in addition to removing the surplus oil and grease, tends to close the pores and gives a finish to the leather. In hanging harness care should be taken to allow all straps to hang their full length; bridles, pads, gig saddles and collars should be hung upon forms of the shape of each. Light is essential to the care of leather, and when the harness closet is dark the door should be left open at least half of the time during each day. All closets should be ventilated, and when possible they should be well lighted. To clean plated mountings use a chamois with a little trip oil or rotten stone, but they should be scoured as little as possible. Rubber covered goods are cleaned in the same way. Leather-covered needs to be well brushed and rubbed with a woolen rag.

If a harness is thoroughly cleaned twice a year, and when unduly exposed treated as we have recommended, the leather will retain its softness and strength for many years.—[Harness Journal.]

INCREASED PROFITS IN FARMING.—The *N. Y. Tribune* says that at the last meeting of the Vassar College Farm it was found that after deducting all expenses the farm was paying 7 per cent. on \$100 per acre, with a constantly increasing value. These results have been attained (1) by adding to the available land by draining several pieces with substantial stone drains at an expense of about \$25 per acre, at the same time removing any tendency to malaria; (2) by adding to the fertilizers, by building several tanks, which are filled with muck from the pond into which the college sewage is run. Thus by deepening the pond and keeping the sewage out of the brook, two sources of disease are averted. From this source about 1,000 loads of rich compost are annually made; (3) by adopting the soiling system, the selection of good milkers and the care which is used in tending the stock.

EFFECT OF FREEZING ON SEEDS.—Some experiments by Prof. Haberlandt have developed the fact that flax seeds which had been frozen germinated earlier than the unfrozen seeds, flowered earlier, ripened early, and the plants were larger in the proportion of seventy-one to forty-nine. The weight of the dried seed obtained from a given area planted with the frozen seed was to the similar area planted with unfrozen seed at 137.6 to 88.

Suitable Wheat-Soils.

Winter wheat, the most valuable of cereal crops, is the one most dependent on soil and cultivation. It is true that nearly all soils in a virgin state, not too largely composed of humus or decayed vegetable matter, will produce a few fair crops, but there are few that can be called natural wheat-soils—such as will grow profitable crops for a series of years without large outlay for manure. Wheat requires less vegetable matter in the soil than most other crops, but the mineral or inorganic elements must be complete, or profitable returns cannot be depended on.

A complete wheat soil must contain lime, potash, phosphate, and nitrogen, in their various combinations with other mineral elements, and in due proportions; and at the same time be sufficiently porous to allow water to pass down readily and leave a surface dry and firm. A light, mellow, open soil, such as makes a perfect corn soil, is not fit for wheat, nor is a close, tenacious clay soil, although well adapted to grass. In either of the extremes of very light or very tenacious soil the roots of the wheat plants will be lifted and broken off by the action of the frosts in winter and spring, and the plant destroyed.

I do not say that none but lime soils can be made available for wheat-growing, but such soils are more especially adapted to this grain. Sandy and gravelly soils, by liberally manuring and by the use of chemical fertilizers, can be made productive, and no means are more effective than clover and plaster or gypsum.

Good wheat-crops are sometimes grown on the granite soils of New England and elsewhere, but the wheat element must first be supplied to the soil before the crop can be grown. Alluvial soils have no distinctive character, but partake somewhat of the soil of the country whence the waters have washed and deposited them. They always contain a large amount of vegetable matter, but are usually deficient in the mineral elements necessary for a perfect wheat-soil.

There is one peculiarity in wheat-growing which pertains largely to the soil, and which is not well explained. It is that winter wheat and spring wheat are not equally successful on the same land. That spring wheat may succeed well on land where winter wheat cannot be grown is no difficult matter to explain; but why spring wheat will not succeed well on natural winter-wheat land is more difficult to understand. Western New York has always been noted as a winter-wheat section, but spring wheat has never been a success here. It has been frequently sown, but fails to produce a fair berry. When winter wheat is fine and white, spring wheat will be shrunken and poor.

Blocked Roads.

We extract the following from the *Rural American*; from a description before the Farmers' Club at Rochester:—

Hon. Heman Glass said that there were places on the Ridge Road where the highway had been contracted to 45 or 50 feet, in which snow used to drift badly, but where the fence had been recently removed on the west side, it had ceased to drift. Some farmers had proposed wire fence for road fences, but Mr. Glass had favored the entire removal of road fences, not only for the prevention of drifts, but also to prevent stock running in the highway. When his road fences were standing, the road was full of cows, pigs and other stock, which slipped into his yard whenever a gate was left open. He first gave notice that his gates would be left open and stock entering his grounds would be shut up, and all owners held responsible. He shut up several animals, releasing them without cost when the owner called for them, which somewhat reduced the numbers running in the road, and two years ago he removed his road fence entirely, since when stock had been kept out of the road, or watched when turned in, and he had lost nothing. Was willing poor people should pasture the road, if they would take care of their stock. Removing fences saves in other ways; saves cost of repairs, and enables one to clean out shrubs, thistles and weeds that flourish under the protection of the fence. Had cultivated and leveled his road-sides so that he could mow them with reaper.

Mr. Ross knew of a man who built a board fence along the road and it drifted very badly in winter. Removed all but the top board, putting wire in their place, and there was no more drifting.

GLEANINGS.

The *Scientific American* states that in some parts of Algeria steam plowing has resulted in an increase of fifty per cent. in the yield of wheat.

The President of the N. Y. Dairymen's Association, as reported in the *American Dairyman*, says: "Canada has certainly improved in cheese, and to-day ranks in Europe as producing better keeping quality than we do."

In many localities where the corn was late in maturing it is feared that the severe cold—20 to 25° below zero—has killed the germ. Seed-corn from the crib should be thoroughly tested before planting-time arrives.

Sugar refiners, it is alleged, by the use of glucose make a clean gain of \$15.72 on each hoghead of sugar they refine, three-fifths of which amount comes from the Government, and two-fifths from the purchaser, who thinks he is buying sugar.

The farmer is apt to consider the seed used as of less account, and to ascribe differences in crops to the amount of manure used. Manure and good seed, good seed and manure, neither without the other, and there will be a most cheering increase in the crop.

American cheese makers shipped cheese to Brazil during the past summer, but were found on their arrival utterly unfit for use, in consequence of the intense heat to which they had been subjected during the voyage, not having been properly manufactured.

The discovery of rich deposits of phosphate of lime in Canada has caused land near the area of deposit to go up in price. Lumbering has been abandoned in some places to cultivate the new industry. England and the continent are large purchasers.

A correspondent writes to a U. S. paper that he has found no remedy so effective for preventing the cabbage-worm from destroying the cabbage as a handful of dissolved bone mixed in the hill at the time of setting the plants, and a handful applied at each successive hoeing.

It is confidently stated by distinguished entomologists that, taking one year with another, the United States suffers from depredations of noxious insects to the annual amount of \$300,000,000. Enlightened agriculturists state that the writings of Dr. Fitch, on noxious insects, saved the farmers of the State of New York, annually, \$50,000.

For ordinary feeding, either to cows, horses, hogs or sheep, I usually put 100 pounds of meal to the same weight of bran. I think a horse will do about the same labor upon this kind of food, that he can do if fed oats in the same ratio, and that 200 pounds of the same mixture are worth more than the same quantity of meal for the ordinary feeding of any of these animals.

Prior to the importation of the English sparrows in Louisville that city was annually so infested with the caterpillars that they devoured the shade trees, and even infested the residences so that they could be swept up by the handful, but since the little sparrows have been imported from England and protected the caterpillars have disappeared.

Straw itself is of much less value than farmers think it. When either rotted or burned it contains a very small moiety of plant or animal nourishment. Its greatest value is as an absorbent to take up and hold ammonia, thus fulfilling a double purpose—keeping stock clean and comfortable, and aiding the retention of manurial gases. Stock fed on wheat or barley straw alone would starve to death. What farmers want is grain; without it we labor in vain. In Britain we find large, plump grain, and large quantities are raised to the acre—sometimes over 70 bushels.

In an address by Ernest T. Gennert, before the New York State Agricultural Society, he says: "It sounds very deceptive when our daily papers tell us we have shipped so many bushels of corn, wheat and other grain to Europe, or so many million pounds of meat, butter and cheese to foreign countries, but it sounds quite different when we learn that the average crop of wheat per acre this year in Tennessee has been four bushels; in Ohio, which was once the garden of the United States, ten bushels, and in the whole United States it has been for many years eleven bushels."

Garden and Orchard.

Seasonable Hints—March.

BY HORTUS.

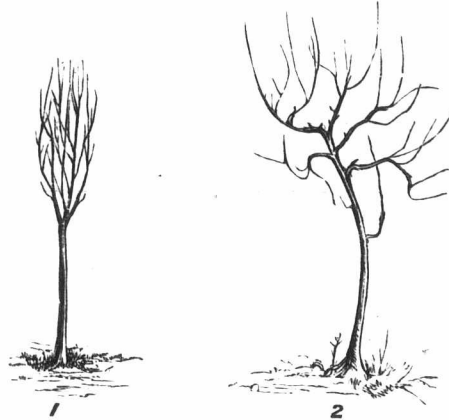
This is the month for preparation; have everything in readiness for spring work; there is no telling whether we are going to have an early season or not. Last year spring work commenced about the middle of March, to the surprise of every one, and the great annoyance of those who were not ready. How much easier it is to haul manure and other fertilizing material now, when the ground and roads are hard, than to be working in mud and slush. Have manure piled in heaps convenient for wheeling in amongst the raspberry and current patches. The ashes, wood or coal, that have been accumulating all winter, should now be carted into the orchards and spread amongst the trees; nothing better than ashes for stimulating the growth of pear trees, and no doubt a great preventative of blight and other diseases. Save some good clear ashes for making lye with. A mixture composed of lye, lime and sulphur makes a capital wash for the bark—destroying all bark lice and other parasites.

PRUNING should be finished now as soon as possible. In old orchards work may be found in cutting all the dead wood out and removing superfluous branches and suckers, and be sure to give the trunks a good scraping, removing all the old bark with its attendant mosses and lichens, and you will be surprised at the improved appearance of the orchard. In young orchards more attention and skill is required in pruning than would be necessary to pay to older ones. If you have a taste for pruning, do the work yourself or have it done under your immediate direction, otherwise employ only some practical man in whose experience and skill you can safely place reliance, but avoid ignorant tree pruners as you would a pestilence; for the future value of your orchard depends on its proper treatment when young. To train a young orchard properly, the peculiar growth of the different varieties of apples should be studied; two well known varieties, the Northern Spy and the R. I. Greening may be instanced. The Northern Spy grows close and erect like a Lombard Poplar, while the habits of the Greening is directly opposite. Figs. 1 and 2 show their comparative growths. Thus we can see that the pruning required for one would not answer for the other. The branches of the Northern Spy require spreading out, and an occasional cutting back, while to have the Greening grow shapely the trunk must be staked up straight and the branches be given an upright direction. An objection often urged against the King of Tompkins' County apple, is that the branches grow long and slender, and the fruit generally growing on the ends of the branches, gets easily knocked off in windy weather. To prevent this, the leading branches should be shortened like the Northern Spy. When you come to study young trees you will find great difference in the color of the bark even; also in the leaves of the various kinds as well as in the growth. The bark of the Yellow Belleflower and Sweet Bough are as deep in color as the Golden Mellow, while that of the Duchess of Oldenburgh and Fameuse will be found to be a purplish black. Speaking of the growth, a Colvert will make a tree fit for sale in the nursery rows at three years; an Early Joe would take five and then be a scrubby looking thing. Some of the most valuable varieties of apples are poor growers, and the most worthless make handsome trees. This leads unprincipled nurserymen to cater to the popular desire for fine looking trees, by growing

these fast growing worthless kinds in great quantities; labelling them to order, and selling them far and near. We caution you, therefore, to be on your guard and only to order from reliable firms, and not expect every tree you purchase to be like a tallow candle in the straightness of the stem and the smoothness of the bark.

GOOSEBERRY AND CURRANT BUSHES will need the old wood thinning out and the young growth shortening back.

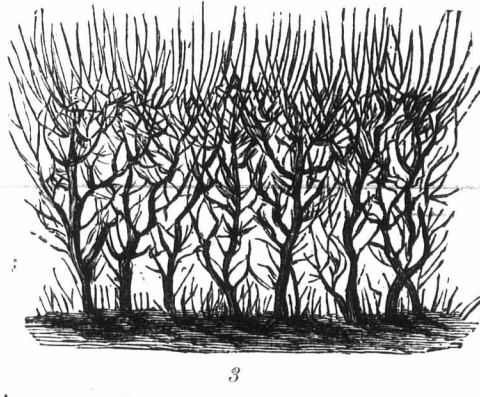
RASPBERRY AND BLACKBERRY CANES require cutting to about breast high.



HEDGES, evergreen and deciduous, should be clipped into shape. A hedge in the condition of fig. 3 should be cut back within a foot of the ground; this would cause a new luxuriant growth so dense that a little attention would soon shape into an impenetrable hedge.

HOTBEDS may be made now for the forcing of early lettuce, radishes, tomatoes, &c. Many flowers may be raised from seed sown into shallow boxes filled with nice loam and placed in a corner of the hotbed. Verbenas, Zinnias, Asters, Stock, Balsams and many others can be raised in quantities with but little care; all it requires is the setting about it.

Leave the mulch on Strawberry beds till late in April; great damage is done by uncovering too soon.



ASPARAGUS beds and Rhubarb should have a coating of short manure applied (if not already done), to be forked in when the frost is out.

CUTTINGS may be made any time this month of poplars, willows, currants and gooseberries, and many kinds of flowering shrubs, such as the yellow flowering currant, Tartarian honey suckle, privet, etc.; place in sand till planting time.

If you intend planting, send your orders for trees, etc., in early to the nurseryman, so as to secure first selection.

Hints for grafting, with illustrations, will be given next month.

AN IMPREGNABLE HEDGE.—It may not be generally known that apple-seed sown in the fall, where a hedge is desired, will in four or five years form an impregnable hedge. They should be clipped back two or three times with a knife or hedge shears, to grow low and stock.

Small Fruits—Where to Locate and Where to Buy.

B. F. M., DRUMMONDVILLE, ONT.

If you have a fair soil, and are within, say, five miles of some town or village or railway station, stay where you are. If you are too distant from any market, or have a soil which has proved unsuitable, you will require to move far enough to overcome all these difficulties. If your town or village is surrounded by a soil generally unsuited to small fruits, so much the better, as you will then be liable to less competition from home growers. If you purchase land try to secure a well drained mellow soil. A sandy loam or even a sand is preferable to most others. Avoid fruit centres. If you wish to realize the lowest price for strawberries grow them at Oakville. We do not grow enough berries in Ontario as a whole, but we grow too many at certain points. Owing to the perishable character of berries, and to the high express rates charged, the grower realizes but little, while the consumer pays a good price for fruit not fresh. A better distribution of growers would remedy all this.

The novice will be astonished at the local demand in even a small village. As years go by this demand increases much faster than does the population. If local demand is insufficient to absorb the crop shipping may be resorted to. No one has ever shipped many berries without becoming strongly impressed with the wickedness of the world in general and of commission men and fruit dealers in particular.

