

# 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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### Our Prize Essay.

Our prize of \$5, given for the best essay on "WILL IT PAY TO SOW THE CLOVER TO BE PLOWED UNDER IN THE FALL?" has been won by Joseph Fisher, "Willow Bank," Milton P. O., Ont.

A prize of FIVE DOLLARS will be given for "THE SEEDING AND MANAGEMENT OF PERMANENT PASTURES." This essay should contain particulars relating to the kind of grass seeds, other than clover and timothy, to be sown, and must be in this office by the 15th April next.

Our aim has been through the FARMER'S ADVOCATE to make it a medium for the interchange of ideas, whereby the experience of some farmers may be made serviceable to many.

We have at all times invited correspondence from our readers; also, we give from time to time prizes for essays on agricultural topics. A farmer, a subscriber to the paper, appreciating the information disseminated by such means, has sent us the sum of Ten Dollars to be given for the best essay on a very important subject of farm husbandry, namely, "The benefit derived by farm crops from the application of salt." The essay must be based not on theory, but on the actual experience of the writer, and state the quantities to be applied to different soils, and crops, and the best time for the application. With thanks to the gentleman who has made this generous offer, we invite our subscribers to send in essays in competition for the prize, to value of salt, to be in this office by the 25th April.

Besides the Prize Essay competition, a prize of \$5 will be given for "the best collection of drawings and descriptions for making home-made, labor-saving implements for the farm." Drawings, etc., to be in this office by the 10th May. No prize for any patented implements, nor for less than three implements.

### Agricultural Statistics.

At the session of the Provincial Legislature just closed, there was passed an Act establishing what is called "A Bureau of Industries." As the objects and aims of the Act are of vital importance to our farmers, we proceed this month to give a summary of it, and shall next month proceed to a more careful consideration of its provisions.

The ultimate object is to "promote improvement within the Province, and to encourage immigration from other countries," and the more immediate one is "to institute inquiries and collect useful facts relating to the agricultural, mechanical, and manufacturing interests of the Province, and to adopt measures for disseminating or publishing the same." The more specific and detailed object is "to procure and publish early information relating to the supply of grain, breadstuffs, and live stock in the other Provinces of the Dominion, in Great Britain, and in the United States and other foreign countries in which the Province finds a market for its surplus products, and as to the demand therefor." In other words, the Act authorizes the Commissioner of Agriculture to procure and publish agricultural statistics. The latter word is not used, doubtless, we dare say, because "statistics" is left by the British North America Act, in the hands of the Dominion authorities, and if the word had been as expressly used as it is thoroughly implied, the Act could be legitimately disallowed.

The machinery to be used in accomplishing this laudable object is to be directed by means of the Bureau. Its chief officer is a Secretary. He is "to conduct all correspondence; to prepare and send out to the proper parties the necessary schedules of questions and instructions; to receive and tabulate the information so obtained; to publish the same monthly or oftener during the growing season; and to prepare an annual report which shall contain, besides an abstract of such information, a tabular abstract of facts relating to land, trade, government, population, and other subjects."

The parties from whom the information is to be obtained, are the officers of our agricultural societies, mechanics' institutes, township councils, school boards, public institutions, and public officers generally. The penalty for "refusing or willfully neglecting" to give the information, is a fine of forty dollars, "recoverable by any person suing for the same, &c." and the reward for furnishing it is "one copy each of the publications and reports of the said Bureau." Such is a summary of the Act.

With its aims and objects we heartily sympathize, and we would express the hope that those of our readers who occupy the positions we have indicated will lend their utmost endeavours to make its working a complete success. Of that success, however, we are not so sanguine as we would like to be. In the first place, we are of the opinion

that the work is one which should be undertaken by the Dominion Government rather than by the Provincial; and, in the second place, we are very doubtful if complete returns can be obtained through the agencies indicated. But we shall return to a fuller general consideration of the subject in our next issue.

### The Month.

The past month has been a rough, stormy one, with plenty of rain and snow and any quantity of mud. The roads in many sections are about impassable. The sudden changes and sharp frosts that have prevailed have been pretty hard on the winter wheat and clover. Wheat where late sown and on low, wet land, is looking pretty hard, whereas, that which has been well drilled in on good, dry land, or underdrained, is looking well. A large acreage of peas will be sown this season, many farmers dropping corn and sowing peas. We would say, plant a piece of corn as well. Good butter is scarce and high, and farmers will do well to make the most of their cows by liberal feeding and good care.

### Contagious Diseases.

The Hon. J. H. Pope, Minister of Agriculture, having noticed the letter from one of our correspondents on the above subject, writes under date of 25th ult: "In reply to your extract from an American newspaper on the above subject of cattle disease, there is no pleuro-pneumonia in Canada. The disease referred to is in Nova Scotia, special to one county, and has existed there for over twenty years; but an effort is about to be made to secure its entire extirpation. The Canadian Government does not admit the general importation of American cattle, but only for breeding purposes at one port—Point Edward—on the western frontier, subject to a quarantine of 90 days. No disease has been found among the cattle which have been admitted from the United Kingdom for breeding purposes, nor is it likely that any could be in the face of the precautions exercised."

Subscribers will kindly remember that the editor and proprietor of this journal is not in the seed business, and where orders for seeds, &c., are sent to this office, it may cause delay and confusion, whilst the best we can do is to hand your order and cash to local or other seedsmen, as we deem best for your interest.

The Ontario Agricultural College at Guelph, Ont., will close on the 31st ult., and re-open on the 17th inst. for the summer session. The Government will, hereafter, give three medals—a gold and two silver—at the close of each year. They will be presented on the 30th June to the three students of the second year, who shall rank highest in general proficiency on all the work of the course.

OUR GRAND PREMIUMS—Subscribers will send in their lists of new names at once, and make their choice of premiums. Be sure and obtain at least one of our unrivalled prizes.

The Russian Mulberry is likely to be worth many times the subscription to you. Make a relative or a friend a present of the ADVOCATE for one year and win one.

The Russian Mulberry can be procured from the St. James' Park nurseries. See advt.

### From the United States.

[FROM OUR WASHINGTON CORRESPONDENT.]

March 20th, 1882.

The bill introduced at the present session of Congress, to permit grain bought in the U. S. by Canadian farmers in wagons, or other ordinary wood vehicles, to be ground in mills adjacent to Canadian territory, free of import duties, is not likely to pass before the second session next winter. It is referred to the committee on ways and means, and while they manifest no hostility to it, they are pressed by so many other measures that they will not report upon it till late in the session.

A letter has just been transmitted by the Secretary of State to the Speaker of the House of Rep's, from H. Cloete, a prominent colonist of the cape of Good Hope, Africa, on the subject of pleuro-pneumonia in cattle. The letter was forwarded through the U. S. legation, at Paris, with a note of introduction from Lord Granville, and Lord Lyons. H. Cloete, in his communication, states that he and his friends are proprietors of a mode of treating herds infected with pleuro-pneumonia with the following effect: When one or more animals show symptoms of pleuro-pneumonia the entire herd is put under treatment; within ten days all those infected, however slightly, are dead; those not infected, after being slightly indisposed for a few days, become entirely well, and are proof against the disease for at least seven years, the limit of time at present known from first test, but in all probability for their natural life. Cattle so treated, when well, can be sent to others not infected, and not communicate the disease. He alleges that calves nursed by mothers salted (as the term is) do not catch the disease, and are as a further precaution salted when weaned. The mode of treatment is as novel as effective, cheap and sure, and every farmer can be his own veterinary. He states that he is prepared to come to the United States if the government desires, and give proof of the efficacy of his mode of treatment, and that it will entirely stamp out pleuro-pneumonia in this country.

In a letter received from a personal friend in Paris, who is on intimate terms with H. Cloete I am informed that this remedy is not like that of M. Pasteur, by inoculation, but is a liquid and can be administered by any intelligent farmer; that H. Cloete has himself administered it to healthy animals, and turned them into an infected herd, and that they were taken out and never had any symptom of the disease.