If your neighbor has pure stock of the kind wanted, buy of him; if not, procure from some Canadian nurseryman who can supply you. If a nursery is near you all the better; if it is distant, it matters little, when plants are so rapidly forwarded by express or by post. The fact that small fruit plants are not bulky, enables us to send them by express or post directly to the planter. This enables him to get them fresh and at the proper season, which for spring planting is quite early. For these reasons and from the fact that planters often require wholesale quantities of small fruit, nurserymen aim to do a large portion of their business with their customers directly. With larger nursery stock agents become more necessary. Few classes of men have done more for Ontario than respectable nursery agents, and few classes have received more abuse.

I do not at this time know of an unreliable nurseryman in Western Ontario. Many reliable men are also in the business across the borders, but they seem harder to catch; or rather the unreliable ones seem to catch us in most cases.

As a rule buy from Canadian nurserymen or their accredited agents. Avoid unknown speculators. Avoid those who use religion as a snow plow to clear the track for their business. The greatest knaves among small fruit nurserymen are of this class.

HEDGES OF HONEY LOCUST.

It is rather strange that hedges of Honey Locust have not been more extensively and more generally planted. So far as I know they have not been much planted in any other part of Ontario than the Niagara frontier. In this vicinity it has been extensively tried with very favorable results so far, wherever success was deserved. In hard clay ground, roughly prepared, a regular growth should not be expected. With suitable preparation and some attention afterward, Honey Locust succeeds finely on clay soils. There are a few hedges here which are practically used as fences. Some of them are open to the highways. After securing a regular growth, clipping is the next most important matter. Some say, cut low from

the start, while others say, wait for two years and then cut down. Both parties agree that in after years clipping should be frequent. A third party, and practically this seems to include about all the growers, allow their hedges to reach three or four feet in height and then begin to shorten in. The latter, I believe, is not the proper plan, but if majorities are always right I must be mistaken. It is a strange fact that, after incurring all the trouble and expense of starting a hedge, most persons make a failure by neglecting to shorten in properly. Then it is in order to blame the nurseryman, or the particular kinds of plants, for the failure. My own plan is to shear several times during the season, and thus secure a hedge at all times ornamental, and eventually useful as well.

Planting Walnuts.

Black walnuts or acorns should be placed in moist sand as soon as gathered, and allowed to freeze during the winter. In the spring they may be planted in rows three or four feet apart. The black walnuts may be transplanted, as they crowd each other. The acorns, however, are transplanted with difficulty. The oak grows much slower than the walnut, and therefore you would lose your labor if planted together. Therefore, plant them separately by all means. Walnuts should be planted about three or four inches deep. Acorns one to two inches deep. Plant in exact lines for ease in cultivation.

Adulteration of Honey and Sugar.

We have frequently urged the manufacture of sugar, from the products of our own soil, as a matter of economy. Why should we pay to other people our hard-earned cash for commodities that we can profitably grow and manufacture for ourselves? Our own farmers, laborers and manufacturers have the first claim on us for encouragement of their industry and any profit to be made. There are yet other reasons, and powerful ones, in favor of our growing and making our own sugar and honey. For our health's sake we should see to it that, as far as in our power, all the food that our families use be pure, unadulterated, and free especially from all admixtures which are criminal to health.

We confess we do object when we buy sugar to get, instead of the pure article, a mixture of glucose, copperas, sucrate of lime, and acid—dissolved tin, with some sugar added just to disguise the stuff; and such is the refined sugar manufactured in the United States and sold wholesale to us Canucks. The syrup, even the golden syrup, is a similar compound.

This is not all. G. A. Galbraith, in the *Country Gentleman*, complaining of honey adulteration with glucose, says:

"Unless this practice of adulterating honey with glucose is stopped—unless we have the strong arm of legislation to protect us—I fear the days of profitable bee-keeping are over, and our market both in Europe and America will ultimately be ruined. Glucose is the chief article used in adulterating honey. Glucose is manufactured from corn-starch by boiling the starch with sulphurous acid, afterwards adding lime; the glucose always retaining more or less of these, and sometimes copperas and sucrate of lime are found in it. The results of Kedzie's analysis proved table syrups to be made of glucose, one of the fifteen containing 141 grains of sulphuric acid (oil of vitriol) and 724 grains of lime to the gallon, and these had caused serious sickness in a whole family."

Adulterated!—causing serious sickness!—containing a large portion of oil of vitriol! Such is the character of the sugar and syrup that we purchase for daily use. What remedy? A very simple one. Let us Canadians make our own sugar—sorghum, beet-root, be it what we find most suitable to our soil and climate; but let us have Canadian-grown and Canadian-refined sugar, and we will at the least know what our food is.

Beware of Summer Drought.

The great difference between the climates of Britain and this continent necessitates a corresponding difference between the times of sowing and planting in the old country and the new. Our season of sowing must be later, and our season for the growing and maturing of our farm crops is shorter, and the result of this is lighter crops of grass and cereals. And not only are there fewer measured bushels of grain to the acre, but also there are fewer pounds of grain to the bushel here; there is more husk and less meal or flour. We can do somewhat to remedy the effect of these unfavorable circumstances, and thereby add to the produce of our farms in grain and fodder. A drought in summer, especially an early drought, is a great cause of light crops. The tender grass and grain plants are deprived of that nourishment which they so much need; and they grow weak, stunted, without sufficient vital strength to bring forth abundant crops. Now, though it is out of our power to prevent a drought, cannot we do something to mitigate its injurious effects? A very efficient means to prevent its baleful results on our crops is to get the start of it by sowing as early in spring as the state of the weather and the condition of the soil warrant us in doing—so early that before the dry season produces its injurious effects the ground will be shaded by the growing crops, protected from the wilting, scorching rays of the sun, the foliage of the crops already being pretty well grown. Springwheat and oats are, as a rule, most productive, and yield the heaviest grain. To this rule there are exceptions some years, but they are only exceptional seasons. In order to attain this earlier growth, and a partial immunity from the effects of the drought, early sowing, though profitable, is not by itself enough; to obtain the full benefits of early sowing the ground must be well prepared, and the seed sown when the seed bed is as dry and warm as possible; and water-cuts opened when necessary, so that no stagnant water be permitted to remain, and scald and kill or injure the seed or growing plant. If the land be at all heavy or tenacious it would be much improved by fall plowing. The mellow friable condition of the seed bed has a great effect on the germination and growth of cereals and grasses, and we need scarcely add that for early growth and good crops the soil must be in "good heat" as well as mellow. By these means—with the warmth and fertility of the soil, and the proper cultivation, and the early sowing, an early vigorous growth and seasonable covering of the soil with the shade of a luxuriant foliage may reasonably be expected. And when the ground is well protected from the drought, the cereal plants will thrive uninterruptedly till matured. We must not lose sight of the fact that, whether we sow early or late, a rich and well prepared soil is essential to the growing of a good crop. How to keep our lands up to a remunerative point of fertility is one of the most important points for our consideration. While some fields and some farms produce from twenty to twenty-five bushels per acre, other farms as well situated produce but half that quantity. For early sown grain a top-dressing of land plaster has been found very beneficial. It nourishes the tender plant and promotes more vigorous growth. Even if land plaster be not a fertilizer, it at least has the property of fixing the ammonia from the atmosphere, and thereby conveying the nourishment so much needed by all plants in early growing. In fruit growing, as in all branches of farm and garden husbandry, farmers should always endeavor to produce crops of the very first quality. They, and they only, will pay for the labor and expense attending their growing and leave a fair profit. The receipts for products from portions of land of equal natural fertility is not unfrequently as high as twenty-five or even fifty per cent.

Poultry.

Hatching Chickens Early.

Sitting hens are certainly annoying, where this desire is nearly constant, yet I have seen the time when the first broodiness of a hen was hailed with great joy. On some occasions, especially with amateurs, early chickens are desirable, and that is when the birds are intended for exhibition. Where eggs alone are the desideratum, a constant broodiness among the hens is intolerable. To avoid this, the non-sitters should be cultivated. It is really trying, when eggs are at 30 or 35 cents a dozen, to find the majority of your hens down with the sitting fever at midwinter. Yet the larger breeds will do it, no matter how great the emergency. Broodiness is contagious, and where once introduced into a flock of Brahmas, it is likely to affect all alike. The infusion of Leghorn blood remedies this evil to a great extent, and increases the production of that of eggs. When sitters are required for early chicks, the Brahma mother, by all odds, is to be preferred, not only from the fact that she is a steady and persistent sitter, but for many other good qualities that she possesses above all others. According to my experience the light Brahma is the more tractable, being more quiet. The Partridge Cochin hen is too sluggish and indifferent for a good sitter. She breaks her eggs and when her chicks hatch is liable to kill them by the careless, clumsy manner in which she governs her movements.

For very early chickens, an Asiatic mother is to be preferred before all others, as her body is larger and warmer (I never found artificial heat conducive to health and strength) than the smaller bird, and this bodily warmth is highly necessary at all seasons of the year. She possesses an ample coat of feathers, which retains the warmth, and is calculated to accommodate and keep a large brood comfortable. The mother that broods them makes all the difference with the chicken, not only at hatching time, but ever after. Where early sitters are required, allow the Brahma a separate apartment from the non-sitter, and there will be found little difficulty when the eggs are to be set. Where the non-sitters are allowed to associate with them they soon break up any tendency to brooding, especially in cold weather. The smaller breeds generally have the ascendancy and rule the roost, if not the nest. The Brahmas are quiet low-minded fowls, and a roost two inches from the ground suits their taste just as well as one ten feet high. The sitting hen should, when it can be done, always have her nest on the ground, that she may walk on and off, and not be compelled to use her wings in going to and from the nest. A regular sitter, that means business, seldom leaves the nest oftener than once in two or three days.

Early Hatched Pullets

Of last year, are almost all laying now, and during this month many of the young fowls of the Asiatics will lay out their first litters and become broody. It is frequently the case that just when you have plenty of eggs, and wish to sit them, the last year's pullets are the only fowls which are broody. Among the larger breeds the fluff is already pretty well developed, and, to all appearance, the birds are perfectly capable of covering a clutch of eggs in good shape and giving them a fair chance for hatching. But it will not, for all its fair appearance, be a good plan to use these youngsters as sitters. The fluff, which appears well developed, lacks the closeness and consequent warmth which another year will bring, and the pullets are not large enough to cover more than eight or nine eggs properly, and, besides, they are apt to be inconstant, lacking the steadiness of old hens. Therefore, if possible, you should choose the latter for incubating purposes. —[Poultry World.

It is convenient to have two hens hatching at the same time, since if accidents happen the two broods may be united; again, on the hatching day it frequently occurs that, to prevent the newly-born chicks being crushed by eggs that are behind time, it is desirable to give all that are hatched to one hen, while the other takes charge of the eggs alone. Not only does this give security to the chicks, who run some hazard of being crushed if they are kept for any prolonged time under the mother, but the unhatched eggs also stand a far better chance; for, when a hen finds chickens under her she sits higher from the eggs, and less warmth is afforded them at the time they require most.



CORRESPONDENCE

NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post-Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. 3. Do not expect anonymous communications to be noticed. 4. Mark letters "Printers' Manuscript," leave open, and postage will be only 1c. per 1/4 ounce.

Flax and Pea Meal.

SIR,—I am feeding a quantity of cattle, and I would like to get your opinion as to flax meal for feeding. I am well aware it is very nutritious. I would like to know what proportion pea meal bears to flax meal. Do you think it advisable to feed much flax meal when I can get pea meal for one cent per pound? Flax meal can be bought in Peterboro for 3 1/2 cents per pound by the quantity. What quantity would you advise to feed?

C. D., Peterboro, Ont.

The relative value of pea and flax meal has not been fully determined by exact experiments, and no arbitrary rule can therefore be laid down as to the exact proportion of their substances required in the most economical rations for fattening animals.

It is well known that a variety of alimentary substances are required in the food of animals to maintain a healthy and symmetrical activity in the nutritive process.

When the ration contains a great preponderance of one class of alimentary materials, the addition of even a small proportion of another class of proximate principles may aid in the digestion and assimilation of the substances that are in excess, but from the complexity of the conditions presented it would be difficult to decide as to their relative values.

In the theoretical discussion of the subject of nutrition, the arbitrary classification of foods into "nitrogenous, or flesh formers," and "respiratory, or combustion elements," has been too generally considered of the first importance.

Dr. Dalton remarks, in his able work on physiology, that "the nutritious character of any substance, or its value as an article of food, does not depend simply upon its containing either one of the alimentary substances mentioned above in large quantity; but upon its containing them mingled together in such proportions as is requisite for the healthy nutrition of the body. What these proportions are cannot be determined from simple chemical analysis, nor from any other data than those determined from direct observation and experiment."

While those who have discussed this subject from a chemical standpoint exclusively have insisted upon the amount of nitrogenous materials contained in an article of food as the proper measure of its nutritive value, the experiments of Lewis and Gilbert seem to show that "the comparative feeding value of our current stock foods depends more upon the digestible non-nitrogenous substances they contain than upon their richness in nitrogenous compounds; but the richer the food in nitrogen, the more valuable will be the manure."

From the present state of exact knowledge on this subject, it would hardly be safe to say that "oil cake meal" has a higher feeding value than pea meal, unless it be in some special instance where the ration was decidedly deficient in some element that would be supplemented by an addition of the former.

With a ration of ordinary cattle foods, con-

taining pea meal in fair proportion, the addition of "oil cake meal" or "flax meal" would undoubtedly be advantageous in furnishing a greater variety in the form of the alimentary materials and a possible improvement in their proportions, but if the price is two or three times greater than the price of the pea, meal they cannot be recommended as a substitute to any great extent, on the ground of economy.

When oil cake is fed to cattle, from two to six pounds a day is a common ration, and larger amounts are frequently fed where the manure produced is the leading consideration.

The value of the manure obtained from feeding a ton of oil cake or a ton of flax-ends is considerably more than that from feeding a ton of peas; but judging from the results of experiments, the oil cake and flax seed have not a sufficient advantage in nutritive value to compensate for the high price named by C. D. for "flax meal."—[Manly Miles, Lansing, Mich.]

Tax our Bulls and Stallions.

SIR,—I see by your paper that you are quite in earnest about that now very important question to Canadian farmers, the "exportation of cattle to Great Britain." And being a young farmer, I feel quite interested in the question also, and would like with your permission to suggest a plan which I think would assist in grading up our cattle a little faster than we have been doing of late.

I am much pleased to see that many of our leading farmers are beginning to see the importance of the matter, and are enquiring for well-bred bulls with which to improve their stock. But there is one little difficulty I notice in connection with this; many of them prefer using a half-bred animal at 75c to paying \$1.50 to \$4.00 for the use of a thoroughbred. This I consider a great mistake, as the fact is so well established that a halfbred, though perhaps superior in size and appearance, is not nearly so good to depend on for getting superior stock as a thoroughbred. Besides that, such conduct is very discouraging to those who are endeavoring to improve the stock of the neighborhood by keeping thoroughbred animals. To obviate this difficulty I would suggest that a tax, of say \$10, be imposed upon all bulls kept, or known to be used by any except the owners for breeding purposes. This I think would put a stop to the keeping of a lot of those hony races we now see running over the country, and whose services may be procured at any time for 25c. to 50c., as their owners would find that they would not pay the tax above expenses.

This system I think might also be advantageously applied to horses and pigs, but deem the breeding of good beef of the most importance just at present, as I see in our leading markets that beef is quoted from 2 1/2c. to 6c. Just think of the difference! A good steer three years old weighing 1,700 lbs. (as he may easily be made to do) at 5c. per lb. is worth \$85; while one the same age weighing 1,000 lbs., and selling at 3c. per lb., would only be worth \$30. Then which is the most profitable, even if we allow \$10 extra for the superior animal when a calf, and \$10 extra per annum for feed and care; in all \$40. We find that there is still \$15 most profit in him, and you see for an example I have not taken the extreme weights and prices I might have done.