If it will accomplish all he claims, it is certainly an important discovery, and I have no doubt provision will be made for bringing H. Cloete to this country to practically test the remedy.

One of the most interesting subjects treated of in the late National Convention of Agriculturists, and not yet reported upon by me, was the address of Prof. J. P. Roberts, of Cornell University, N. Y., on "The science of developing and perpetuating milk qualities." Among other things, he said that in the U. S. for the last two hundred years the almost invariable practice with all farmers producing milk, has been to select more or less of the calves from the best milking dams. In this way it was supposed that the best milking qualities of the herd could be perpetuated. Sometimes it occurs that the offspring proves as good, or even better than the dams, but in a large majority of cases they were inferior. The practice of selecting offspring of the best dams, with little or no thought or pains as to their qualities, either apparent or inherited from the sire, has been in practice for a long time, and yet our common cattle are neither a breed, a sub-breed, nor good grades, but are much inferior,

as a whole, to the European breeds, from which they sprang. Success, he says, in developing and perpetuating a milking breed, is not by simple selection on the dam's side, only, although it is a small factor. I don't mean to say that each individual animal of our common stock is a failure, but I do know that a majority of them fail to pay for their care and food, and give a fair profit. The farmers of the northern portion of the kingdom of the Netherlands, wanted just such animals as many of our own farmers want to day; a sizeable, fair beef animal, with uniform good milking qualities. They accomplished their object right well, long years since, while we with equally as good material for the last 50 years, and far better surroundings in many respects, have frittered away our time and energies; meanwhile we have imported at great expense and risk large numbers of valuable animals, yet in most cases, the common cow shows no improvement. One of the prominent causes of failure to develop and maintain improved animals has been the ignorance of the first and great law of breeding. The excessive flow of milk in the best cows, and the loss of vitality while bearing and sustaining their young, so injures their propency, that valuable acquired qualities fail to descend to the offspring, therefore the vitality and qualities, both inherited and acquired, of the sire, become of paramount importance. He ironically remarks that you cannot take a sire without blood, or even half a quarter blood, and modeled after a hat-rack, and expect fine qualities in a calf from the best milking dam.

Another cause of failure, he alleges, is lack of nourishing and succulent food at critical periods. Shelter and care are prominent factors, and without them, both to dam and calf, the simple selection and rearing of the most promising calves, even though their sires have super-excellent qualities, will never result in developing and perpetuating fine milking qualities.

Don't expect, he says, the best offspring by coupling yearlings. When the dam is matured she is in a condition to perpetuate her valuable qualities through her offspring with great certainty; the greatest flow of milk should not be sought for then, but protection of the offspring, food not too succulent, but abundant and nutritious, period of milking shortened to eight months, and after producing three or four calves under these conditions she should be fattened and sent to the block before she reaches her ninth year. Immature or superannuated animals cannot transmit the acquired qualities in full vigor and force. What is true of the dam as to maturity, vigor and health is equally true of the sire, and through him the greater element of improvement is found, and if rightfully used, his vigor and vitality are not endangered, but are preserved in full force long after the dam's.

### An Age of Deception.

[FROM OUR CHICAGO CORRESPONDENT.]

Every age has its evil tendencies in some direction, and we of this nineteenth century, who give the matter any thought, can scarcely help wondering if the present will not be historically recorded as a most deceptive age.

Almost every useful article is made the subject of counterfeit, and many which are the most useful are found to be the hardest to secure in an unadulterated state. In some cases the deception is less flagrant than in others. For instance, in the coloring of butter there may be nothing absolutely injurious, but it is deception nevertheless.

We order butter from the grocer, and, though the highest market price is paid, there is no cer-

tainty that we will not get oleomargarine, suine, butterine, or most anything but what is wanted. For honey and sugar we are liable to get glucose; and, in fact, a search through the entire list of such commodities will show that almost every article is adulterated or imitated by spurious articles, to an extent that would scarcely be deemed possible, without a pretty thorough investigation of the subject. The deceptions of the age are, in a large measure, due to the fact that consumers lack judgment, expecting goods of all kinds to be always perfection in outward appearances, regardless of season or circumstances. In the one matter of coloring butter, for instance, we see a striking example of this idea. Consumers expect the same creamy color to their butter in midwinter that only choice summer grass can impart to it naturally. They not only want it of the same perfect color under all circumstances, but of two firkins, side by side at this season of the year, one highly colored animal fat butter, and the other naturally pale, but the pure article, the former will command five to ten cents per lb. more in the Chicago market than the latter. Of course dairymen cannot afford to have their product discriminated against in that manner, and the only recourse is the use of coloring material, for every spurious article is richly colored. Coloring butter has become a very general custom of late years in nearly all the great dairy districts, and the numerous decoctions for the purpose which are in the market, enable dairymen to realize as much for their poor products as for their best. Makers of the compounds claim that they are entirely wholesome, being manufactured of vegetable material, but those are not wanting who believe them more or less injurious. It is a species of deception to use coloring, but if the people want unreasonable things there will always be somebody to supply their demands. The effect of this general and wholesale deception is to create unbounded suspicion on every hand, and yet little is being done to remedy the great and growing evil. People are free to proclaim against fraudulent practices, but they want their tables supplied with articles that are simply perfection in exterior appearance, and pay too little attention to the "true inwardness" of things. In a large measure the broadcast adulteration of the age is due to the ever increasing competition among producers, but, after all, the matter lies largely in the hands of the consumer. If he is not willing to pay the price of the most superior quality of any article, and yet desires to do what he may consider the next best thing—buy that which most closely resembles the finest in all respects save price—he is laying himself responsible for the evil.

With the exception of a few producers who have established reputations for handling nothing but of good quality, the man who makes the best imitation of first-class products receives the most for his trouble, and is, by far, more prosperous than he who conscientiously exposes for sale a genuine article, lacking, perhaps, the attractive appearance always given spurious products.

To look at these matters and content ourselves with laying the fault at the feet of current times, and wish that the honesty and straightforwardness of the "good old days long ago" might have been handed down to us, as many are wont to do, is the worst kind of idleness. The times are not responsible for the shortcomings of men, but we are too apt to waste precious opportunities in the living present by reverting to the forever past good old days of yore. Superficial extravagance, and a general desire to seem more than we are, tends to create a demand for imitations, and, whenever there is a demand, a supply will be forthcoming.

### The Provincial Board of Agriculture and Arts.

The first meeting of the new Board was held in Toronto on Thursday and Friday, the 23rd and 24th days of March. We call this the new Board because the alterations in the Act or the new clauses have reduced the number of members of the Board to the elected officers alone. The Mechanics' Institutes, Dairymen's and Fruit Growers' Associations, Agricultural Associations, Entomological Society and honorary members have no longer seats at the Board. Although the present is virtually a new Board, there is no change in the members, every old member having been re-elected. By this many might argue that the old Board have done the best that they could for the farmers; but the difficulty the Board has had in conducting the Provincial Exhibition, the Herd Book, etc., etc., does not warrant such a conclusion. Whether the Act should be so altered as to give the farmers more power in sending representatives to the Board, or what means should be taken to make this Board more popular and more useful, are subjects deserving attention and discussion. We do not pretend to say that some of the old members who represented other branches of industry, were not quite as able and as good as the present Board, and there are many farmers just as fit to represent their interests as those who now occupy the honorable positions. There are good men on the present Board, perhaps as good as can be selected; but we must try them and hope that they may take warning from the past, and that each one will honorably fill the positions they now occupy. There is but one way for them to get to regain the lost confidence, that is, for each one to consider what he is elected to that position for. If he attempts to foster another interest in preference to the interest of agriculture and arts, he occupies a position that he is not entitled to fill, and the interest of agriculture and arts must suffer from his acts. Should there be any one member on the Board who feels in any way bound or who desires to serve other interests in preference to that which the law has laid down as the duty of members, we would strongly recommend the honorable retirement of such a member.