JACOB, Simcoe, Ont.

Petroleum Tar.

SIR,—You would oblige if you would inform me if it is the raw or refined petroleum recommended in the ADVOCATE as a preventative for timber rotting in cellars.

J. C., Wilfrid.

[Petroleum tar is the proper kind to use. It should be put on the wood as hot as you can put it on, and in hot weather; it is then thin and will soak into the wood. A barrel of oil is sufficient to cover 8,000 feet of surface. It is not of so much value on timber exposed to the sun, but on timber underground and in cellars, or where the sun does not strike, it has been found most valuable, and should be used by those who are erecting buildings or fencing that they wish to last. There are several oil refineries that can supply it. The price differs according to quantity required; the present price is \$3.50 per barrel.]

Granges.

SIR,—Seeing it is contended by some that the Grangers are an excellent and useful body, the thought has occurred to me that if this society is as good as it is sometimes reputed to be, how is it that it does not succeed better and become more generally appreciated? It is true that since the organizing of Grange lodges has begun to be agitated in Canada a considerable number of these mysterious organizations have sprang up, and even now, no doubt, not a few of these are living and flourishing.

But yet, although farming is a national occupation, the kind of farmers' clubs under consideration have not been received with anything like national favor.

Now it is truly a good thing for the farming community to organize, and any who speak or write against such is no friend of the class. The aim should be to resist monopoly, disarm cheating, and stand up for right, and also to diffuse knowledge.

But it being conceded that there are several methods of killing cats, we submit that there are other methods of arriving at the results above named; and whilst hoping that the Grangers may continue to meet with all the success and encouragement which they deserve, we believe that there is a better way; what that way is we will try and explain in your next issue.

D. McK., Megantic.

Apatite.

SIR,—Would you be kind enough to answer the following questions, or give me some information about making superphosphate of lime out of "apatite." I am a farmer, and want to make it for myself:—

1. What weight of ordinary commercial sulphuric acid is required for say 100 lbs. of apatite.
2. How much should the acid be diluted before mixing it with the apatite?
3. If the apatite was ground as fine as oatmeal, how long would it take to be changed into superphosphate?

Any information would be thankfully received by several other subscribers as well as myself.

ENQUIRER.

[We are not prepared to answer these questions as correctly as we would wish. Perhaps some of our readers may kindly reply in next issue.]

Russian Wheat.

SIR,—In the spring of 1877 I sowed one bushel and a half of Russian spring wheat, and threshed 28 bushels from it. It was the third crop of wheat without manure; on same field we had only 20 bushels per acre of red chaff. I sold some of it at \$1.50 per bushel. Last spring I sowed 10 acres with Russian wheat, and had over 22 bushels per acre; while we had only about eight of red chaff. A neighbor says he had over 13 bushels per acre more of it than of any other kind on the same kind of land. I would rather pay 75c. per bushel more for it for seed than any other kind I know of. The Clawson fall wheat has done the best in this part of the country. We had 33 bushels of Treadwell last year. We like the FARMERS' ADVOCATE very much, and would not be without it. Every farmer should take it that does not take another.

W. B., Vandeleur, Ont.

Top-Dressing Wheat.

SIR,—Please let me know in the next issue of your excellent magazine what you think about top-dressing fall wheat in the spring with unleached ashes; at what time to sow them, and how much to the acre. What are your views about mixing the ashes with salt, and in what proportion the one to the other; and how much of the mixture to the acre? Cannot good hard-wood ashes be turned to better account on a farm than selling them to the asheries for a few pounds of soap of third quality?

H. R., Glenallan, Ont.

[Top-dressing wheat has been found very beneficial, greatly increasing the yield. There is no better fertilizer for almost any crop than unleached ashes, as they are very rich in potash. It is said by some that the application of them to wheat as a spring top-dressing is not unfrequently a cause of rust. If this opinion be correct, the very best remedy is to mix them with salt. Two hundred of salt to the acre may be safely used, if mixed with ashes.]

Our Birds.

SIR,—I notice in the last ADVOCATE a piece on the English House Sparrow. I am much pleased to see them, but, as you observed concerning our Canadian birds, there is not half enough care taken of them. We cannot too highly praise them; since the timber has been cleared away and the land become stumpless and highly cultivated, the small birds have greatly increased. Twenty years ago where there was one then there are five now—that is the sparrow family; the bluebirds have decreased greatly, and I attribute their scarcity to the want of timber, as they nest in stumps and holes of trees.

The stump wren, also, it is a great pity to kill, for they are wholly insectivorous. Something was said about taxing the young sportsmen. I think they should be prohibited altogether; I would as soon see one of my hens shot as one of those sparrows that frequent my garden. I think that farmers are not half particular enough, for they keep half a dozen cats about them for fear of a mouse getting into their barns—not taking into consideration the mischief they do, I am sure, for to every mouse they catch they destroy five young birds. Now I think that five sparrows would do more good in destroying insects, and be of more benefit to the farmer, than five cats, for they lie lazily about the premises during the day, and when the birds should be at rest they are busy in hunting and killing them. I do not keep a cat, nor allow one about my premises, if I can prevent it. I shoot them with as much satisfaction as I would a hawk.

I expect to follow gardening, and am very careful to protect all birds, for they are the friend of man and should be preserved. I will now mention the names of a few birds that I find to be the farmers' and gardeners' friends:

The bluebird; there are nine different sparrows, nearly all of which are omnivorous; cow tropple or cow bird; all the blackbirds are insectivorous, until migrating, when they visit cornfields. I have heard great complaints about the blackbirds picking up the seed corn when planted, but I think it must have been poorly planted, for I live near the shores of Ontario and a marsh on each side of me about a mile and a half each way, and I never saw the blackbirds too thick for me yet. The oriole or golden robin, as it is called, is a great friend to the orchard; the tent caterpillar is their chief support when raising their young. The cuckoo, too, I have seen tearing the nests to pieces for the caterpillars.

I think this will be enough for the present.
A SUBSCRIBER, Ontario.

Hard Times.

SIR,—All complain so much of the hard times, and verily it is hard times in regard to getting money. As an illustration: A farmer told me today that he had paid over \$90 municipal and school taxes from the sale of wheat at 75c per bushel, and the grain averaged only about 7 bushels to the acre. There are far too many in a similar position—and not a few even worse off than he is, if that can be possible. Now this man owns 200 acres of land, 150 of which are cleared.

I know another man who has owned and worked 25 acres a less number of years than the former, who has always money in the bank, and hard times have no terrors for him. Not very long since he sold \$700 worth off his farm in a single year, though not all the produce of that year. He had a surplus of 3 crops of wheat, in addition to beef, pork, butter, etc., all realized in the same year.

Contrast the position of these two men—the latter always easy in his circumstances, owing no man anything, complete master of the situation; the former always behind, overworked bodily and mentally.

Surely it is time farmers began to realize some of these facts, and to know that it is impossible to work land successfully without capital in proportion to the acres cultivated. I write to you because I think you are working in a good cause, and I would like to assist you as far as I can without troubling you too much.

T. H., Meaford.

SIR,—Is there any difference between White Russian wheat and Russian White?
R. B., Eversley, Ont.

[Russian wheat and Russian White wheat are the same variety.]

Caterpillars—Curculio.

SIR,—I wish to give your fruit growing patrons my experience in dealing with the caterpillar last season, which I consider the cheapest and best:—

In the winter I went through the orchard and picked off all the eggs I could see, and made, as I supposed, a clean job, and congratulated myself that my orchard at least would be free from that pest the next summer, but, alas! how vain are human plans, sometimes. When spring came there were plenty of caterpillars. I have tried to kill them with fire, soapsuds, coal oil, etc., but the result never equalled the expense. My plan is to tack round the body of the tree a strip of sheep skin, say an inch and a half wide, with wool some two inches long. I found that not one in fifty could pass the wool, though a few may. I then take an old house broom and cut it off just below where it is sewed across; with this I brush the caterpillars down the trunk of the tree. In this way I have killed thousands in a very few moments. Some recommend cotton batting, but wool is far more durable and much more impassable. Such is my experience with caterpillars.

Some seem to be of opinion that plums cannot be raised without great expense and—smoke. But two things are required to grow plums. Cultivate them well, manure moderately heavy, give heavy coating of leached ashes, and keep the curculio out. But, says one, how do you do that? Simply with a band round the tree coated with tar. Why? Because the female curculio cannot fly, nor can it crawl through the tar, and unless it can get into the top of the tree it had better give up the business. The tar band must be put on just before the blossoms open, and be kept well tarred till the fruit is well set. So much for plums, and they are worth \$3 a bushel.

The manure heap has been called the farmers bank, and so it is. I use a pen some 30x12 feet, into which I put all from the stable and all I buy, where it heats and rots until required, which it will do much faster if forked over once or twice.

M. F. T., Westminster, Ont.

Better Farming Needed.

SIR,—I am pleased with the ADVOCATE, and would not like to go without it. Mr. Slow has a great many friends in our Province of Ontario. Farmers do make a great mistake in cultivating nearly all the land they have cleared every year in succession. Fifteen acres well cultivated and put in proper order will produce more grain and straw than 40 acres as ordinarily worked. The crop of spring grain of 1878, I am sorry to say, returned upon a great many farms about three or four bushels per acre, while in my settlement, where the land was in a fit state for wheat, 15 to 20 bushels is about the average, but I do not say every farm has that, for Mr. Slow is here also.

There is a long article on the judging of the proper qualities of a milch cow in your journal from some American paper. I would like if he would inform the readers of your journal what kind of sire he would use to have the cows low in front and high behind. My opinion of milch cows is, like farming, the better they are cared for the better they will pay.

There is another article on salt. Of what use would it be to sow 15 lbs. of salt to the acre? I have used a good deal of salt on grain and turnips, but I never sow less than 200 lbs. per acre. Plenty sow 300 lbs., and say it is not too much. There is no doubt where fall wheat is sickly in the spring salt will renew it. I tried the experiment in the spring of 1877, and proved it by leaving one ridge without any salt in the middle of the patch. I rolled immediately after sowing. I sowed 200 lbs. per acre.

The Clawson I got from you three years ago turned out last year 36 bushels of cleaned wheat per acre. The Silver Chaff about the same; Treadwell about 27, but not on as well prepared land; the former on summer fallow, and the latter pea land, manured and plowed twice.

G. L., Greenock, Ont.

[In the article referred to, the application of salt to land, there is a printer's error—fifteen pounds to the acre appeared in print instead of one hundred and fifty as intended. The quantity generally applied is even more than this. Two imperial cwt. are frequently used.]

Melenotic Tumors.

SIR,—I would like to know through the ADVOCATE if there is a cure for growths almost the nature of a wart, some of them three inches in diameter, filling up at times and running out matter which is very disagreeable.

As I have a very valuable brood mare affected with them, I have taken her to two farriers and had the warts cut out, but they came on again in the same place. The mare was not affected with them until she was three years old; now she is seven.

If you know of anything to cure them, please inform me in your next issue.

J. F., Watford, Ont.

[Your beast is troubled with melenotic tumors, and they are easily removed when properly treated. It is our opinion that Messrs. Rudd & Tennent, of this city, can treat them better than most veterinaries in this Dominion.]

Defiance Wheat.

SIR,—Having purchased one pound of Defiance wheat last spring, I wish to know how it has turned out in comparison with others. I cannot say much about it yet, as the season was unfavorable. By answering you will greatly oblige.

M. J. A. F., Pakenham.

[We would not advise you to invest in unknown and little varieties unless in small quantities. It is well to buy a pound or so of a new variety of seed, but we would not advise more.]

A Farmer's Club.

SIR,—I am surprised how a farmer can get along without your paper. I believe I can almost tell what farmers take the ADVOCATE by the general appearance of things around the farm.

I have started a Farmers' Club through the guidance of the ADVOCATE.

C. L., Nottawasaga.

Run-down Land.

SIR,—I would like to know if it would do to seed down this spring, and what time is best if the ground is clean? I don't mean to crop with grain, as the land has been run down—before I got the place. Give all the information you can.

A. McR., Wardsville.

[It will do to seed down in spring. Sow as soon as possible. Read past, present and future ADVOCATES.]

SIR,—As an old subscriber to your excellent paper, the FARMER'S ADVOCATE, I beg you to inform me how to plant white beans as a spring crop, as spring wheat is almost a total failure in our neighborhood. I was thinking of planting five or six acres. If you can inform me which is the best way to plant them, in hills or drills, what distance apart, how much seed to the acre, and the best kind to plant, any information will be gladly received.

H. D., Plainville.

[We prefer drills to hills. Quantity of seed, if in drills, one to one and a half bushels to the acre; if in hills, four to six beans in each according to the distance between the hills. What kind of bean to plant? The small white is the most commonly grown. It is the most prolific, and keeps longest on sea voyages. It is always in good demand, if of a good quality. The kidney, or long white, is larger and generally better liked for table use. It takes a longer time to mature than the smaller variety; and the large marrow, a large round bean, is preferred for table use to either of the two mentioned. It matures as slowly as the kidney variety. Beans have also been sown broadcast on dry, well prepared soils, and produced heavy crops. A good crop of beans, well saved, pays well. As much as forty bushels have been raised on an acre. Twenty to thirty bushels per acre is the usual crop. Kidney and marrow beans sell for fully 25 per cent. more than the small variety.]

SIR,—As you are always willing to answer questions, I wish to enquire if barley grown in 1876 or 1877 would grow if sown next spring?

C. W. R., Cumnock, Ont.

[Barley if properly kept may grow though one or two years old. However, it is well to test it before hazarding the sowing of it. Two days testing will be enough.]

Sugar Beets.

SIR,—As there is at present considerable interest manifested by the people in this, as well as in other parts of the Dominion, with regard to the sugar beet industry, and as there may be still some doubts existing among farmers as to whether the real sugar beet can or cannot be raised in Ontario, and I am perfectly satisfied that the people of this country as a whole, not merely the farmers, but all classes, both rich and poor, would be greatly benefited by the early introduction of that all-important labor producing and money saving branch of business, viz.: "The raising of beets and the manufacturing of sugar."—I thought it would not be amiss to communicate to my fellow farmers what little I know about it, through your valuable paper, if, perchance by so doing, others might be encouraged to assist in advancing this, to our country, new enterprise.

In the first place, if this business would be brought into active operation, it would induce farmers to have their lands cultivated with more care, using the subsoil plow more frequently, as the beet naturally requires a deep and loose soil; with its long roots it derives or receives much of its nutrition from below the strata usually cultivated for other crops, consequently the top soil is not impoverished by the raising of sugar beets, but is, if anything, enriched by the process. Thus the beet would be a splendid alternative to introduce into a rotary system of farming, such crops to follow the beets that require a shallow and mellow top or surface soil; besides, the pulp after the sugar is taken out is said to be equal, if not superior, to the common sweet turnip as food for all kinds of stock.

Secondly, if sugar factories and refineries were built in the different localities and the business carried on an extensive scale, it would give employment to thousands of persons living in towns and villages throughout the country, who are at present almost universally unemployed during a great part of the year.

Lastly, what a boon would it not be to the country if, instead of sending thousands—yea, millions of dollars out of the country annually for foreign sugars, all that money could be retained within the boundaries of the Dominion and remain afloat among the people. Would it not have a tendency to enliven the dilapidated condition of business, assist in fostering other industries? And in a few years the general traffic throughout the whole country in sugars might be turned. What is now a heavy expense by the constant importations of this luxury, might become an exportable product of the country, thus resulting in increasing our wealth, lessening the national expenditure, and consequently elevating our national prosperity.

In the summer of 1877 I sowed about half an acre with sugar-beet seed I obtained from Mr. Reimer, of Wellesley Village. The land on which I sowed it was part of my turnip ground, prepared in the usual manner; I drilled in the seed with a turnip-drill on the 15th of June; they came up nicely, and grew rapidly. When they were big enough to be thinned I ran through with Bettschens root sculler, with the coulters in. I regulated it so as to cut very closely to the beets, which made it easy to clean them. I should subsequently have run through a second time, first inserting a set of mould-boards into the outside beams of the sculler, for the purpose of moving some earth up against the beets, as the roots should always remain covered in order to retain the saccharine principle. This, however, was neglected, yet, although the seed was sown from six to eight weeks too late, and although the beets were cultivated but once, the patch yielded about 300 bushels or nine tons of sound and solid roots. I have no hesitation in saying that, had the seed been put in at a proper time, and had they afterwards been cultivated two or three times, the patch would have produced at least four, if not five, hundred bushels. I am satisfied that on good common ground, prepared in the ordinary way, as for turnips, from six to eight hundred bushels of beets may be raised to the acre without any risk or extra labor.

I experienced some difficulty in taking them up, as they locate very deep in the earth. I got some ground up and pressed at the cider mill, and boiled the juice into molasses, but was unable to clarify it properly, so it remained dark but very sweet. Some of the beets I fed to the stock; the sheep, in particular, seemed to fatten upon them easily.

Would it not be well for the Local Government to take up this subject as a matter for consideration, and adopt such measures as would tend towards developing this branch of industry in the Province?

A FARMER, Wilmot Township.

SIR,—There is nothing used in making sugar or syrup but the juice of the cane. The evaporators and filters are so arranged as to take all glutinous parts out of the juice, so it will make sugar without any trouble. It takes about one and a half pounds of seed to the acre, and is worth \$2 per 100 lbs. I made 378 gallons to the acre last year, and sold it at 75c. a gallon. I made from a gallon of syrup 7½ pounds of good sugar. The yield per acre is a great deal larger than in the Southern States, as the cane is larger and taller, and the juice sweeter. I was raised on a sugar plantation in the Southern States.

I find your ADVOCATE a great help in farming, and I value it very highly. Any thing you may do in the sugar business I feel assured will be a great help to Canada. C. W., Grimsby, Ont.

[In another column will be seen an article on Sorghum. Mr. W.'s letter is valuable to Canadians, as it relates to Canadian experiments.]

SIR,—My cows have a habit of chewing wood; in winter they will gnaw the boards off their mangers and will chew the boards off the buildings; in summer they seem to relish an old bone or piece of board in preference to the best grass. I give them plenty of salt and bran, and mixed the salt with wood ashes, but it had no effect.

My ewes are given to be clotted in the fleece; they are otherwise healthy. I keep them in a cool barn, well ventilated; feed hay and a little buckwheat, oats or white beans every day from the time they come off the grass till spring. Could some of the readers of the ADVOCATE give me any information on the above subjects, and oblige.

H. N., Hemmingford.

[Your cows require more phosphate in their food. The land on which they are pastured needs bone or other phosphate. Will some of our readers give their experience of clotted wool?]

SIR,—Through the kindness of Mr. Lean, one of my neighbors who referred me to you for information, I want to buy a draft stallion, to weigh from 1,700 to 2,000 lbs., with a heavy bone, to be sound, kind, and all right in every way for breeding purposes; from four to eight years old. A Clydesdale, Norman or Belgium preferred. If you know of any, please inform me of it, and about the least price that will buy him. If you do not know of any please hand this to some gentleman that will give me correct information. J. P. McE., Mansfield, Ohio.

[Any one having a horse of this description, would, by advertising in the breeders column of the FARMERS' ADVOCATE, be pretty sure to get a purchaser.]

SIR,—The weather so far this winter has been most favorable for the farmers for hauling in their supply of firewood and fencing. What is very remarkable for this locality is, there has not been the least thaw since before Christmas.

The subject of the growing of sugar beet is now occupying the attention of the farmers, and is being discussed with a view of testing whether its culture can be profitably carried on or not. And in connection therewith, stock raising, as well as the fattening of beef for foreign markets, is also engaging their consideration.

Farmers generally are more carefully studying the capabilities of their soils than formerly, and are beginning to see the necessity of adapting their practise to the growing of such crops and such farm stock as the circumstances and markets will allow. J. B. B., Grand Pre, N. S.

SIR,—Please let me know in your next issue if there are any free grant lands in Manitoulin Island. A. H., Arthur, Ont.

[We cannot give definitely the information asked for. Were those in authority to furnish regularly to an office, such as the FARMER'S ADVOCATE, authoritative reports on free land, townships open for settlement, &c., &c., it would be of no small benefit to the country. The Bureau of Agriculture and of Emigration may perhaps act on the suggestion.]

SIR,—Would you please answer the following through the columns of the ADVOCATE: I have 28 acres of wheat, and the Hessian Fly is working much injury in part of it. Is there any remedy for it? Would salt be of any benefit, or as a fertilizer? A few years ago I seen a recipe for a cement or wash for old roofs, to make them tight and keep them from leaking; also for cracks for chimneys, etc. The composition was salt, ashes, sand and lime. Is there anything of that kind that would be useful and cheap?

A. S., Luton, Ont.

[There is, we regret to say, no means of destroying the Hessian Fly that has survived the winter. It might have been, partially, at least, guarded against by late sowing. We have no actual knowledge of the means you mention of repairing leaking roofs.]

SIR,—I want to ask you if you have heard or seen anything of the "yellow oats" from Denmark? Do you know anything of the McCarling spring wheat? We consider the Clawson the best fall wheat we have here; it has done well ever since it was introduced.

The bushel of Odessa wheat I got last spring was a complete failure, in fact I think spring wheat is done in this part of the country.

J. P., Teeswater, Ont.

[We saw the yellow oats at the International Exhibitions at Philadelphia and Paris, but were unable to get any of it for seed. We never saw it in Canada.]

We knew of good crops raised of the McCarling wheat some years ago in some sections of the country.]

SIR,—I am a subscriber of your valuable paper, and wish to ask through it the best way to get rid of ragweed. P. W., Waterford.

[Thorough cultivation will entirely eradicate "ragweed," root, stem and seed. Always thought the growing of ragweed in land a sure sign of its fertility. It never thrives worth mentioning in a hungry soil, as sometimes other weeds do.]

SIR,—Another subscriber to the FARMERS' ADVOCATE from the far West. The people here think (and justly so) that the ADVOCATE is the best farmers' paper printed on the continent. I expect to get more subscribers for you soon. Lots of folks borrow my paper.

R. C., St. Helens, Oregon, U. S.

SIR,—Be so kind as to let me know what kind of spring wheat you recommend this year? Also, if you know anything of a wheat called the "Astrachan," grown in the vicinity of Whitby, east of Toronto. It is a bright amber colored grain. J. G., Granton, Ont.

SIR,—I am highly pleased with the steps you have taken in regard to the cattle disease. My brother-in-law lost 70 head in Cheshire, England; they were worth £25 each. My brother lost 62 head, 40 of them were milking cows; other farmers lost in proportion. Do all you can to keep the disease out of this Dominion. W. M., Brownsville.

A subscriber wants to know—If apple trees are girdled by mice, can they be saved by inserting new bark in any way?

E. D. S., Winona, Ont.

[Girdled trees may be saved by connecting the damaged space with a graft.]

SIR,—Can you inform me where I can procure quince cuttings for grafting; also, the price per 100?

SUBSCRIBER.

[Enquire of the nurserymen whose names appear in our advertising columns.]

To C. A. M., Prince Edward Island.—Clover will make the best and cheapest manure. The best way to prevent it being winter-killed is to sow it on sod land that has been twice plowed. The small feelers and decaying roots of the old sod protect the young plants from heaving out in the frosty and thawing season of spring—that is the time the injury is done to young clover.



The Family Circle.

"Home, Sweet Home."

MADGE'S COUSIN.

IN TWO CHAPTERS.

CHAPTER THE FIRST.

Madge was sitting upon the hearth-rug, pulling to pieces a white camellia, and excusing herself to her kind old guardian by saying it was "only Jack's."

"My dear," said Mr. Selwyn, walking up and down, and stroking his grey beard in perplexity, "I want to talk to you about Jack."

"Oh! please, not now, Papa Selwyn!" She called him Papa Selwyn when she meant to be coaxing, and that was nearly always.

"But, my dear, that is all nonsense. I must talk about Jack some time. Yesterday it was, 'Oh! please don't—my head is aching,' and the day before, 'Oh! please don't—I want to go out with Gerty.' Come, let us face this affair." And, sitting in the easy chair behind her hassock, he drew up on his knees the hand that held the broken flower, and proceeded to lecture his unmanageable charge on the endless subject of "Jack."

Madge was a charming charge for any kind old man's heart to have. No one could look into her large grey eyes without seeing the great warm heart, whose tale they told every moment; and yet the bright, quick glances and the saucy set of the lips showed that Madge had a will of her own, and wit and cleverness enough to carry it out.

This lecture on Jack was the same as many others had been. It consisted of two parts, the first being devoted to proving that she ought to throw her own whims and pleasures aside, and as a dutiful girl fulfill her dying father's request and marry her cousin; and the second was an eulogium on the many good qualities of Jack Hawkesbury.

"Do, Mr. Selwyn," laughed Madge, after he had been making out that even Jack's awkwardness came from an overplus of good-nature, "do throw him at Gerty's head as you throw him at mine, and I shall make him over to her, and they will be happy for life."

Gerty was Mr. Selwyn's own daughter, and at the mention of her name a strange expression crossed his face, which Madge could not read.

"Throw him at Gerty's head!" What words you use, child!" he exclaimed, his annoyance, for a moment, escaping his control. "I wish you had half Gertrude's good sense. You fancy Jack thinks of her—is that it? He is the soul of honor, and as far as it depends on him, your father's word will be kept."

"Oh! Papa Selwyn, don't be vexed with me; I am so sorry!" and her face was hidden on his large rough hands in a burst of sorrow, quite childish in its passing intensity.

"Cheer up, my darling girl," he said; "you made a mistake—that's all. Why, one of these days you will forget poor Papa Selwyn altogether, when you fall in love with your cousin."

"That I won't!" cried Madge, with all the strength of her hot heart.

All her life, even so far back as her childhood, she had dreaded the fate that bound her to marry her cousin. When Jack Hawkesbury came on the scene and stayed on visits at the house, she disliked and ridiculed him without mercy. Another, one like fair-haired Gertrude, for instance, might have accepted the inevitable and been happy; but Madge's active and independent nature made her run against fate. And now there was only one month left before her twenty-first birthday and the betrothal. Often she told Gertrude she wished he would go home, and stay there; and Gertrude would only laugh, with a deeper tinge of color on her fair face.

The girls went out but little, an arrangement against which Madge often rebelled, believing it was in some way connected with the safe management of the marriage with her cousin. But there were two pleasures in prospect now, an afternoon's boating with Jack and a friend of his and Gertrude, and a party that the Ponsonby-Joneses were going to give, to which the Selwyn family were sure to be invited. First came boating. Ah! that ever-memorable day—how many years it would take to make Madge forget it! There were four in the boat that passed, with the measured beat and ripple of Jack's pair of sculls, along by the reedy shallows and green-wooded banks of the upper Thames. The two girls shared the cushioned seat at the stern, their white woolen shawls guarding them from the chill of the autumn wind. Gertrude was watching the shores and the running ripples, thinking, in her quiet, easy-going way. Madge, bright with excitement, was talking—not with Jack, but with the dark-bearded, travel-bronzed man who was resting from his turn at the sculls. He was charmed with the way she chatted and listened to his tales of half the world, with a refreshing absence of self-consciousness. What would he have said if he had known the thought that strove for entrance into her heart? Oh! if Jack—awkward, blundering, good-natured Jack—could be changed into this stranger that she called timidly Mr. Fitzallan, and Jack and her guardian had greeted at the house as Herbert!

At last there was a pause in the talk. She gave a deep sigh, prompted by a sad longing to do right, a vague fear, a first suspicion of the change that was coming over her impetuous heart.

"Are you cold, Madge?" asked Jack, pulling away and bending to his strong stroke. "Keep your shawl well about

your shoulders. And, my dear girl, look to your steering. You have been sending the boat in curves like a corkscrew—only I did not want to disturb your *tete-a-tete*."

Poor Cousin Jack! She drew the white shawl closely round her, chilled not by the wind, but by a sudden pang of remorse, the foundation of which was very small, but enough to trouble her peace.

What need to tell the inner history of Madge's life during the next few weeks? More and more she longed for freedom. Fitzallan was staying in the neighborhood, and was frequently at the house, and in the thousand little incidents of every-day life she knew he cared for her; and honest Jack grew yet more distasteful in her sight.

In due time came the second promised pleasure. The family that distinguished the name of Jones by the prefix of Ponsonby gave their party. Madge was in her glory that night. One looker-on called her charming; another, the mother of fair daughters, admitted her expression was charming, but voted her features plain. Mrs. Ponsonby-Jones, weighed down with bright-colored silk and jewelry, said in her finest tone that Mr. Selwyn's ward would be quite a *femme d'esprit*. Madge had no lack of society, but she kept a place in the conversation for Jack Hawkesbury, and her love of mischief was gratified to the full by his making of it what he called "a hawible muddle." But the trivial triumphs and pleasures of the night were long forgotten by Madge before she lost one remembrance of a scene that passed in the conservatory, where the music was hushed by heavy curtains, and there was only the soft light of a few dim lamps among the masses of blossoms and dark green leaves. She had lost the flower from her hair—one of her favorite camellias—as she said, "with a darling bud," and Fitzallan had promised, with Ponsonby-Jones's permission, to get her another with a darling bud too. She had placed his gift in her hair, and she sat near the dewy grass, saying it was cool there, and she would rest. Fitzallan stood at a little distance, penknife in hand still, swinging carelessly the fan-like leaf of a dwarf palm.

"If this were nearer, I could fan you," he said.
"Thank you; I am tired rather than hot."

CHAPTER THE SECOND.

Never in her life before had Madge been so serious or so troubled as she was now, in the soft light among the cool plants, within sound of the half-hushed music.

"Will you do me a favor?" she inquired, raising the grey eyes that shone for a moment with liquid brightness.

"You have only to name it—I am at your service."

His manner, unromantic to a studied degree, made her feel all the more safe in taking heart to speak, while she gave him at the same time in generous measure that most precious offering to which every noble-hearted man entitles himself—a woman's respect.

"I have seemed very happy to-night, Mr. Fitzallan, she began in a quiet low tone, the torn leaf trembling in her hand, and the color dying out of her face; "but I am in great trouble."

"Indeed; I am sorry to hear it." He drew a little nearer, listening attentively, and helping her now and again by a word of encouragement.

Her story was a simple one. She was to be married next month to her cousin, Mr. Hawkesbury. She had dreaded it all her life, but it was her fate. And then, taking courage from the respectful and almost paternal demeanor of the listener, she made the frank confession that she disliked her cousin just because she was forced to marry him; and to this she added such a childlike entreaty not to be thought "too bad," that it must have required more than ordinary self-control for Fitzallan not to say something that would have allowed the scene to become a tender one; but this he seemed determined to avoid, and so in her simple way was the sadly perplexed girl that was pouring out her heart's trouble to him.