The members present were Messrs. Aylesworth, Drury, Carnegie, Graham, Hunter, Legge, McKinnon, Morgan, Rykert, Shipley and White; one member, Mr. Moore, was absent in Manitoba. The Commissioner, Mr. Wood, took his seat with them during part of the time. Mr. Drury was appointed President, and Mr. McKinnon Vice-President.

The principal business done was the selection of the locality for holding the Provincial Exhibition. A deputation from Ottawa desired to secure it for that city. The Mayor of Kingston also desired to secure it. The contest was strong, and Kingston gained by one vote, the vote being six for Kingston and five against.

Mr. Aylesworth said that the member for Kingston announced that he would move that the grant be withheld, and that many members would have supported the motion had not Mr. Wood, the Commissioner of agriculture informed them that the Exhibition should be held in Kingston this year.

Senator Skead, of Ottawa, on retiring, said the Government had no right to say where the Exhibition should be held.

The Exhibition is to be opened in Kingston on the 18th of September, and to continue one week.

There was a discussion about fixing the date, as Toronto had announced that the Industrial would be held in that week. The Board considered that Toronto had no right to insult them by fixing the date of its exhibition at the time the Provincial has been held for a long series of years. There exists a strong feeling against the steps taken by

the proprietors of the Industrial Exhibition, for in reality the institution appears to be in the hands of a body of speculators, and the citizens of Toronto appear to have aided them in their attempt to secure the whole grant for their own personal aggrandizement and to the injury of the farmers of Ontario. They have played their cards long and well, but they have lost the game, and the honorable farmers of their own immediate vicinity will not support them, as soon as they understand the full particulars. From statements made at this meeting we are led to understand that by some means or other the right, title and interest that the farmers had in the old exhibition buildings and grounds, have been transferred to these grasping speculators. Can you believe that such a trick could have been practiced in this century, particularly in Toronto, bristling as it is with churches? The Association still say they have a right on the new grounds, but say they cannot get their right without a chancery suit; and some clauses that have been inserted in the transfer papers without their knowledge, make the prospects of obtaining your rights for you so doubtful that they are afraid of losing what property they now have in attempting it. Farmers, enquire where all your lands and buildings you once had in Toronto are gone. Do you consent to see your interest wrested from you forever to suit the whims of mountebank exhibitors? We say, no, unless your honor and spirit are undeserving of your calling, and you are willing to become serfs and slaves. Do not let the glitter, or paint, or gilding lead you astray. Have nothing to do with the Industrial Exhibition until they make honorable and just concessions of your rights to the unanimous consent of the Board of Agriculture and Arts.

Prizes are to be awarded to the best farms again this year, but to be in other localities. Mr. White strongly recommended the Committee on farm prizes to work early and work persistently to induce farmers to enter their farm for competition. There had existed so strong a feeling against entering farms that they had a difficulty in getting farmers to award the prizes to. Even the winner of the first prize had been most reluctant to enter for competition.

The Secretary's salary was advanced to \$1,800 per annum, and an assistant was to receive a salary of \$200 to aid him. Mr. Smith, of the Veterinary College, applied for \$500, part of a promised grant given some years ago; this is in addition to his annual grant. Professor Mills applied for a grant of \$500 to commence a plan of examining farmers' sons. The Council hold their next meeting in Kingston, on the 12th of April.

#### Prize Essay.

"WILL IT PAY TO SOW WITH CLOVER IN THE SPRING TO PLOW UNDER IN THE FALL."

To answer this question, sir, and prove in writing to your agricultural readers that this system pays, or does not pay, how it pays, and the exact return by so doing, I must confess I cannot use accurate figures to prove that money spent upon this course of farming makes a good return in every instance, knowing that many difficulties are to be overcome (especially in this irregular climate) before a very large balance sheet can be shown in its favor.

But, sir, if you will allow that two of these difficulties are overcome, viz., that this clover seed gets a good catch, and that the farmer, after plowing clover under in the fall, will keep his land lying dry and clear of dormant water, I will endeavor to write and make a few remarks which may tend to have some influence toward showing a decided balance in favor of sowing clover in the spring to plow under in the fall, as I firmly believe this course pays, especially where so many farmers have caused their soil to be unproductive by allowing the plant food it naturally contained to be removed and the land thereby becoming exhausted.

Now, as I said, many farmers have allowed that active ingredient or soluble inorganic matter in the soil naturally, to be removed by their unreasonable system of farming. It now becomes us to consider how to replace this plant food, which natural decomposition in many instances does not or can not supply, to the present cropping system which our bad farmers follow up and carry away from the soil of this country. There is one blessing attached, viz., that the bad farmers have only robbed the land of the active matter required in vegetation and checked its immediate fertility, but cannot get matter in a dormant condition. This is kept as a reserve fund for the future. This deficiency of inorganic matter, and the replacing it in our surface soils, is the matter at stake, that a grain crop sown may be supplied with soluble matter furnishing all the food which the crop requires.

It has been proved to my mind frequently that almost any kind of vegetation established or growing on land, if plowed under in due course, decays and adds matter which becomes fitted for the support of higher forms of vegetation. Even thistles, before seeding, if plowed under in due course, decay and add food which they searched from the subsoil, and are also fitted for encouraging vegetation. Food in the soil fitted for healthy vegetation is what our worn-out soil in Ontario requires, and as our manure manufacturers have not tempted the farmers to consume their article largely, and consider its money value, but hold aloft and allow the bone and sinew to be sent to Britain and United States, and sold at lower prices to agriculturists there, whose soil is enriched and profit made from it. Seeing this to be the case, we cannot fall back upon any course of improvement more adapted to have good results than by sowing clover more extensively.

When we consider the sowing of clover in this country, it has a two-fold advantage, viz., harvest being early, allows a clover crop to grow luxuriantly through July, August and September, and offers a very tempting pasture for sheep, which are every year coming to the front as a good investment in farming and making a good price in the form of meat. Now, by allowing your flock of sheep to overrun for a few weeks this portion of your clover which you intend to plow under, they will more than repay you for labor and cost of clover seed, in the meat they make and enhancement in value generally. And the excrements of sheep convey to the soil those portions of food (or the clover) which have not been added to their bodies or used in support of warmth, and thereby check exhaustion of soil. Secondly, this clover which sheep have trod under foot is quite as good in the form of a manure to plow under in the fall. Now, according to the best authority and opinion of the leading agricultural chemists, a clover crop draws an abundant supply of food from the atmosphere in an organic form. It also contains a more abundant supply of food than any other plant (which is required to support every farm crop) in an inorganic form, derived from the soil, especially the subsoil. Now, if these clover roots strike deeper into the soil and draw more matter from the subsoil than any other crop, also collect organic matter from the atmosphere, by plowing this plant food under in the fall we must secure and enrich the surface soil and create plant food ready to help the growth of succeeding crops.

If by securing a supply of food for plant life from nature, and correct application, as I have endeavored to explain, allow it to decay, by the dissolving influence of moisture and the formation of gases assisting the dormant ingredients to become active and soluble, I consider by so doing I show a balance in favor of sowing clover in spring to plow under in the fall, and encourage a system of farming which may tend to enlighten us and bring about some improvement among us agricultural people in British North America.

JOSEPH FISHER, Willow Bank,  
Milton P. O., Ont.

#### Evaporating Fruit.

There need be no more apples rotting in the bearing year for apples, and as there are now excellent small and cheap evaporating machines, by which fruit is dried in the best manner, it will be an economy to prepare the orchard for bearing a good crop. Prune it close, give the tree a dressing of lime and ashes, or of prepared orchard fertilizer, and when the fruit appears, thin it out by knocking off all the gnarled and defective fruit as far as possible.

**The Garden—April.**

With this month we have the opening spring, and we enjoy again the pleasure of our garden work. It is well to have a few words about vegetables; and first, salad.

**LETTUCE** is easily grown in any garden, but to have it to perfection it should be grown in rich soil and kept rather moist. The seed bed should be well pulverized and smoothed, and the seed when sown, covered not more than one-fourth of an inch. It may be sown either broadcast or in drills, and bears transplanting well. The plants should be shaded when the sun becomes very hot. If not kept cool and moist the plants become hard and bitter.

**RADISH** may be sown as the ground is in good condition. It is sown and cultivated as lettuce, but the seed is covered a half inch. The plant should be kept cool and moist. The best varieties are Early Scarlet, Turnip-rooted, Olive-shaped Scarlet, and the Long Scarlet; late in the year sow Black Spanish for early winter use.

**MUSTARD**, another salad plant, is cultivated as lettuce. For it also a rich soil and a cool situation are profitable. The leaves when advanced in growth may be used as greens.

**CRESS**, also a salad, is also cultivated on the same manner.

**DANDELION**, though a troublesome weed in the farm, is cultivated in the garden and out for greens. It has also valuable medical properties, and is much used for purifying the blood. The soil for the growth of the dandelion should be rich and the seed sown in drills half an inch deep and a foot apart.

**EARLY PEAS** may be sown as soon as the ground can be dug without becoming compact. Bear in mind, no plot should be tilled till dry. Plant the seed in double rows, six inches apart, and three feet between the double rows.

**POTATO ONIONS** may next be planted. They do best in a light, rich soil, planted in drills 12 inches apart.

**ONION SEED** is sown in drills 12 inches apart on well prepared soil; sow pretty thick, and afterwards thin out the plants to six inches apart. An ounce of seed will sow a bed 40 feet long by 4 feet wide. The best varieties that we know are the Danvers Yellow, Strasbury Red and Portugal White.

**PARSNIPS AND CARROTS** may be sown as soon as the soil is in good working order. When sown early they produce better crops. The soil should be rich and well prepared, and for carrots from 12 inches in depth at least.

**BEETS** require a rich mellow soil. Sow in drills 15 inches apart, drop the seed every one or two inches in the drills, and cover two inches deep. Early Bassano and Blood-red Turnip-rooted beets we prefer for the garden.

**POTATOES**—it is well to plant a few in the garden for early use. Plant from the 12th to the 24th of April, in a warm, light soil, and as the plants are up cover them in the evenings with straw to save them from the frost.

**TOMATOES** may be started in a hot-bed or a box in the house, and transplanted two or three times. They require a rapid and early growth, that the fruit may all ripen in due season. Take care that the plants are not too crowded. A few strong, well rooted plants are worth more than double the number of spindly ones.

A hogshead of rain water in which a quarter of a pound of ammonia and the same weight of nitre are mixed constitutes a splendid fertilizing liquid for strawberries. Apply it twice each week in the evening from the blossoming to the maturity of the fruit.

**Our Farmers' Clubs.****Marketing Farm Products.**

Dr. A. S. Heath read the following paper before the American Institute Farmers' Club:

"Whatever may be said against oleomargarine, truthfully or otherwise, it is an undeniable fact that since it has been put upon the market butter has presented itself in better garb, sweeter, sounder, cleaner, and in every way more worthy of being recognized as a prime product of the American dairy.

Mr. Starr, of Echo Farm, was one of the first to get a dollar a pound for the delicious butter sent to New York, Boston and other cities. This came to market in neat half-pound packages wrapped in snow-white linen, and was as fragrant and sweet as the June grasses upon which the cows fed. If there is a *paradis* for cows on earth Echo Farm is one, and a worthy model, creditable to the heart of a humane farmer.

Now, we have many dairies sending sweet, waxy, golden and aromatic butter to the market, perfectly gratifying the most fastidious tastes of our citizens. These dairies and these products honor such names as Havemeyer, Coe, Crozier, Holly, Dinmore, Park, Valentine, and scores of others. The great Western States are worthy competitors in gilt-edged butter.

Cheese, eggs, poultry and fruits, put up in a neat manner, are always acceptable to the purchaser, and bring remunerative prices to the producer.

In Baltimore and Philadelphia, for many years, poultry came to market nicely drawn, fresh, sweet, and ready for the cook; and now, in New York and Boston, the hotel-keepers demand drawn poultry. They are posted in such matters, for they cater to the most extravagant tastes; and a man who knows how to keep a first class hotel knows what human provender should be.

Compare our first-class retail groceries now with what they were twenty years ago. The demands of consumers require goods neatly put up, the store to be kept clean, and the clerks aproned in immaculate white. In fact, some of the spruce clerks now wax their mustaches, à la Napoleon III., to please the ladies.

The neat and tasty marketing of farm products pays a handsome profit on all the extra taste and labor bestowed upon them.

Our best merchants understand the art of displaying their goods and the profit it brings. A visit to Thurber's will convince the most sceptical. In this house, where twenty millions are annually sold, the goods are put up in the best possible style. Even the canned goods are radiant with colors and rich in gilt.

The packages of coffee, tea and spices are clothed with beautiful pictures of the Oriental shrubs that produced them. Thurber's labels are exquisite specimens of taste and art. "Straws tell which way the wind blows."

Let farmers' wives and daughters tastefully decorate the packages of farm products and they can afford to dress in silk."

**Farmers' Clubs.**

At the meeting of the Provincial Farmers' Agricultural Association, held at Riverside, Albert Co., N. B., Mr. R. E. M. Leod spoke on the general management of the farm. That portion of his paper relating to the cultivation of turnips we give as follows:

In the first place, I take a piece of land that has borne a crop of oats, or sod land ploughed early will answer equally well, turn the stubble under in the fall, and in the spring cross plough and harrow well, then take a double mould board plough and make the drills twenty-eight or thirty inches apart, then put barn manure in the drills similar to what you would for potatoes, but usually not quite so much; but a liberal coat of manure will not injure on most stubble land, which should be spread evenly in the drill, after which a man with a basket scatters some superphosphate on top of the manure in the drill at the rate of about five hundred pounds of bone dust, dissolved with sulphuric acid and dried with black muck, to the acre, then with the double mould board plough, as soon as possible after the manure is in the drill, cover up the manure about the same as you would potatoes, then take a horse with a small roller and flatten two rows at a time, until the plough is overtaken, then take the seed sower and put the seed in at once while the ground is moist, at the rate of

five pounds to the acre, as near as can be, and in a very short time the plants will appear and you need not fear the fly, but in a very short time will be fit for thinning out, which is usually done when they are the size of cabbage plants, at which time it is best to run the cultivator twice in a row, leaving but a very small space where the plants stand, often tearing out some; in this way the earth is torn away from the plants, leaving a very narrow ridge, which assists very materially in thinning, which is done with the hand, getting down on all fours (generally padding the knees) scraping off the top of the rows, leaving the plants about thirteen inches apart, as near as may be removing the earth from the plants, leaving it flat on the side of the row, which will in a surprising short space of time regain its upright position, and from a distance show as green as before thinning out. In this way you have gone over the whole surface of the field, removing all weeds that may have made their appearance. After a short time the cultivator should be run through them once or twice before the leaves meet across the rows, at which time, if kept clear of weeds, they will take care of themselves, yielding in the fall from five hundred to a thousand bushels to the acre. I should have said, I sow as near the 20th of June as possible.

**The Oshawa Farmers' Club.**

At the meeting of the Oshawa, Ont., Farmers' Club recently held in the Council Room, there was a very good attendance. The President, Mr. A. Annis, opened the discussion on the subject of the day:—"How to reclaim exhausted soil."

The President—There was not the slightest possible use of a farmer trying to run his farm on a paying basis when it would only bring in about \$12 an acre. He was bound to lose, and the sooner he gave up the attempt the better. If you can raise a good crop of clover you need never be afraid of not making your farm pay. He found a good plan to improve the land was to plow under a green crop. This plowing had been followed by him with good success. He would sow wheat the first year, barley the second, and the following year seeding down again. When he first took possession of his farm he could hardly raise straw enough to feed his stock; now he has too much straw, and found the only difficulty was to keep it down. He attributed it all to seeding down, giving his farm a rest and manuring it. He found that where two or three tons of clover were raised from an acre of land, about the same quantity of roots remained in the ground as manure if plowed under.