"Will you speak for me to Mr. Selwyn?" she said, "as you are an old friend of his? I cannot reason as men do, but I want you to try if there is any way of release for me. Pray forgive me if I am wrong in asking your interference, but I am very wretched"—here came a burst of tears that tried the listener sorely—"and I myself have so often spoken to Mr. Selwyn, and it is of no use. He always says my father's will must be carried out; and, oh! how I wish I could do it."

"It must be done if possible," Fitzallan said. "But it would not be your father's will to mar the happiness of your life, or to put you in bondage."

"Oh! if Mr. Selwyn would only speak like that," said the girl sadly.

"Well, I shall have a talk with him," said Fitzallan, "and do my best for your happiness, though I would be sorry to injure Hawkesbury's prospects. Let us go back now; there is a new piece beginning. That is one of Rubinstein's, is it not? I need not say you have done me a favor in granting me your confidence."

With that he drew aside the heavy curtains, and they returned to the dazzling light and bewildering music and movements of the ball-room.

After that night Madge waited in anxiety to hear the result of Fitzallan's parley with her guardian. Three days passed, and a note came from him, on a few words, saying that he had succeeded, at least so far as to win a promise that the matter should be considered. But Madge saw little good coming of Mr. Selwyn's "considering" what seemed to be decided irrevocably long ago.

At last it was the eve of her birthday; to-morrow would be the dreaded day, and the very morning Mr. Selwyn had said to her gravely but tenderly—

"My child, it has been the work of many years for me to see to the fulfillment of your father's last wish. He was my best and dearest friend, and his life was a sad one. At least his dying will must be done. But I promise you happiness—I do indeed."

But beyond that day Madge was unable to bear her heart's burden. "I must tell him everything," she thought. In the afternoon twilight, some time after Mr. Selwyn had returned home, she found him asleep in his arm-chair in the dark dining-room. But little daylight came in between the red curtains, and it was only the glow of the fire that showed her his white hair and long beard. She knelt beside him, as she often did for a talk when he was in that chair, and she woke him by stealing her hand into his

"Who is it—Gerty? No, Madge—my little Madge that is to be so patriarchal to-morrow."

"Papa Selwyn," she began, not giving him time to joke any more lest she might not be able to disclose all her troubles. "I want to tell you something, and you won't be angry, will you, no matter what it is?"

He took her face between his hands, and the fire flashed up and showed him how earnest it was.

"I am quite sure," he said, "nothing can make me anything but as deeply in love with my second daughter as a poor old fellow like me can be. Why, child, I am under a cloud all day, because to-morrow—as soon as to-morrow—I can be Papa Selwyn no more, and Madge will be thinking about nobody but her cousin."

"No, indeed!" cried Madge impetuously; "you will be Papa Selwyn always—always; and I don't care for my cousin a bit."

But her guardian shook his head gravely.

"My dear, you will marry your cousin."

The firelight had died down low, and Madge had courage enough to blurt out, with an effort, the few words—

"I can't marry Jack, because I ought to love my husband, and I can never care enough for him. Or, if I must be engaged to him to-morrow—here there was a great sob—"Mr. Fitzallan is very good and kind, and I don't want to hurt him—but—but—he must go away."

Her head sank upon his knees with the great effort of that request.

"My poor child," he said, "I know your secret. Bravely said! my little Madge—my bonny girl! You have had the truth out, and done nobly. You are worthy of the man that is to have you, and that is saying a great deal."

Then raising her head gently, he bade her listen, for he was going to tell a secret in return for hers. When she heard it, she waited with wide wondering eyes while he told it a second time, for she could not believe in her joy.

"As you know, Madge," he began, "most people in this world have more cousins than one." And then he went on to explain to her that Herbert Fitzallan was a very distant cousin, and that it was to him her father wished her to be married. Fitzallan's father had been the companion of his late father's, and Herbert himself had been loved by the dying man as a son, for Herbert was twenty when little Madge was an orphaned baby of four.

"You ask what about Jack, then?" said the old man. "That was my clever trick upon Madge. I never said you were to marry Jack. I told you of your father's wish. I brought Jack here, the only cousin you knew; and I praised his good qualities—which are fine enough, I can tell you, and appreciated by a young lady not far from here. I knew that wayward heart of yours, and I knew that a woman should not marry without real love, and a great store of it too. So I left my darling open to the idea that Jack was to be the lucky fellow; and she did just what I and all sensible folks expected—almost hated Jack and her doom. Then I took care that the man you were meant for—who, my dear, has the best and truest heart in the world—should come in the way just at the right time, and show an interest in you. So have I not succeeded, and made my Madge choose her father's choice with her own free heart and will? As for Fitzallan, he is all impatience for to-morrow, and he would have told you the secret at that ball the other night, when he says that he was put to a desperate trial, but he had promised me never to disclose it till we were quite sure of success. Well, are you happy now, Madge?"

"My dear, good second father! how can I love you enough?" was all she could say, when she felt his arms round her in that moment of fulfilled desires, and his lips pressed to her forehead in fatherly affection, now that his long solicitude was at an end, and his hard task well done.

That very night Madge, scarcely able to realize her joy, was betrothed to Herbert Fitzallan, who, when once the secret was disclosed, would not wait another hour.

"Have I not waited years?" he said. "All my time abroad was waiting, and then I came back and found my Madge more than ever I had dared to hope."

But Madge, in her new freedom, did not forget poor Jack. Indeed, she was almost in trouble about her unkindness to him when she heard that he had been only playing a part, bearing all her teasing, and being purposely ungracious whenever she grew kind. But Gertrude consoled her effectually on that score by telling another secret after her kiss of congratulation.

"Jack was, indeed, doing his best to carry out the plan," she said; "and he was often grieved about you; but, dear Madge, you must congratulate us now—not me, but us. Jack and I made it up between us some months ago, and we had many a quiet laugh about you."

So Madge herself accepted the ring, and wore her golden fetters by her own free will after all; nor was there a happier or a more willing captive. As for Fitzallan, if he was not another Arthur, as the girl's fancy had prompted her to call him, he was "blameless" as the Prince of the "Idyls," and far more blest; and if he reigned over no realm, he was at least king of one brave and tender heart—a kingdom wide enough to satisfy his desires, and a prize which time proved to be well worth his years of waiting.

WHY SHE WAS HAPPY.—Two ladies met on the street and one enquired of the other, "Why, you look very happy this morning. What's happened?" "Oh, I've just been up having my fortune told," was the reply, "and the woman says I'm to marry twice more, have diamonds and a camel's hair shawl, and that I can go to the opera six nights in the week, if I want to." "Dear me, I don't wonder that you are happy. But you won't say anything to your husband?" "Oh, of course not. Poor man! He's good to me, and it might hurt his feelings to know that I am going to marry twice more. I think I'll tell him that I'm likely to die first."

Rector: "Those pigs of yours are in a fine condition, Jarvis." Jarvis: "Yes, sur, they be. Ah, sur, if we was all on us on'y as fit to die as them are, we'd do!"

Minnie May's Department.

MY DEAR NIECES,—Do not try to appear in the eyes of the public any richer than your circumstances will permit. Whatever economy it is right for you to practice you should never be ashamed of. If at any time you find yourself trying to conceal your thrift, you had better pause and examine your motives; for either you are possessed of that absurd weakness—a desire to appear richer than you really are—or else the piece of economy in question is not necessary, and therefore it is that you are ashamed of it. There are in some houses such a difference between the things used every day and those kept for company, that a guest cannot be invited to dine or take tea without making a revolution in the whole table furniture. The best dinner-set is probably kept in the closet of a spare chamber; so piles of plates and armfuls of dishes are seen walking down stairs on company-days, and walking up again the day after. Where the things in common use are so inferior to those paraded before company, the family live in continual dread of accidental visitors, and meal-time is a season of secrecy. A knock at the door produces the greatest consternation; the mistress of the house snatches up a broken dish and puts it in the closet, tells one of her daughters to hide the pitcher which has lost its handle, and another to carry away the old plates and spoons, while she runs to the sideboard for better ones to supply their places.

Now, my dear nieces, would it not be far more refined and dignified, as well as more honest and more comfortable, to have better every day and parade less before company? A person should have too much self-respect to use anything when alone that is unfit for her condition. The greatest hospitality is generally shown by persons of small incomes who are content to live according to their means. As a general rule for living neatly and saving time, it is better to keep clean than to make clean. There are many ways of keeping clean, and saving labor and time, which it is well worth while to practice.

Do everything in its proper time. Put everything in its proper place.

MINNIE MAY.

RECIPES.

FRUIT-CAKE.

Take one pound butter and one pound sugar, beat until it looks like cream—say three-quarters of an hour; one pound of eggs well beaten; one and a half pounds of stoned raisins; one and a half pounds of currants, well washed, dried and floured; one-quarter pound each of lemon, citron and orange peel, shaved very fine; one and a half pounds of flour, into which one teaspoonful of soda has been rubbed; two teaspoonfuls extract of lemon. Put in each ingredient in the order here given. Mix thoroughly with the hand, as it is almost impossible to do so with a spoon. Bake for three hours in a moderate oven, and you will have a cake fit for the Princess Louise and Marquis of Lorne.

A. J. D., Kingston.

SWISS PUDDING.

Sift together half a pound of flour, one heaping teaspoonful of baking powder and one of salt; rub together four ounces of granulated sugar and two ounces of butter, and when they are well mixed so as to be granular, but not creamy, add the flour gradually until all is used; make a hollow in the middle of the flour, put into it one egg, half a teaspoonful of lemon flavoring and half a pint of milk; mix to a smooth paste, put into a well-buttered and well-floured mould, and set this into a large pot with boiling water enough to come two-thirds up the side of the mould. Steam the pudding three-quarters of an hour, or until a broom-

splint can be run into it without finding the pudding sticking to it. Turn the pudding out of the mould and send it to the table with the following sauce: Stir together over the fire one ounce of flour and one of butter; as soon as they are smooth pour into them half a pint of boiling milk, add two ounces of sugar and half a teaspoonful of lemon flavoring, and use with the pudding as soon as it boils up.

MISS J. C.

SHIRT-BOSOMS.

Get a polishing-iron at the hardware store for seventy-five cents or a dollar; starch and iron the linen in the usual way, then lay it over a smooth board covered with one thickness of muslin, pass a damp cloth over the linen, and polish vigorously with the polishing-iron. Try it on an old cuff first, and you will soon see how it's done.

WEAKNESS IN CHILDREN.

When a little one toddles weakly about, as if it had to make an effort to place one foot before the other, bathe its back in weak alum-water, and rub gently until there is a glow. Half a teaspoon of salt in three pints of water will do as a wash in summer, if care is taken to keep from getting cold. A teacup of water, a small pinch of salt and a tablespoonful of brandy is very strengthening to rub with.

FOR SLEEPLESSNESS.

A cup of hot Indian gruel, taken at the moment of retiring, will make the nervous tension cease, occupies the stomach and the brain rests. Eat a light supper before it. Two teaspoonfuls of Indian meal, one of flour, and wet only to a smooth paste. Pour boiling water slowly upon it, beating it as you pour. Salt it, and boil half an hour. It can be made while tea is getting ready, and warmed over the gas at bed-time.

M. H. E.

CHEESE TOAST.

Take half a teacup of grated cheese—use crumbs and dry pieces—mix it with a teacup of grated bread, the yolk of an egg, a spoonful of butter, three spoonfuls of rich cream, pepper and salt, and a little mustard if liked; toast some slices of bread, spread the mixture on, place in a quick oven for three or four minutes and serve hot.

MARY B.

THE WASHING OF FLANNEL AND WOOLEN GOODS.

Use borax—a large tablespoonful in a pint of water; put some of this into the warm water in which the flannel is to be washed; put in no more than one piece at a time, and use some soap if necessary. From time to time add some more of the borax solution; rinse every piece in warm water, shake it well and hang up where it can dry quickly. Therefore it is best to wash flannels only when the air is dry. Some advise the adding of a little salt to the water in which they are rinsed the last time, and to use water just as hot as for cotton material, when, it is said, they will not shrink, and always remain white.

LINIMENT.

The following is an excellent liniment for rheumatism: One tablespoonful of salt, half a beef's gall, one ounce ammonia and four ounces of alcohol mixed together; apply to the parts affected. Rheumatism, like headache, is not to be cured in all persons by the same remedy, I know, but I have great faith in the liniment given.

MEALY POTATOES.

Select the potatoes so that they will be nearly of a size; do not put them into the pot until the water boils. When done, pour off the water and remove the cover until the steam is gone. Then scatter in a half teaspoonful of salt, and cover the pot with a towel. Watery potatoes will thus come out mealy.

CELERY, OR CARROT SOUP.

Procure six fine red carrots, scrape and wash well, slice very thin; also, two heads of celery, two onions, two ounces of ham, similarly; two cloves, one blade of mace, one sprig of thyme, one teaspoonful of salt, one of sugar, half teaspoonful of pepper, one small bay leaf, if handy; place the whole in a stew-pan with three ounces of butter; stew gently for one hour, rub through a flour sieve, place the pulp in same stew-pan, add two quarts of "stock," or broth, and bring to a boil, stirring all the time; add a little plain boiled rice; in the absence of broth, add a little milk, or water, in Lent.

Procrastination.

Delays are dangerous, says the old proverb, and it is a very true one. It is not always best to act upon the moment's impulse, especially if it is an angry one; but in the moral state of mind, the impulses of an honest heart are worth hearing. And when one's conscience says suddenly: "This is best—do it," ten to one conscience is right.

"Strike while the iron is hot," is borrowed from the blacksmith's experience, and he knows how necessary it is to carry it out. So, in many things of this life, the moment at which hearts are melted and softened is the time for action. Wait, and those hearts grow cold, and other interests stir them, and it is all too late.

Better be rash than slow. It takes an immense capital to be slow upon; a little one will sometimes do, if used on the spot. In business this is certainly so. In almost all affairs of life at least one takes the chances of ruin or success, and that is better than to creep slowly to disappointment.

Life is not long enough for procrastination. Youth is not long enough; hope and energy leave us too soon to be trifled with. As for love, how many a man has lost the woman he wanted just because he did not ask her in time. How many a woman has trifled with an honest love, and feared and trembled until the hope deferred which makes the heart sick has turned it from her.

If you have a thing to do, do it; do it now if you can. Better fall with a crash than have the moss grow over you, and stand a desolate, useless ruin. We all know how a chasm, which slow, methodical, painstaking considerations would prove to us could not be cleared at all, may be crossed by a sudden run and leap. We all know how in a moment of excitement we have strength which surprises ourselves, and which we could not coolly summon. So with mental action. The quicker the better, as a general thing. At least do not procrastinate; do not pass hours that should be spent in action in idle dreaming. Take life in your hands, and, for weal or for woe, go on with it, fearing nothing, hoping everything, leading even its forlorn hopes with a soldier's spirit to the very end. And you shall have a brighter present, and richer draughts as you go on, and fewer dregs when the cup is emptied.—[Mary Kyle Dallas.]

Some few miles from this city is a little village called Scottsville. Here not long since the rustic youth of the vicinity congregated for a dance, "and dance they did," said our informant, "with an unctious unknown to your city belles and beaux." One interesting young man having imbibed rather too freely became "fatigued" in the course of the evening, and wisely concluded to retire for a short rest.

A door ajar near the dancing hall revealed invitingly, a glimpse of a comfortable bed, of which he took possession, with a prospect of an undisturbed "snooze."