Mr. Mothersill said his farm at one time had been pretty well run down. Any land that had a good subsoil he found much improved by deep plowing. He had experimented on a field which had been covered with stumps. The stumps were removed, and the spots where they had been had yielded poorly the first season, but the second crop was a good one, and the third crop still better. Clover is one of the best things to improve the land the farmer can possibly use. He found that his fall wheat yielded double the amount of straw his spring wheat had. Very often you come across a field which would not raise any kind of a crop because it was too wet. The only cure for this kind of land was to drain it, and then it will very often be the best yielding piece of land on your farm.

Mr. D. Lick.—His idea of the question was that poor land which was badly exhausted would not pay for the fencing. He would recommend persons having such land to sell out and go to Manitoba or the Great Northwest at once. If your farm is very much run down you should put on forty or fifty loads of manure to the acre to bring it back to its old state. If you put that amount of manure on to a farm with poor subsoil, it would not pay you, for manure could not be put on less than one dollar an acre at the present high price, if you had to draw it far, and that would be as much as the land was worth. So that it always pays to have a good farm. If land was poor it would be impossible to raise a good crop of clover. If there was a good subsoil there was hope, but otherwise he would not advise anyone to try the experiment. He was told buckwheat would kill twitch grass, but it would likely take four or five years. The first time he tried the experiment a fine shower fell just after he had sowed the seed, and the buckwheat quickly sprang up and choked the twitch grass, but three times since he had tried the experiment, but no shower came, and the grass grew as fast as the buckwheat and was not injured

in the least. If your buckwheat got a good start it would crowd out the twitch grass; otherwise it would have no effect. You could kill the grass with turnips, but they will not restore the exhausted soil. If a farm is poor he would recommend that not less than one-third be seeded down.

Col. Grierson:—His farm was one of the worst in this district when he took hold of it. He has pretty well restored it. His system was to the effect that he kept a day book and noted down everything that was put on his land to the smallest particular. He could now make two good rents of his farm, live well, and save something besides. For improving the soil he thought there was nothing equal to clover and cattle. The most he could get off his farm at first was two crops before seeding down again. Rye, peas, and then seed down. He had splendid pasture. He made a practice of sowing about six bushels of clover a year. He kept from forty to fifty head of cattle, and always had ten to twelve fat cattle feeding each year. His land was steadily improving. He found that manure was the best thing to kill out twitch grass if it had not spread too much.

Mr. D. Lick—Two-thirds of his farm was seeded down. If your farm is deficient in phosphates of lime you should buy your cattle, because in that element was the main bone producing particles.

Mr. D. Hunkson.—He was brought up on a heavy clay soil. To restore it you had to summer fallow, sow in buckwheat, and then plow in. From his experience he found that turnips exhausted his soil more than anything else. He remembered the time when turnips were more fashionable than now. He thought grain paid better for fattening cattle than roots. He believed in clover to a large extent, and thought it would even pay to turn it under in the fall with the small growth it gets. He was a great believer in summer fallowing, and contended you would get more from two crops after doing so than three otherwise. He did not believe there was a foot of soil in the United States equal to the majority of good farms in South Ontario. He had been through most of the United States. He was really surprised at the wealth of Ontario. When he first came here he raised enough to pay for his farm in one year.

Mr. Hexlewood—It is very difficult to get clover to catch on his land, it being a heavy clay soil; but when it did he found it of much benefit. He raised a crop of spring wheat on the land afterwards, and received 35 bushels to the acre on it.

Mr. H. Wilcox—He had no exhausted soil on his farm. He adopted the plan of plowing and sowing buckwheat, which kept the land in good condition. He thought there was nothing so beneficial to the land as clover. He had some difficulty in getting clover to catch on his heavy land. If it did catch it sometimes died out in the summer.

Mr. Mowbray thought rape was a benefit to the land. In fattening cattle he had noticed that they had thrived better on turnips and straw than on hay. He said if land was good enough to raise large thistles and weeds it was good enough to raise grain.

Mr. John Bartlet said he had tried the fertilizers, and came to the conclusion that they would not pay on ordinary land.

Mr. Grierson—If you sow a little flax seed with your barley, and when it is threshed let the flax seed lay on the floor, and then take it to the mill, you will not need to feed so much turnips to your cattle if you give them a little flax seed.

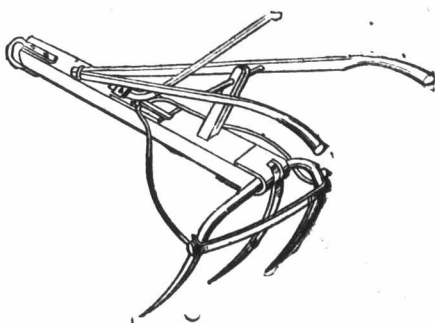
Mr. W. R. Stone—To reclaim soil you must summer fallow, sow barley, then seed down, and put on eight pounds of clover and four of timothy. If there is any twitch grass you must kill it out first. If your whole farm is exhausted you must follow out this plan throughout the extent of your farm. He believed land should have a rest, and should be covered. It was according to nature. He thought it was as necessary to sow plaster even as it was to sow grain.

Mr. J. Campin.—He had raised not less than ten acres of turnips a year, and he found that he could not keep the stock in good condition without them. He never summer fallowed much. He believed in sowing turnips to reclaim soil. He kept from 35 to 40 head of cattle, and kept about 70 acres of grass. He had used extensively plaster, ashes, bone dust, and other things, and he found his crops improving every year. This was one of the reasons for his success.

Mr. Joseph Henry made a few remarks. He said he believed the land should be restored in some manner, and he thought a green crop was the best after being plowed, in the shape of clover, after the land had been manured. He did not believe that there was a farm but what could be improved.

Hints and Helps.

Manure Drag.

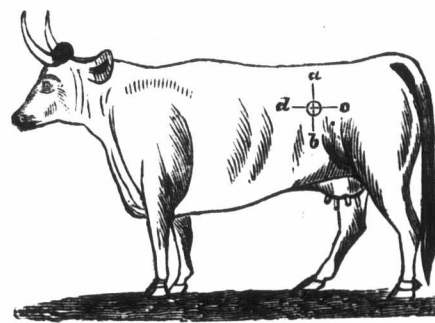


Above we give a drawing of a Manure Drag, an implement with hooked tines for hauling manure over the surface of the ground. It is guided by rear handles, and a lever is provided to hold the tines in action or release them at will.

Cun Horn.

In severe cases there should be no delay in adopting the necessary treatment, or the animal may be lost, for death, in this disease, is caused by suffocation. Immediate relief is given by puncturing the rumen, a quite simple operation when it is understood, and one which always should be resorted to in bad cases.

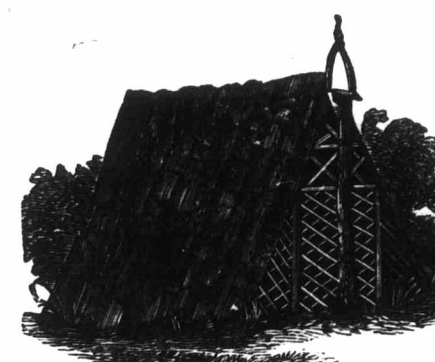
The operation should always be performed on the left side of the animal, in consequence of the inclination of the rumen to that part of the abdominal cavity. The place for puncture is on the flank, about three inches below the spinal column,



and midway between the last rib and the hip. The instrument recommended by veterinary surgeons is called a trocar; it consists of a stilet, having a lancet shaped point and a sheath. As farmers are not usually provided with the proper instrument for performing the operation, a dirk bladed knife may be used, and a quill, or any small tube introduced into the puncture for the escape of the offending gas. There is no danger attending the operation when the proper instrument is used. The cut represents the point where the puncture should be made—at the point where the lines a, b and c, d intersect each other.