It happened, howbeit, that this was the ladies withdrawing room, and no sooner had he closed his eyes than a pair of blooming damsels came in from the hall and began adjusting their disordered ringlets, the dim light of a tallow candle not disclosing the tenant of the bed. The girls had tongues (like most of the "sex") which ran on in this wise:

"What a nice dance we're having! Have you heard anybody say anything about me, Jane?"

"La yes, Sally? Jim Brown says he never saw you look so handsome as you do to-night."

"Have you heard anybody say anything about me?"

"About you! why, sartain; I heard Joe Flint tell Sam Jones that you was the prettiest-dressed girl in the room."

Whereupon the dear things chuckled, "fixed up" a little more, and made off toward the ball-room. They had hardly reached the door, when our half-conscious friend raised himself upon his elbow, and quite intelligibly, though slowly, inquired: "Have you heard anybody say anything about me, girls?"

A little girl visiting a neighbor with her mother was gazing curiously at her hostess' new bonnet, when the owner queried, "Do you like it, Laura?" The innocent replied: "Why, mother said it was a perfect fright, but it don't scare me." Laura's mother didn't stay long after that.

A French Country Marriage.

Madame Mesmontagnes was kind enough to give me a description of the wedding of her daughter. When a young man here wishes to become acquainted with a young woman, he mentions it to some friend of the family, who applies to the parents for leave to introduce him. If this is granted, and the parents afterward conclude that he is not suitable, they tell him not to come any more. When a young man comes to demand a young lady in marriage, the parents first interest themselves in the family, whether it is a respectable one, and in the young man himself, whether he is 'sage,' or well-behaved. The young people are never left together without one of the parents being present, even when there is a talk of their being married.

At last the parents of the two young people will meet to plan the marriage; this parlement being held at the house of the young woman, where, after having had a good dinner, after having drunk well, and talked upon a quantity of other subjects, the rest of the family will leave the parents together, understanding very well what business is in hand. Then the young man's father will speak in this manner:

"We have not come here to do nothing; we have come to speak of the marriage of our children," adding, if he is a rich enough land-holder, "I give 25,000 francs to my son; how much can you give your daughter?"

If her parents do not give about as much, the marriage agreement will not be made, and the parents will separate. However, about one time in ten it will be found that the young people are too much attached to each other for the parents to continue their prohibition, and they are allowed to marry. And sometimes it will happen, when the young people are of age, and the parents entirely refuse their consent, that the former will make to them the three respectful summons, and then they can marry without the parents' consent. Such a case will happen in this commune perhaps once in three or four years.

Madame L. gave her daughter, on her own part, and from the father's estate, a vineyard of the value of 18,000 francs, and she is to receive more. The young man's parents gave to him a piece of land worth 20,000 francs, and the young pair occupy two rooms in his parents' home, where they can keep house if they should prefer it. Madame L. added that the young man's mother gave him a furnished bed, and of sheets, table-cloths, towels and napkins, each a dozen; also three dozen shirts of hemp and flax. "I gave my daughter," she added, "two dozen sheets, two dozen table cloths, two dozen napkins, and two and a half dozen towels; with a furnished bed, a cupboard, *armoire*, and a night table. The young man's parents gave him a large bureau, and he bought the rest of the furniture. The young people are well set out, well matched, and both are industrious. He is, besides, a merchant of sabots, buying these shoes from the makers; and as he has wood of his own, he employs people to make them; and twice a week he goes to — to sell them."

The only legal marriage in France is that at the mayor's office, and there is a mayor in every commune. Madame L. tells me that this marriage does not cost any thing, but at the mass the cure marries them, and puts the ring over the first joint of the bride's finger. For this marriage he receives 12 francs. (All the religious and all the fashionable world have this second marriage. Free-thinkers in Paris—I met none in the country—make a merit of opposing it.)

Madame L. tells me that there were about eighty guests at her daughter's wedding, and all these go to the mass, coming to dine at the house at noon. She herself did not see the ceremony; she heated the oven while the others were gone, "for somebody must take care of things." There were three women, however, to do the kitchen work, and three to wait upon the table.

"And what did you have for dinner?"

"I can not tell you—all sorts of good things—perhaps twenty courses."

"Did you invite the cure?"

"Some do; we did not. We had ham, and beef bouilli—we took forty pounds of beef—we had calf's head, stewed chickens, ducks with turnips, roast leg of mutton, chickens with rice; we had eight ducks, eight turkeys, four geese; and Pierre and one of his comrades, who was invited to the wedding, went hunting the day before, and I sup-

pose altogether we plucked a hundred birds. We had a coarse of little birds—fig-peckers, sparrows, larks; and we had three pies (*vol-au-vent*) made from the livers of the poultry and the little birds. We had food enough for a week after, besides giving to the relations. The pastry cook of the village prepared a complete dessert, and we made pies. They give splendid entertainments here at weddings. There was a *piece* of wine drunk (about 44 gallons). We also had Champagne and Bordeaux, but there was not much used, and we had other liquors, but nobody got drunk. That is all, madame, I believe. There are people who don't make weddings, on account of the expense; perhaps only one-fourth make wedding."

This great amount of food was necessary on account of the guests staying to three meals.

The two musicians were paid by the young men guests. Dancing was kept up until about three in the morning, when the party sought a little rest wherever they could get it; some going to the barn; the little children and the hired women went to bed; and Madame L. got two hours' rest. She added: "On Wednesday we had the breakfast, and then all went away about ten." —[Phebe Earle Gibbons, in Harper's Magazine for Feby.

Scotch Fare.

Oatmeal is principally used in two ways—for the making of porridge and of oat cakes. Porridge is a principal article of food of the Scottish peasantry, generally accompanied with milk, when milk can be obtained, although, when milk is scarce, butter is sometimes used, sometimes sugar, and sometimes treacle beer. For most people in a sound condition of health there is no more wholesome article of food than porridge and milk; none that contains a larger proportion of flesh-forming and heat-producing substances, while to almost all who have ever been accustomed to its use it is extremely palatable. Generally speaking, there is no better article of food for the nursery, none more likely to maintain a healthy condition of the stomach or to give vigor to the frame, although there are exceptional cases, both among the young and among adults, in which the use of porridge is unsuitable, producing painful distension of the stomach and indigestion. While the caprices of children ought not to be heeded in such a matter, the actual conditions of their constitution ought to be carefully observed and regarded. Porridge is in general made by simply boiling oatmeal in water, stirring all the while to prevent singeing, and to secure the thorough mixture of the oatmeal and water into a homogenous mass without knots. The quantity of porridge very much depends on the amount of boiling which it receives. Imperfectly boiled oatmeal porridge is a very coarse article of food; and, unfortunately, much of the porridge used by the poorer classes in Scotland and elsewhere is of this character, and the porridge prepared for the nursery is often no better, through the carelessness of servants who wish to get through their work with as little trouble as possible. It is not nearly so digestible, and therefore not so nutritious, as porridge really well made. A common mistake in the making of porridge must also here be noticed as tending much to the deterioration of its quality—the adding of meal by degrees whilst the boiling goes on, until the proper thickness is acquired, the result being that part of the meal is imperfectly boiled. The cook ought to know proper proportions of meal and water—knowledge not very difficult to acquire—and mix them at once, so that all the meal may be equally boiled. But it is to be observed that the water must be boiling before the meal is put in, which is not to be introduced in a mass, but as it were, strained through the fingers handful by handful as quickly as possible.—*Food Journal*.

Judging by Appearance.

(Concluded.)

"If they are like their noble old father I'm sure I shall like them. I think he is just splendid," answered Mabel.

The young lady stranger smiled quietly.

Mrs. Glennor answered:

"I daresay they are. Birth and breeding always show, Mabel. I for one could never mistake a person of wealth and culture for a common one."

"Is there only one daughter?" asked Mabel.

"Only one at home, the youngest one, Henrietta. And one son, Richard. I consider it very fortunate that Hamilton invited us to make this

visit, Mabel. Richard Hamilton will be very wealthy, and if you play your cards well who knows what you may do in the way of a settlement!"

"Now, mamma, if you begin to talk in that way I do solemnly declare I will take the next train that passes us back home and not go at all!"

Mrs. Glennor knew the girl was quite capable of keeping her word if she was pushed too far, so she said no more, but betook herself to the prospect in view from her window.

The ride was a warm one, but Mabel enjoyed it, and in spite of her mamma's frowns, chatted with her seat-mate quite sociably.

It was getting sundown when the train stopped at Hamilton, and several of the passengers descended, among them Mrs. Glennor and Mabel.

There was a forlorn-looking station, with a dusty little refreshment-bar in one corner of a dingy room labeled "Ladies' Room." There were two or three village idlers, with hands in their pockets, promending up and down the platform, and that was all.

"Why, what does this mean?" fretted Mrs. Glennor. "Mr. Hamilton wrote he would be certain to have the carriage to meet us."

"Perhaps it will be here yet, mamma," said Mabel. "Suppose you ask one of these men if it has been seen."

"I believe I will," and Mrs. Glennor marched majestically up to one of the men aforesaid and inquired:

"Can you tell me whether Mr. Hamilton's carriage has been at the station to-day?"

"Yes'm—no'm—I don't know—there it are a-comin' now," was the slightly incoherent answer.

Turning in the direction of his extended finger she saw a handsome carriage rolling rapidly up.

"It is just coming," she announced to Mabel, whose eyes had already informed her of that fact.

They waited upon the dreary platform until it drove up and the driver dismounted.

Then he came up to the steps and addressed Mrs. Glennor, touching his hat respectfully.

"Ladies for Mr. Hamilton's, madam?"

"Yes. Come, Mabel."

"The carriage is ready, ladies. The spring cart is here already to take your baggage over. Will I take your tickets?"

Mrs. Glennor gave him the tickets for their trunks, and the ready coachman soon had them piled in the light cart which had followed the carriage.

"Now we are ready," declared Mrs. Glennor. But the coachman appeared to be looking for some one else.

"Our young Miss Henrietta went up town yesterday. We expected her back by this train."

"Here I am, Sam!" called a familiar voice from the door of the ladies' room; and the homely young lady in plain linen, who had shared Mabel's seat, came out of her retreat inside, and approached them.

"My goodness!" was Mrs. Glennor's dismayed ejaculation, as she flushed up to the roots of her hair.

But Mabel sprung forward with extended hand.

"What! are you Henrietta Hamilton? I am so glad!"

"And you are Miss Glennor! I am glad, too!" said the young lady, offering her hand most cordially. "I would have made myself known in the train, but I am always so shy with strangers, and I was not sure who you were till now. Mrs. Glennor, I am very glad to welcome you to Hamilton. I love your daughter already, and I am sure we shall have a delightful visit. Let us go now; Sam is waiting."

This prompt courtesy so delicately ignoring her own rude behavior in the train, was a greater rebuke to Mrs. Glennor than any show of anger could have been.

For once her ready tongue was at a loss, and she only followed her young hostess to the carriage, silently and with flushed face.

But Henrietta's kindly spirit put her at her ease, except when she remembered her mortifying blunder.

It was a wholesome lesson, however. And the next time Mrs. Glennor meets a lady in the train, whether she is robed like a queen or in plain linen, she will treat her as such, and never judge by appearance.

Uncle Tom's Department.

MY DEAR NIECES AND NEPHEWS, — What are the duties of brothers and sisters? It is the duty of brothers and sisters to promote the improvement of each other. Let not pride of understanding or sullen reserve withhold that information which might improve or interest. Sarcastic ridicule will make them resolve that they will never again lay open their difficulties before you. Yes, dear nieces, how much the persuasive language of mildness and affection is adapted to form the roughest and most impetuous tempers to meekness and wisdom, and that your remarks may direct a brother's attention to sentiments full of beauty and feeling, which he has overlooked! Conversation in families is too often frivolous, and in some of them it is occupied with censures on the characters of others, which feed the malignant passions of the heart; or with such injudicious praise as is calculated to inspire false ideas of excellence. Let us, then, try and promote each other's personal interests. Nothing is more amiable than a constant desire to please, and an unwillingness to offend the taste or hurt the feeling of one another. And when this sweetness of disposition shines out in the calm countenance, it is the token, at least, of a contented mind. As politeness is man's password where he is not known, so good-humor will insure him continuance of favors which his good manners have elicited. Good humor, when not weakened by indiscriminate charity, is the most exquisite beauty of a fine face, and a redeeming grace in a homely one.

UNCLE TOM.

PUZZLES.

28.—EASY BEHEADINGS.

1. Behead a title of honor, and leave hours of darkness.
2. Behead to delay, and leave a small island.
3. Behead to twist, and leave a kind of vase.
4. Behead a part of the face, and leave a pleasant outdoor exercise.
5. Behead thoroughly searched, and leave dressed.
6. Behead to strip, and leave a fish.
7. Behead shoe, and leave a felled tree.
8. Behead articles used in games of chance, and leave a thing in which boys delight.
9. Behead a punctuation mark, and leave a tree.
10. Behead an insect, and leave a metallic pin of a certain kind.
11. Behead congealed vapor and leave an adverb.
12. Behead one European country and leave another.

29.—SQUARE WORD.

My first you'll find before a door;
 Neath it I've often stood,
 Before my second, where I've sought
 For intellectual food.
 My third it is a riddle,
 As you may plainly see;
 And if you find my fourth too hard,
 Pray sop it in your tea.
 These lines are written in my fifth,
 And now ye ladies fair
 Pray take the trouble to arrange
 These five words in a square. A.

30.—CHARADES.

I.
 At one time my 'first' was the terror of the nation,
 To old and young, and rich and poor, of ev'ry
 grade and station;
 But the farmer, in particular, who thought much
 of his stock,
 Oft heard of the 'destruction of my 'next,' one of
 the flock.

For my 'first' and my 'next' search the animals of creation;
 My 'whole' is a metal—does it meet your comprehension?

II.

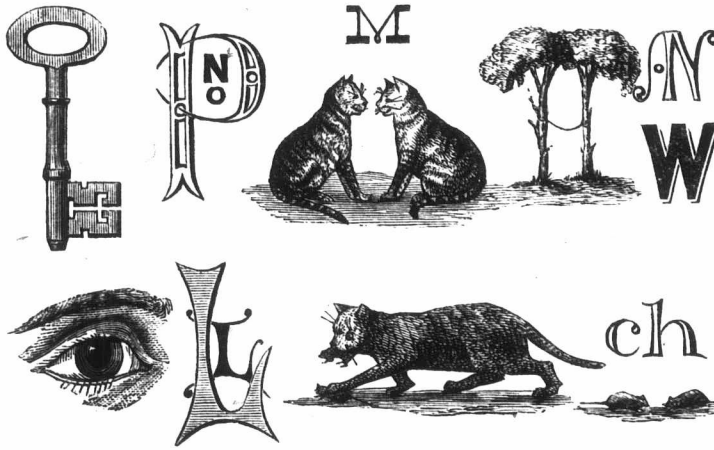
An adverb is my 'first,' as also is my 'second,'
 And my 'whole,' when guessed, you'll find *non est*
 is reckon'd;
 But try again—my 'first' and 'second,' though
 adverbs still remain,
 When, lo! and behold, I'm present! Now what
 can be my name? BENNET LOWE.

31.—POETS AND THEIR WORKS.

1. Adam Harm's calls to you 'are no fancy lies, Tom.
2. Class bitter star-wort, faster than mostel lily.
3. On border eggs rely, to scald rash scribe when deserving.
4. Your patent sonnets are all fe'ed; G. F. liked only this.
5. N. B. sub-terrors—a rat's ghost in the duty cart.
6. Mr. M. Majesty goes on, down thee, V. O. guard. B.

32.—EASY TRANSPOSITIONS.

An animal, transposed is a bird; a fish, an accommodation; an animal, a plant; a fish, a fruit; an animal, connected with the sea; a vegetable, part of a ship; a tree, conveys light; a boat, a large quantity of water. J. G. P.



33.—PICTORIAL REBUS.

34.—DOUBLE ACROSTIC.

The passions good and bad of mind,
 The rose and thorn of human life—
 In this you see affection kind;
 In that, the germ of war and strife.

1. For felons, not for soldiers, I, I guard the apple of your eye.
2. The world's a stage, 'tis often said, Here's good and bad in songs portrayed.
3. Where choicest wines are often stored, Who'd do me well, jumps from a board.
4. A justice-court itinerant, Justice for him is all we want. B.

35.—DIAMOND PUZZLE.

A vowel; a part of the body; an animal; a township; a flower; a fish; a vowel, or a consonant. The centrals, read downward and across, will give the name of a township in the Province of Quebec. J. E. R.

36.—TRIPLE ACROSTIC.

My initials will furnish a season of joy,
 To old and to young, to girl and to boy;
 My centrals discover a show which, 'tis clear,
 Ne'er flourishes save at this time of year;
 My finals reveal most correctly, I ween,
 Where this kind of show is best to be seen.

1. A god behold, who rules with gentle might.
2. A place where wealth is often hid from sight.
3. Transposed, I signify to flee away.
4. To bury, strongly linked with "to decay."
5. A sauce am I, of culinary fame.
6. A net, the dictionary says the same.
7. In Isles of Philippine a town am I.
8. A statutory declaration try.
9. You'll have me if you will but ope your eye. H. H.

37.—CROSS-WORD PUZZLE.

My first is in light, but not in heat,
 My second's in throne, but not in seat,
 My third is in tell, but not in speak,
 My fourth's in quiet, but not in meek,
 My fifth is in might, but not in strength,
 My sixth is in ply, but not in length,
 My seventh is in quiet, but not in still,
 My eighth is in quart, but not in gill,
 My ninth is in health, but not in life,
 My tenth is in woman, but not in wife,
 My eleventh's in certain, but not in sure,
 My twelfth is in mine, but not in your;
 My whole is what we all should abhor.

FANNIE F.

Answers to February Puzzles.

- 17—Honesty is the best policy.
- 18—1 Fair, fare. 2 Rite, right, write. 3 Maid, made. 4 Reed, read. 5 Beats, beets. 6 Bawl, ball. 7 Mien, mean. 8 Fain, feign, fanc.
- 19—Barley-corn.
- 20—Door-step.
- 21—1 Gun. 2 Wolf. 3 Sable. 4 Llama. 5 Badger. 6 Kangaroo. 7 Ant-eater. 8 Chindrilla. 9 Tree-toad, sloth. 10 American panther.
- 22—Button-wood.
- 23—Sea lion.
- 24—Share, hare; bear, ear; heel, cel; bass, ass; goat oat; rice, ice; spike, pike, ike.
- 25—Rather bear the ills ye have than fly to those ye know not of.
- 26—Scott.
- 27—Demosthenes.

Names of Those Who Sent Correct Answers to February Puzzles.

Fanny F McKay, N L Standish, John West, Minnie Hyde, Gertie Heck, H Watson, Anna Wooley, Minnie Summers, Henry Hoffman, Jas Smith, Dora Hines, Clara McKay, Edith Lee, Thos Niven, Lucy Whitmore, A O Willard, Herbert Jones, Emily Anderson, Henry Rowland, Thos Saunders, Abraham Leslie, Nellie Emerson, John Scott, Thos Frank, Lulu Roberts, Geo Davis, Jos Sutherland, Minnie Bradley, Jane Taylor, Donald McKay, Edwin West, Martha Williams, Frank Norris, S W Leslie, Mary Macklin, Henry Marling, Agnes Harris, F G Hughes, Arthur Brown.

Honorable mention is made of Minnie Hyde having answered the greatest number of puzzles in the February number.

HUMOROUS.

"The little darling, he didn't strike Mrs. Smith's baby a-purpose, did he? It was a mere accident, wasn't it, dear?" "Yes, ma, to be sure it was; and if he don't behave himself, I'll crack him again."

A lady that would please herself in marrying was warned that her intended, although a good sort of man, was very singular. "Well," replied the lady, "if he is very much unlike other men, he is much more likely to be a good husband."

Pedestrian (who had dropped half-a-crown in front of "the blind"); "Why, you confounded humbug, you're not blind!" Beggar: "Not I, sir! If the card says I am, they must have given me a wrong one. I'm deaf and dumb!"

A bright little Shoreham boy, who had been engaged in combat with another boy, was reproved by his aunt, who told him he ought always to wait until the other boy "pitched into him." "Well," explained the young belligerent, "but if I wait for the other boy to begin I'm afraid there won't be any fight."

"I come for the saw, sir."—"What saucer?" "Why, the saw, sir, that you borrowed."—"I borrowed no saucer."—"Sure you did, sir; you borrowed a saw, sir."—"I never saw your saucer."—"But you did; there's the saw now, sir."—"Oh, you want the saw. Why didn't you say so!"

"Mamma," said Master Harry, "how fat Amelia has grown!" "Yes," replied his mamma; "but don't say 'fat,' dear; say 'stout.'" At the dinner-table on the following day Harry was asked if he would take any fat. "No, thank you," said Harry, "I will take some stout."

A preacher in Kentucky the other Sunday, becoming exasperated, paused in his discourse to say: "Ladies, if you will give me your close attention I will keep a lookout on that door, and if anything worse than a man enters I will warn you in time to make your escape."

Commercial.

FARMER'S ADVOCATE OFFICE, }
London, Feb. 27, 1879. }

Since the last report we have had another month of steady weather with good roads; in some sections of the country good wheeling has prevailed and in others sleighing. During the last few days sleighing is again general all over the country. So far the winter has been all that could be desired, and we hope to see this weather continue for another two weeks or more, and then change for spring.

WHEAT

has taken a turn upward, and the "bulls" seem to be masters of the situation, at least for a time. How long that time may last is very hard to forecast. With the enormous quantities of wheat afloat and in sight (some 20,000,000 bushels) it will require some careful management on their part, and should any unforeseen circumstance turn up to break the clique, we would in all likelihood see prices go back to their old level. Some very sanguine individuals have expressed the opinion that wheat will go to a dollar before long. We only hope so for the farmers' sake, although those who really need this benefit are the ones who have already marketed their wheat, and we think they have done wisely by so doing. We are no advocates of farmers speculating; for the farmer who holds his wheat for a higher price, when he is in a position to market the same, and would do so did the prices suit him, that farmer is a speculator just as much as he who buys up wheat or other produce with a view to make money by so doing.

PEAS.

The indications are that they are pretty well out. There is some inquiry for good seed peas, and we shall not be surprised to see good, clean, bright peas, free from bugs, wanted at good prices for seed.

BARLEY

continues extremely dull, and nothing but the best samples can be sold at all. Some of the warehousemen have put in mills for cleaning and blowing it, and by so doing have been able to work off their stock. We would advise farmers to be particular about their seed, and if their ground is not in proper condition to sow something else.

CLOVER SEED

continues dull and not much doing. Some few firms have shipped a good deal, but it has been nearly all on their own account, and has been sent forward at a venture.

BUTTER

has been pretty well bought up throughout the country at from 6c. to 12c. per lb., and we presume the bulk of it at or near the latter price. The following table will give our readers some idea of the trade of the Dominion in butter and cheese, and the rapid development of the latter:—

The quantity and value of exports from the Dominion since 1860 was as follows:

Fiscal y'rs ended 30 June.	BUTTER.		CHEESE.	
	Qn'ty.	Value.	Qn'ty.	Value.
	lbs.	\$	lbs.	\$
1860...	10,853,268	2,343,270	4,503,370	549,971
1870...	12,259,887	2,353,570	5,827,782	674,486
1871...	15,439,266	3,065,229	8,271,439	1,109,906
1872...	19,068,348	3,612,679	16,434,025	1,840,284
1873...	15,208,633	2,808,979	19,483,211	2,280,412
1874...	12,233,046	2,620,305	24,050,982	3,523,201
1875...	9,268,044	2,337,324	32,342,030	3,886,226
1876...	12,392,367	2,579,431	35,024,090	3,751,268
1877...	15,479,550	3,224,981	37,700,921	3,897,968
1878...	13,504,117	2,474,197	39,371,139	4,121,301

At the Annual Convention of the Western Dairymen's Association, held at Ingersoll the other day, Prof. Bell, of Belleville, read a paper on butter-making and the butter trade, in which, after giving figures to show the growth and extent of the cheese trade, he expressed it as his opinion that the production of cheese for the English market had reached the utmost limit to which it could be carried with safety, and that it would be much better for the farmers to abstain from cheese making and turn their attention to the manufacture of butter, on the same system that the cheese is now made, and which had proved so successful in the sister product. We agree with Professor Bell, and venture the assertion that there is a great future in store for Canadian dairymen if they will only take up the butter question, and deal with it thoroughly and heartily. The day for making and selling poor butter is gone by, and he who makes poor butter had better make none at all.

CHEESE.

The trade is very quiet, and stocks are still heavy, and for which holders want more cash than they are likely to get. A dealer informed us that there were 15,000 boxes represented at the late Convention held in Ingersoll. This, with some thousands in store in cellars throughout the country, will foot up a large stock for the time of year. The stock is too large entirely.

Little Falls Cheese and Butter Market.

Reported for the FARMER'S ADVOCATE by PROF. X. A. WILLARD, LITTLE FALLS, N. Y., Feb. 28, 1879.

CHEESE.

There has been no material change in the market during the month from that given in our last report, except that the feeling among sellers is firmer, and there is more disposition to hold cheese for better prices. The views of dairymen and factorymen are generally above those of buyers on all grades of cheese, consequently there is considerable cheese back or in store awaiting sales. The prices offered by buyers for "good Novembers" and "late ends" range from 5c. to 6c., and this is about the price received by factories selling. But holders who are not willing to accept these figures are asking from 6c. to 7c. for "late ends." Early selections of good quality may be quoted at 7½c. to 8c., but they are scarce.

The farm-dairy cheese has mostly gone forward; prices during the month have ranged from 5c. to 7c. according to quality; while some lots of extra fine Octobers are being held at 8c. to 9c., which is above the views of buyers. The large exports of common, or second grade cheese, from New York during the middle and latter part of the month, has had the effect of giving a better feeling and more firmness to the markets in the interior.

BUTTER.

There has been considerable "winter-made" butter brought forward and sold at rates ranging from 13c. to 16c., according to quality. Fall make and creamery have sold from 18c. to 20c. if of unexceptionable character, and mostly for the home trade.

About the middle of the month "new milk" butter began to come in market, and sold readily at 18c.

Cows are now coming in milk, from which butter is made. There is a strong feeling against skim-cheese, and the probability is that little will be made the coming spring in this section.

Our latest advices from England are that there is more doing in American Septembers at 56s. and fine at 51s. to 53s. The secondary sorts at from 20s. to 30s. and up to 40s. per cwt., are decreasing

fast. English Cheddars are quoted at 70s. to 80s.; Scotch at 58s. to 56s.; Cheshire, fine, at 63s. to 76s., and Dutch Edoms at 60s. to 65s. per cwt.

Fine butter is scarce and American is asked for. Clenmels brings from 116s. to 120s.; Dorsets, 160s.; Danish, 130s. to 156s.; Swedish, 120s. to 154s.; American, 60s. to 90s.; creameries 116s. to 124s.; and Canadian butter from 60s. to 100s. per cwt.

American brands of Oleomargarine, or artificial butter, sell at 50s. to 60s.; Dutch brands, 70s. to 80s., and Swedish from 76s. to 78s. per cwt.

London Markets.

London, March 1, 1879.

GRAIN.		PRODUCE.	
Per 100 lbs		Per 100 lbs	
White Wheat...	\$1 60 to 1 68	Peas.....	80 to 1 00
Treadwell.....	60 to	Oats.....	80 to 90
Clawson.....	60 to	Rye.....	90 to 90
Red.....	1 65 to 1 60	Buckwheat.....	75 to 85
Spring.....	1 15 to 1 35	Corn.....	60 to 75
Barley.....	80 to 1 30	Beans.....	60 to 60

Eggs, retail.....	18 to 20	Cheese, lb.....	6 to 6
Butter.....	12 to 22	Timothy seed.....	\$1 35 to 1 50
Potatoes, bag.....	70 to 85	Clover seed.....	3 50 to 3 75
Apples, per bush.....	49 to 60		
Flour, per 100 lbs.....			\$2 25 to \$3 00

POULTRY.

Chickens, pair.....	30 to 50	Ducks, pair.....	50 to 60
Geese.....	45 to 60	Turkeys.....	75 to 1 25

MEATS.

Beef, per lb.....	4c to 6c	Mutton, lb.....	5c to 6c
Pork, per 100 lbs.....	3 75 to 4 25		

Toronto Markets.

Toronto, March 1.

Barley.....	\$ 50 to 70	Cheese.....	7 to 10
Spring wheat.....	80 to 91	Butter.....	4 to 14
R. Winter.....	85 to 93	Eggs.....	16 to 20
White.....	85 to 97	Poultry.....	50 to 65
Oats.....	31 to 33	Flour.....	\$3 80 to 4 05
Peas.....	55 to 60	Beef.....	4 00 to 6 50
Wool.....	90 to 90	Pork.....	5 50 to 6 00
Corn.....	40 to 42	Mutton.....	5 00 to 6 00
Potatoes, per bu.....	1 00 to	Apples, per bri.....	1 25 to 2 00

Montreal Markets.

Montreal, March 1.

Barley, 40c to 70c; Peas, 72c to 73c; Oats, 25c to 29c; Corn, 44c to 45c; Cheese, 8c to 9½c; Butter, 7c to 20c; Eggs, 40c; Flour, \$3 40 to \$4 50; Beef, \$4 to \$6 50; Pork, \$5 75 to \$6; Potatoes, per bag, 80c to \$1.

Liverpool Markets.

Liverpool, Feb. 28.

s d s d		s d s	
Flour.....	8 0 to 10 0	Barley.....	5 8 to 0 0
Wheat, spring.....	6 11 to 8 1	Pork.....	47 0 to 50 0
R. Winter.....	8 9 to 9 0	Lard.....	30 9 to 0 0
White.....	8 10 to 9 4	Bacon.....	25 0 to 26 0
Club.....	9 1 to 9 6	Cheese.....	49 0 to 00 0
Corn.....	4 7 to 0 0	Tallow.....	36 6 to 00 0
Oats.....	5 6 to 5 6	Beef.....	71 0 to 00 0
Peas.....	6 5 to 00 0		

New York Markets.

New York, March 1.

Spring wheat, \$1 13 to \$1 13½; Barley, State, 64c to 85c, Canada, 55c to \$1 10; Oats, 32c to 36c; Corn, 43½c to 47c; Pork, per lb., 4½c to 5½c.

Chicago Markets.

Chicago, March 1.

Spring wheat, 92½c to 93½; Barley, 76c; Oats, 23½c to 23½c; Corn, 38½c to 34; Pork, per bbl, \$10 10 to \$10 25.

Montreal Live Stock Market.

Montreal, Feb. 27.