Rustic Poultry House.

For the rustic work, join four pieces of saplings in an oblong shape, for sills; confine them to the ground; erect at the middle of each of the two ends a forked post, of suitable height, in order to make the sides quite steep; join these with a ridge pole; put on any rough or old boards from the apex down to the ground; then cover it with bark, cut in rough pieces, from half to a foot



square, laid on and confined in the same manner as ordinary shingles; fix the back end in the same way; and the front can be latticed with little

poles with the bark on arranged diamond fashion, as shown in the engraving. The door can be made in any style of rustic form. The roosts, laying and setting boxes, can be placed inside of the house, in almost any position, either lengthwise or in the rear.

The Apiary.

Alarming Profit in Bee-Keeping.

Mr. D. A. Jones, who is credited as the "great Canadian honey-producer," declares that ten thousand dollars a-year can be saved in every township from the keeping of bees! He adds that "he would undertake to make more money in bee-culture than any farmer in the world out of the same capital." This is one of the wild assertions that we are constantly seeing in print, but they disappear as suddenly as they appear, and we hear nothing more of them. Mr. J., however, enters into some figuring to sustain his assertions; but we oppose all this with the simple fact that if what he says is correct, he would not have been the first one to find it out, considering that bee-keeping has been to some extent pursued in this country for two hundred years, and has not even kept pace with any other branch of farming of any importance. No, Mr. J., instead of seeing here and there a few beehives, the country would be full of them under the spur of such results as you present. —[Germantown Telegraph, Pa., U. S. A.]

Honey Dew and How it is Produced.

Of Honey Dew the North American Review writes as follows: "When we recollect that honey dews always come when the weather is warm and pleasant, and the trees and shrubs all dressed in living green, likewise the flowers are out in bloom, and that we behold all Nature smiling in her beauty. Then it is that we see in a beautiful, bright morning the leaves of many and various kinds of bushes fairly glistening with that sweet nectar called honey dew. Hence, we believe it to be secreted in the many and various flowers through the night, and, by the chemical action of the sun of those warm days, it is taken up into the atmosphere in a condensed form, and then returns to the earth in a liquid, lodging upon the shrubs and trees in the night time, and is one of the richest harvests for our bees. In other words, it is the rich odor of flowers and plants thrown off in the daytime that is thus returned in the sweet-like substance sometimes so bountifully bestowed for the good of man. It also feeds many thousands of insects, and supports many colonies of bees. But as is often said, many who profess that there is an insect, called aphid, producing honey dew, as we commonly understand the term, we do not believe, yet we are well aware that there are such insects, tree and bud lice, that suck the juices of the tender leaves and buds of various shrubs, and will exude a substance similar to honey dew; but surely we couldn't be so foolish as to believe it to be honey dew of the regular order.

Let us be careful to save all our nice combs, especially those that are clean and white, no matter how small the pieces may be, as they are useful in giving our bees a start in the surplus or brood-chamber, by fastening them in the frames on the top bar, so the bees will be thus encouraged to go on enlarging the bits of natural combs (not paraffine with wax, or any other foreign substance) and thus, when we have saved one pound of pure combs that the bees have made, and which you are asked to melt up into beeswax, at 18 to 25 cents per pound, you have saved just 23 pounds of honey for yourself, which the bees would have to consume in making a single pound of natural comb.

I apprehend when our readers can see, think and learn for themselves that to save all the good combs which have been left in hives that have been caused from spring or natural dwindling and loss of bees in winter we shall see quite a change in the price of wax.

A. A. M. inquires for the best kind of hives. Will our advertisers please answer?

Early in this month the bees may all be moved out. It will be best to feed all, and give all access to flour when they will work at it, though usually they can get pollen as soon as they can fly out to advantage. Keep the brood chamber contracted so that the frames will all be covered, and cover well above the bees to economize heat.

## Poultry.

## Description of Poultry—Continued.

BY R. A. BROWN.

## GOLDEN PENCILLED HAMBURG.

Is in every way similar to the spangled, except that the feathers are pencilled across with dark bars instead of a dark block or spangle.

## SILVER SPANGLED HAMBURG COCK.

Head, silvery white and small; eyes, dark hazel; comb, rose, firm and square, set on the head square in front and running to a point behind, which is slightly inclined upwards without hollow in the centre or leaning to either side, having even and regular small points covering the surface; ear-lobes, pure white; wattles, broad and thin, bright red and free from white; neck-hackle, full and flowing well over the shoulders, in color, silvery white free from yellowish tinge, the longer feathers ending in a black spangle; body, silvery white, each feather ending in a rich, dark spangle free from mousing or lacing; tail, large, well sickled, each feather white with a moon shaped spangle across the end of each feather; shanks, blue or slaty blue; carriage, upright and graceful. Hen is the exact counterpart of the cock.

## SILVERY PENCILLED HAMBURG

Is similar to the spangled, except the feathers are pencilled across with black bars instead of ending with a moon shaped spangle.

## WHITE HAMBURGS

are pure white in plumage; comb, same as other Hamburgs described; eyes, red or pearl; shanks and beak, flesh color; carriage, upright and graceful.

## BLACK HAMBURGS.

Plumage, rich, glossy black throughout; eyes, rich red; beak and shanks, blue or leaden blue; face, red, without the least approach to white; tail, full and expanded, carried very erect, but not squirrel tailed; carriage pompous and active.

## HOUDANS.

Head, crested and full bearded or muffed; plumage throughout as even broken with black and white as possible; face, red; eyes, black and bright; comb, medium size, rather antler shaped and partly hidden by the crest in branching; ear-lobes, white; wattles, long and their bright red beak and shanks pinkish flesh color, sometimes mottled with lead color; toes, five in number, the fifth toe inclining upwards; tail well expanded, having large sickle feathers; carriage, upright and proud; are moderate good layers; eggs, 8 per lb.; weight of adult cocks, 8 lbs.; hens, 6 lbs.; are the best of the French breeds of fowls; stand enclosure well, but lay better with full range; flesh is very nice, being sweet and juicy.

## GAMES.

Cock of black-breasted red: head very rich red, comb in chickens that have not been dubbed, small, single and low in front; face, dark red; eyes, large, deep bay, with a quick expression of movement; neck, apparently rather long; hackle, rich red; back, dark red; breast, solid black throughout; body, broad at the shoulders and tapering to the tail, the under part deep black; wings, primaries, bay on the outside web, and black on the inside web; secondaries, bay on the outside, inside black; ends of feathers a metallic black spangle; wing bows, dark red; wing butts and coverts, greenish black; tail black; sickles, greenish black; shanks may be willow, yellow, olive, white or blue.

Hen—Comb single, small and low in front, and even sorted; wattles and ear-lobes, bright red; eyes, red or bay; beak, horn color; neck hackle, brownish yellow, each feather striped with black; back, brown pencilled with black; breast, salmon red, shading off to ashy brown at sides; wings, brown, coverts pencilled with black; tail, dark brown, feathers held closely together and carried low; shanks same as cocks.

## BROWN RED GAME COCK.

Head, very dark red; beak, nearly black; eyes, brown or black; neck, long; hackle, rich red, striped with black; breast, black; wing-bows, crimson red; butts, black; primaries and secondaries, black; tail, glossy black, carried low; shanks, black, bronze, olive or willow.

## BROWN RED GAME HEN.

Head, nearly black; neck, long; hackle, lemon color striped with black; eyes, brown or black;

comb, single and small; comb-wattles and ear-lobe, red or dark purple; back, dark brown or nearly black; wings, brown or nearly black, breast, black; shanks to match those of the cock. Those two breeds of game stands a great amount of enclosure, but to produce eggs want range, and to produce pit birds require a free, open run and well fed; plenty of raw, lean meat is considered the best article of food for this purpose, intervened with wheat screening, and ale as a drink. All games are good gleaners; make good table fowl, their flesh being very firm and sweet; they mature early, and the hens make good mothers.

## SETTING HENS.

Setting hens will be the order of the day for this and next month, and a few hints may not be out of place. The proper place to hatch eggs is a nest made on the ground, or a box containing much earth in it. Last season I dug sod about three inches thick; put one course on the bottom and the same on the inside of the box all about the nest; I left the clean grass sod inside next to the eggs, then sprinkled two handfuls of cut straw inside for the eggs to rest in, and found that it was the best way of any that I had tried. I put three or four nest eggs in each nest, and when I have a hen wanting to set, I allow her to remain for a day or two on the spot she had chosen, then remove her (on to the artificial nest ready for her) at night. She finds herself in the morning on a full nest of promise, and in a quiet place with feed and water within her reach without getting off the nest, where I allow her to remain for a day or two until I am sure that she has taken "kindly to it;" then I insert the chosen eggs in the evening under her and withdraw the nest eggs; of course I always mark each egg with pen or pencil the day of setting, so if any may get broken I can put others in their stead, and mark them also the day of setting. When the time is up for the chicks to appear I watch them closely, and, after 24 hours after getting out of the shell, I take hen and chicks away to a box large enough for the newly arrived family; give them plenty of bread crumbs or hard boiled eggs, and, no matter for about three or four days after that, once a day in limited quantities till the chicks are ten days old. The remaining eggs that are not peeped or ready I put under another hen. I find it always better to set two or more hens at the same time, so that there may be enough chicks out to occupy one hen's attention, and if there are not chicks or eggs enough to supply all the hens, I insert a fresh supply, and make "Mrs Hen" do justice another period.

If the hens do not come off every day for exercise I always take them off, and, after they have been away for about ten minutes in cold weather, and fifteen or twenty in warm weather, if they have not returned to their proper place, I quietly replace them by hand.

Be careful not to put too many eggs under hens in cold, damp weather, for "haste makes waste." Seven or eight eggs with live chicks in all are better than a dozen all rotten. Motto—"Do not put your eggs all in one basket."

## The Houdan Fowl.

The Houdans are a meritorious breed of fowls. They are among our best domestic birds for general purposes. They have special economic qualities which commend them to the farmer, mechanic, marketer and poulturer, or in fact any person who likes to see utility and ornament combined. They are of fair size and excellent egg producers, with excellent quality of flesh. Their eggs are white, large and well shaped, of delicious quality, and rarely ever fail in hatching. Their flesh is white, rich and juicy, with but little waste. Their merits as a table fowl are of the highest excellence. They are good foragers, but not high flyers. The chicks are hardy, feather rapidly and keep right on growing from the start. The Houdan is a very prepossessing bird either in the barnyard or on the lawn.

JOHN H. SWALES, Logan, Ind., U. S. A.

[We are pleased to receive communications from our subscribers across the line, particularly when they furnish matter in concise form and convey valuable information to our readers, especially so when in advance of information furnished by our Canadian contributors.]

If eggs are wanted at this season of the year, the hens should eat a little fresh meat. Pullets hatched in March and April are old enough to lay now.

## Management of Poultry.

BY GEO. M. DAVENPORT.

I commenced with 50 hens and found myself at the beginning of the second year with one hundred and forty, including two pure-bred brown Leghorn roosters, twelve brown Leghorn pullets, and the same number of dark Brahma pullets; the remainder of the pullets and hens consisted of nearly every variety of grades.

I made that year (1876), from this brood of poultry, 1,353 dozen of eggs, 105 dozen of which were produced in the month of January; the product of my poultry was sold at the door, consisting of old fowls, chickens and manure; what was consumed by the family (consisting of my sister and myself), was charged at the market price when consumed, the average price of the eggs 26 cents per dozen, the lowest figure 18 cents, the highest 38 cents per dozen.

I confined my brood the second year to 1½ acres of ground. My hen house was in the centre of this plot; the house was 30x16, with 9-foot post, having a southern exposure, one-quarter of which was glass, with ventilators both at the bottom and top. The perches were 14 inches from the floor, consisting of smooth scantling 2x4, the extreme width for the hen to perch upon to avoid the deformity of the breast bone. Three perches ran the entire length of the hennery, 14 inches apart, the first one 12 inches from the back enclosure. Directly above this back perch, raised 12 inches from the perch, were the nests for laying, running the entire length, with a lid to let down at night, so steep that the hens would not desire to perch upon it. There was nothing to tempt the hen to fly higher than the perch designed for them. Alighting from high perches kills more hens than all of the diseases together; and they very quickly conform to a habit of low perch from necessity. I plowed over each week through the season; this was inclosed, the remainder was in grass. On this grass they were not permitted to range when wet, as rain and dew are very detrimental to the well-doing of hens and chickens, especially the latter. Also, it is very important that they should not be allowed to stand in a draft.

The droppings from the perches I cleaned up each morning, sprinkling under the perches a thin layer of sand. The feeding of hens to produce eggs is one that requires much judgment, with practical knowledge. I give my method after experimenting: First, I permitted no vessel to remain in the hennery through the night; was careful to be up in the morning before the hens. There should be no fretting for the morning meal. I fed them for breakfast soft feed, composed of wheat, bran and cornmeal—5 lbs. of bran to 1 of meal; in this I put one tablespoonful of salt and one teaspoonful of black pepper, or half that of Cayenne. In warm weather this seasoning was omitted. This feed was thoroughly mixed. Once a week I added a few boiled onions. After they had eaten all they wanted, if any remained, it was removed and reserved for the next meal. When the hen comes off the perch with an empty crop the whole grain will not be digested and assimilated by the system speedily. The next meal was at 10 a. m., consisting of oats with the hulls on, and whatever might remain of the breakfast. The third meal at 2 p. m., the same as the second; never allowing any to remain after eating. The fourth and last meal consisted of corn in the kernel, given on going to the perch, just before dark. Hens will from habit learn to wait for this meal. It is important to have their crops filled at night with what will last them until morning. They must not fret on the perch, which they will do as soon as the crop is empty. I had by them at all times during the day plenty of good well water, hard water is desirable (rain and snow water is to be avoided). I also have by them cracked, loose oyster shells, flint stone, a box of fine white sand to wallow in in the winter, a dish of beef scrap in the summer and fresh beef in the winter. Raw vegetables at all seasons of the year, but never cooked. The most important of all is cleanliness. Hens, contrary to the general impression, will not eat filthy food nor drink filthy water only from necessity. My hens would not touch tainted food. There are two species of lice that trouble the hen, one that stays on them all the time, the other goes on them from the perch, and leaves them in the morning. This is the largest and the worst. Both are easily eradicated. If a hen is sick, kill it and throw it away before it contaminates the flock. If they are sick it is from negligence usually. I did not lose but one from my flock the last year. No hen should brood over seven chickens. The first four

bulk than quality. It appears to absorb more water in digesting than corn, and in proportion to its nutritive value to develop in milk more cheesy matter than corn. In feeding to produce milk for making cheese, I have done quite as well with barley as with corn, and I have sometimes thought a little better. Corn is more heating and stimulating, and cows cannot with safety to health use so much of it as they can of barley. This is an important point in favor of barley. When a cow is in a favorable condition for giving milk, the last pound of food she can be made to utilize is the most profitable one in her ration.

The food consumed over and above the food of support is what profitable milk comes from, and the more cows can consume above that requirement, the more of such milk will be produced. Though in an emergency it would take more barley than corn to sustain life, barley has a compensating advantage in the fact that, after the support of the cow has been provided for in hay or otherwise, she can, beyond that support, utilize more barley than corn, to swell her yield of milk to derive profit from. In comparison with various other cattle foods, corn, when fed for producing cheese or for a large measure of milk, fails to maintain the superior importance over them which it has when butter is the object.—[Tribune.]