The supply of cattle on St. Gabriel market to-day was light, at prices ranging from \$8 per 100 lbs for common, to \$4 25 for good cattle.

Montreal, Feb. 28.

The supply of cattle was not large, but quite sufficient for the demand, butchers buying sparingly, owing to the near approach of Lent. Sales were made at from \$3 per 100 lbs for common cattle, up to \$4 50 for good beasts.

Toronto Cattle Markets.

There is nothing to report of the export trade. Farmers must endeavor to hold on to their stock till the St. Lawrence is open, or, if it should happen that the restrictions should be removed from the trade in American cattle, till the cattle can be shipped by Portland or Boston. The local trade is fair, and the market well supplied with cattle for home consumption. The following are the quotations at the local market:—

Cattle, first-class, \$3 75 to \$4 per 100 lbs. live weight; second-class, \$3 to \$3 50; third-class, \$2 to \$2 50.
Sheep—There is a good demand for local use; first-class, \$4 to \$6; second-class, \$3 to \$3 25; third-class, \$2 to \$2 50.

Stock Notes.

Mr. Armstrong, of Speedside, Ont., writes: The sale of cattle on the 4th brought very low prices. Although a great many were inquiring for bulls, yet money seemed so scarce that they would not go to a high price. The highest sum paid for a bull was \$180, for British Heir; Mr. David Rea, Eramosa, was the purchaser. The next highest for a bull was \$140, for Lovely Prince; the remainder of the bulls ranged in price from \$50 to \$90. Of the females, Princess Josephine 2nd, and heifer calf, bought by Mr. Wm. Whitelaw, Guelph, brought \$125; Cherry Blossom and heifer calf, Robert B. Fleming, County of Bruce, for \$120.—The rest brought under a hundred dollars. My other stock are doing well. I have some fine calves from the Princess bull, 2nd Prince of Springwood, which I purchased from Col. J. B. Taylor, London.

The Ayrshire Breeders' Association met at Utica, N. Y., on the 17th ult., and elected officers for the ensuing year, as follows: President, Wm. Birnie, Springfield, Mass.; Vice-Presidents, Obadiah Brown, Providence, R. I., and Samuel Campbell, Utica, N. Y.; Secretary, J. D. W. French, North Andover, Mass.; Treasurer, J. F. Brown, Providence, R. I. By a vote of 51 to 10 it was resolved to drop from the records the names of all animals whose pedigrees cannot be traced to importation.

THE CATTLE TRADE.—It is said that the Toronto Cattle Dealers' and Butchers' Association proposes holding a meeting shortly at the Rossin House, Toronto, Ont., to which all the prominent Ontario cattle shippers are to be invited, when the live stock trade with Britain is to be fully discussed and plans suggested as to the best mode of dealing with the question.

Our English contemporaries publish the report from the Island of Jersey that the demand for the island cattle is in excess of all previous experience. France and America are competing with England for any choice specimens. It is also stated that "judging by points" is now gone out of use in Jersey, after considerable trial of its expediency.

The Austrians are breeding extensively with imported Arabs, and regard the cross as a decided improvement on the English thoroughbred carried to that country. The impart compact, symmetrical, well-proportioned form, as well as excellent limbs, and roarsers are not to be found among them.

Mr. T. C. Patteson lately purchased sixteen head of fat cattle from Wm. Donaldson, near Woodstock, Ont. The total weight of these cattle reached 21,740 pounds. One steer, three years old, turned the scales at 1,860 pounds. Mr. Patteson paid 5c per pound live weight.

Wm. Hodgson & Son, Myrtle, Ont., have recently sold to A. O. Fox, Oregon, Wis., several head of choice Cotswold lambs, among them two which are bred from their Centennial prize ewe, Grey Lass.

Mr. A. L. Hamilton, of "The Hamiltons," Mt. Sterling, Ky., writes that their herds are doing finely, and that they have had more demand for Shorthorns the last three months than in any previous year.

A meeting of breeders of Clydesdale horses is to be held in Chicago at an early date, with a view to the compilation of a stud-book for the Clydesdale horses of America.

Seven feedings daily for fattening steers are advised by the *Agricultural Gazette*—thus: At 5:30, a feeding of meal and chaff; at 7:30 sliced roots; at 9, meal and chaff; at 12, cake; at 2, sliced roots; at 4:30, meal and chaff; at 6:30, hay. For full feeding from 6 to 8 pounds of meal, and from 4 to 6 pounds of oil-cake, per day, are advised. Of roots, about 60 pounds is advised; although it is stated that a full-sized bullock may eat as much as 250 lbs. in one day.

More Danger Ahead.

HOG CHOLERA.

We much regret to inform you that we believe this disease exists in this Dominion. This week a farmer of this locality came into our office and informed us that there was some kind of disease sweeping off a farmer's hogs four miles from this city. The following evening we drove to the farm to ascertain all we could about it. We found about forty pigs and hogs, some in one place and some in another; one was lame in hind feet or legs; four were buried under straw, but when turned out one coughed and the discharge from them was of an unusually offensive odor. A lot were running in a shed, their skins looking unusually red. We were informed by the proprietor that he had lost forty-two.

The hogs lose their appetite, and bury themselves under manure or straw. They would drink large quantities of water, lose the use of their hind legs and then die; some would recover. From inquiring of our veterinary advisers and also from reading about the disease, we have every reason to believe this to be the real, genuine American hog cholera.

HOW THIS HERD BECAME AFFECTED.

We made inquiries from the owner as to where he procured his pigs from; he said that he raised most of them, and others he purchased from his neighbors. He had not heard of any of his neighbors losing any pigs from any disease. He called in a veterinary, who informed him that death was caused by disease engendered by filth and drinking lye water. On inquiring about the feed, he said he got swill from a leading hotel in this city, where the luxuries of life are liberally dispensed to the wealthy travelers and merchants who stop there. The disease may have been communicated by the straw from the unpacking of goods, fruit or game; or perhaps by the feet of ducks or geese; or by meat that had been contaminated with the virus of this disease, and thus conveyed to his premises as he takes the swill from the hotel.

Whatever this disease may be, we want none of it in Canada. It is the duty of farmers, of veterinary surgeons, councilmen, and of our legislators, to use their influence to prevent the introduction or spreading of every infectious or contagious disease. This is the first instance of suspected or real hog cholera that has ever been reported to this office, and the pigs above alluded to are the first among which we have ever seen hog cholera or thought that it existed.

We hope immediate steps will be taken to prevent the possibility of the disease gaining a foothold in the Dominion.

An immediate examination should be made into the case, if it is the real hog cholera we believe it is. Importation of swine should be immediately prohibited; if allowed to pass through our country in bond, strict regulations should be enforced to prevent the possibility of introducing the disease to our stock. Strict laws should be passed to punish any person attempting the concealment of contagious diseases in any kind of stock. We must use every extreme measure to maintain the health of our stock and our population. The first loss is the best. We must have the case looked into.

John Bull Market Reporter.

WEEKLY SUPPLEMENT TO THE FARMER'S ADVOCATE

As many of our subscribers have frequently asked us to publish a weekly, and as we often find important information that we wish to supply between each issue, we have commenced the weekly in a very small form, and at a very low price. If you want to see a few copies send 10 cents. Address, "JOHN BULL," London.

The Olliver Chilled Plow Company, of South Bend, Indiana, shipped one day last month 40 car loads of plows, numbering 7,000. This company has 350 agents in Michigan and Ohio alone.

Swiss Oats in Scotland.

This comparatively new variety of oats has now spread pretty extensively over Scotland. About a year ago we described these oats as very suitable for high and late districts where other grain often failed to reach maturity. For those late places another year's experience enables us to confirm what we formerly wrote. Swiss oats are long and thin looking in the pickle, yet they weigh well and are prolific. They are getting a little more plump than they were when first introduced. Their great merit, however, is their earliness, which is well maintained. Coming as they do to maturity a fortnight or three weeks before the common sorts, makes the Swiss of great advantage in the hilly districts.

Last year the farmers or crofters in the upland districts who were fortunate enough to have some Swiss oats sown had nothing else ripe when frost and snow made their appearance so destructively. In that very late season the new oats were nearly a month earlier than the other. This year being a very early one, the difference in favor of the Swiss is barely a fortnight in many cases.

The straw of the Swiss oat is not quite so strong, and not usually so long as that of some of our Scotch varieties. Wet weather is, therefore, more apt to "lodge" or break down a heavy crop of Swiss, but their earliness atones for more than all this in very late districts. In upland glens we consider that no farmer should be without some of them. He is independent of them in an early year of this sort; but taking the average of seasons, he will find it to his advantage to have a portion of his cereal crop break under Swiss oats.

But it is not alone in mountainous districts that these oats are valuable. In the earliest parts of the country they are being turned to good account, and are likely to be yet more largely resorted to. Last year some of our Forfarshire correspondents recorded how successfully they were enabled to clear some fields of yellow weed before sowing them with Swiss oats towards the end of May, and after all reaped a good crop of grain. With ordinary kinds of oats that would not have been accomplished. This year Swiss oats have, in the lower part of the country, come in very handy for another purpose. There was an unusually large amount of destruction to oat braid last April and May, by the operations of grub. Many parts of fields were completely cleared of plants. Turnips might have been put in if anything like an entire field had been destroyed, but the grub operates in patches or portions of a field. Some farmers of our acquaintance, whose crops suffered severely from grub, resolved to sow in Swiss oats. This was done during the second and third weeks of May on several farms, with the result that a capital crop of oats was reaped about the third week of August—just about as soon as the rest of the field which escaped the grub.

We have before us a sample of Swiss oats of this year's growth, which looks well, and weighs, we are assured, 45 pounds per bushel. The seed was not sown till nearly the end of May, and the crop was reaped about the middle of August. The crop was thus scarcely three months in the ground. The soil was strong, and the climate one of the earliest in Scotland.

It is certainly a boon to have some sort of grain that can be relied on to reach maturity even in the latest seasons and highest cultivated altitudes; and it is a material consideration, even in the low country, to have access to a variety of oats that will reach maturity in ordinary time, though not sown till close on Whitsunday. There will thus be less occasion for blanky fields in harvest through the depredations of the grub or other vermin in spring than has hitherto been the case.—[North British Agriculturist.

These oats may be of value to Canadians. We wrote to a friend in Scotland about the above above extract before publishing it; he says the report can be relied on.—Ed. F. A.

ONTARIO POULTRY ASSOCIATION.—This Association held its annual exhibition in Guelph the last week in February. The number of birds exhibited was unusually large and of fine quality. About \$1,600 was awarded in prizes. The attendance of visitors was not quite as large as was expected.

HONEY BEES.—We call the attention of our readers to the advertisement of Mrs. Cotton in another column under this head. We have heard that Mrs. Cotton is one of our most successful bee-keepers.

Agricultural Legislation.

The Ontario Legislature are bringing in the following Bills:

1st. An Act to incorporate the Poultry Association of Ontario.

"Any number of persons, not less than twenty-five, may organize and form themselves into an Association, to be known as 'The Poultry Association of Ontario,' by signing a declaration in the form of Schedule A to this Act annexed, and paying each not less than one dollar to the funds of the Association for that year; and all persons thereafter paying each the sum of one dollar (or such other sum, not being more than two dollars, as the Association may fix by by-law) annually to the funds of the Association, shall be members thereof."

2nd. An Act to prevent the spreading of the black-knot on plum and the yellows on peach trees:

"It shall be the duty of every occupant of land in the Province of Ontario, to cut out, and immediately burn up, all the black-knot found on plum-trees growing thereon, so often in each and every year as it shall appear on such trees; and shall dig up and burn all peach-trees affected with the yellows; and if any owner, possessor or occupier of land in said Province shall knowingly suffer any black-knot to grow thereon, he shall, upon conviction, be liable to a fine of not less than two dollars, nor more than ten dollars for every such offence."

3rd. An Act to authorize investments in Municipal debentures issued in aid of stone or timber drainage.

"The provisions of the 'Ontario Tile Drainage Act,' passed in the forty-first year of Her Majesty's reign, chaptered nine, are hereby extended to authorize every Township Council to pass by-laws for borrowing money by the sale of debentures of the Municipality, for the purpose of lending the same for stone or timber drainage, in the same manner and subject to the like conditions as such Councils are, by the said Act, authorized to pass by-laws for borrowing money as aforesaid for the purpose of lending the same for tile drainage."

Also a meagre and trivial alteration of a line in the Agricultural Act, instead of a radical change, as is required. The so-called new Act that was passed consisted of but a few alterations, some of which we think of small account. There must be a great change in the management or the working of the Act; we believe that it would be better to leave the farmers to themselves than to do so little good and so much harm as has been done by the Board of Agriculture and Arts for years past. Should not Prof. Buckland have been rewarded for long services with moneys they have expended, or caused to be expended, that have done or will do no good? Be honest; pay your debts. There are also other debts that should be paid, and offices that should be filled with better men. There are some good men on the Board who wish to do good to the country. More anon.

New Grain.

We have received the following from our correspondent in Scotland in regard to new grain:

STR.—The undenoted remarks on the grain, will, we think, give you a pretty fair idea of their properties:

TRUMPH WHEAT grows a stiff straw, is hardy and yields well. Grain, well shaped, compact and thin skinned; in a good season is altogether a fine sample of white wheat. It is early.

HALLET'S IMPROVED WHITE grows a pretty uniform length of straw, strong. Grain generally weighs well and is of fine quality. Is generally fully up to the average as to yield.

SANDY OATS grows a good straw, medium as regards strength and hardness. Grain (in a good season), pinkish bright color, beautifully shaped, tapering at both ends, is a favorite with both farmers and millers; not so early ripened as some white oats.

LONGFELLOW OATS.—Grain very long; fine straw; is a white oat in general appearance (otherwise than color); is very like sandy oats; is very prolific, and is now an established favorite; fully earlier than potato oats.

SWISS OATS.—Straw of fair quality; grain thin, long shaped, white, rather husky, not of much value for millers; ripens from 14 to 21 days earlier than any other variety, and is, therefore in a late climate and where straw is much set upon for fodder. W. B. & Co., Glasgow, Scotland.

New Advertisements.

TREES

We offer for Spring of 1879 the largest and most complete stock in the U. S. of **Fruit Trees, Grape Vines, Strawberries**, embracing all the new and valuable varieties. **Ornamental Trees & Shrubs**, deciduous and evergreen. **Roses** a specialty—all the finest sorts. **Green & Hot House Plants**, including best novelties. Descriptive and Illustrative priced Catalogue sent prepaid to customers, **FREE**, to others on receipt of stamps as follows: No. 1, Fruits, with colored plate (new edition), 15 cts.; plain, 10 cts. No. 2, Ornamental Trees, etc., with plate, 25 cts.; plain, 15 cts. No. 3, Greenhouse, Free. No. 4, Wholesale, Free; and No. 5, Catalogue of Roses, with colored plate, 10 cts.; plain, Free. Address

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Heads from five to seven inches long, producing from seventy-five to one hundred kernels per head. 50 to 75 STRONG STALKS FROM A SINGLE GRAIN. Circulars giving a report of the Committee who awarded the \$250.00 Premiums offered by us last spring, with the reports of the successful growers showing their improved methods of cultivation by which such enormous crops were grown—with correct Photographs representing the Prize Bunches.

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Pearl or Egyptian Millet. Clean seed, 15 cts. oz.; 40 cts. 1/2 lb.; \$1.00 lb. Seed in chaff, 50 cts. pt.; 80 cts. qt., by mail, post-paid.

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