**Sunflower Seed for Poultry.**

The æsthetic craze may not be so productive of practical results as some other ideas that suddenly take hold of the public mind, but the sunflower being the standard, as it were, of this new idea, may receive the attention it deserves, and become not only a fashionable fable, but also a profitable plant. The Mammoth Russian is one of the most profitable varieties, and should be cultivated in rows about six feet apart with the plants four feet in the rows. The result will be a yield of seed at the rate of from 50 to 100 bushels per acre, and for poultry makes the best feed of anything we have ever tried. They should be fed about three times a week during the laying season, and will give the very best results in eggs. During cold weather the oil in the seeds serves the same purpose as in the lamp, and furnishes fuel to keep up the animal heat.

For show birds and exhibition a short diet of sunflower seed gives the feathers an extra glossy coat, and a clean, bright look to the combs and gills. The advantages of a small plot of sunflowers near the house in warding off malaria is worth all the trouble of cultivating them, as well as the ornament and development of the æsthetic among the young.

**Treatment of Sitting Hens.**

A sitting hen, to do well, should be started right and then left very much to herself, and always away from other hens. If early chickens are to be raised, a warm house is needed, and so constructed as to keep each hen by herself; a small yard should be attached to each nest, so that the hen can leave when she pleases, and wallow in the dirt and ashes placed in the yard for that purpose. The nest should be made by first covering the middle of barrel with fine loam several inches in length. The loam should be moist, but not wet. In this the nest should be made with fine hay.

**Veterinary.**

**Six Forms of Blind Staggers.**

The name "blind staggers" is due to several different disorders, some of which are in no sense hereditary, while others are liable to be transmitted from parent to offspring. One form occurring in horses fed on ripe but uncured rye-grass or on the seeds of millet, Hungarian grass and several of the grains and vetches, is a mere congestion of the brain due to the introduction of a poison, and is not at all likely to prove hereditary. Another occurring in rich bottom lands or other damp localities, or in animals fed on musty fodder, appears to be essentially connected with poisoning of the nerve centres and dropsical effusion around them. This is a much more persistent affection than the first, but is not usually hereditary further than that an impaired constitution is liable to be conferred on the progeny, and there is less power of resisting to the same or to other causes of disease. A third form is due to the formation of tumors within the hemispheres of the brain. These are usually composed of a peculiar fat known

as cholesterine, which is found in connection with the nervous tissue, and is thrown out of the system in the bile. A system, therefore, which is predisposed to liver disease or to sluggish action of the liver is more liable to the retention of such matter in the system and even to the formation of tumors of the same. In this case there is a stronger probability of hereditary transmission; for the peculiarities and habits of the animal economy are unquestionably conferred upon the offspring, and when the parent is structurally and constitutionally liable to such a disease of nutrition the progeny are likely to inherit a similar bias. The difference, it will be observed, is between a disease caused by a disturbing element introduced into the system from without, and one determined by faults inherent in the system-like structure and function, and constantly operating with greater or less force. A fourth form of so-called staggers occurs in young, vigorous horses in spring, and is manifestly connected with plethora and the general irritability connected with the sudden return of warm weather. This is not likely to prove permanent or hereditary, and may easily be corrected by quiet, darkness, and cold water to the head, with a dose of physic; and when the attack is past, by a run at grass or a course of laxative diet. A fifth form is due to venous congestion of the head and brain, usually the result of a tight or badly fitting collar, which presses on the jugular vein. This will occur especially in ascending a hill until the fault is corrected. A sixth form is due to a similar disturbance of the circulation in the brain as the result of some structural disease in the heart. This will usually be manifested not only by giddiness and blindness, but by coldness and swelling of the limbs, and by an irregular or intermittent pulse. It is likely to be aggravated by active exertion or fatigue, and does not improve when the animal gets into better condition. The first, fourth, and fifth forms named are quite amenable to treatment, and the second somewhat less so, while the third and sixth are essentially incurable.—[Prof. JAMES LAW, in N.Y. Tribune.]

SIR,—There was a distemper among the calves last autumn, of which some few died. I lost one, and the rest were affected more or less. Symptoms—First we would notice a cough; then as the disease took a deeper hold of them, they would cough and run their tongues out, and pant and groan, losing flesh quite rapidly. I opened the one I lost. The lungs were decomposed, and had a very red look. I nursed two others that had every appearance of succumbing, but they got better. Please let me know if you are acquainted with the disease, etc. J. E. C., Amherst, N.S.

[From the symptoms you give, we think your calves suffered from what is known as "Hoose," a parasite attacking the bronchial tubes and lungs. Treatment—Give a tablespoonful of turpentine combined with linseed oil, one to two ounces, every third day at the same time. Support the system by means of good food, linseed tea, hay tea, etc. If scouring continues, give strong coffee and starch, a pint of each once or twice a day.]

SIR,—Will you please answer, through the columns of your valuable magazine, the following questions: 1—I have a young cow that does not seem to want to stand on her feet hardly long enough to take her feed. She appears to be hearty in every other respect. Can you tell me the cause and the remedy, if any? 2—What is your opinion as regards wheat turning to chaff? If it does not, how is it that on the low lands where the wheat is killed out, chaff will grow, and on the high land will be good wheat, and that, too, where the wheat never grew before? And if it does, as the majority believe, how can a farmer work with any certainty only for the promise that "like will produce like?" Did any one ever hear of chaff turning to wheat? It is a poor rule that don't work both ways. 3—Supposing a man had pedigree stock recorded in the old Herd Book, what steps should he take to have it recorded in the new Herd Book? W. G. S., Silver Hill, Ont.

[We think your cow is suffering from foul in the foot. Treatment—Give a good dose of purgative medicine, as Epsom salts, 1½ oz. Examine the feet carefully, and remove any diseased horn with a knife; after apply a solution of carbolic acid, one part to eight of water, twice a day. Might repeat the purgation in a week, if not better.]

SIR.—Would you oblige me so much as to prescribe or tell me what is the trouble with a mare of mine which has taken a very great swelling in the hind leg. Shortly after I wrote you first I was afraid she was taking Pinkeye, and took about 1 gallon of blood from her, and now give each day a tablespoonful of gentian and cream of tartar. There is no sign of Pinkeye, but the hind leg swelled and broke out, and ran a great deal from the outside. The running began in quarter about the ham string, and formed a course down the leg to the bottom of the hock joint, and had to be lanced in several places. But all the time the swelling was very great on the inside and extends up to the bag, but did not run any from the inside. It has an appearance as if blistered, and a little water oozes out through the skin. It is extremely sore to touch, but not at all likely to break. The leg is swollen to nearly three times its natural size, and can work only with the greatest difficulty. W. J. A., Pakenham, Ont.

[Yours is a case of Purpura Haemorrhagica. You will give a purgative drench—aloes 6 drams, ginger 1 dram, carbonate soda 2 drams, water one pint. This you will repeat in about a week again. Have the swollen limb well fomented with hot bran water or hot hop tea, at least twice or three times a day. After fomenting, you might use any stimulating liniment not strong enough to blister, twice a day. Give dram doses each of sulfate potash and iodide potassium, night and morning for about a week. Then give dram doses of sulphate of iron night and morning. Be sure and give exercise at least twice or three times a day.]

SIR,—Will you give us directions for treatment of scours in calves in next ADVOCATE, and oblige. J. R. S., Newbury, Ont.

[Scours in calves is caused by the milk of the mother being too rich or too poor, from feeding them on milk from other cows when very young, and from giving sour milk. Treatment to remove the cause:—Give a laxative, as linseed oil, from two ounces up, according to age, combined with carbonate soda, one dram, followed by mild astringents, as catechu, half a dram; prepared chalk, two drams; ginger, half a dram. Give once or twice a day; also give a little lime water in milk.]

J. E. Ingersoll, Ont., wants a cure for the disease known as black teeth in pigs.

[Best treatment for black teeth in pigs is to remove the teeth, which may be done with a small pair of forceps, or a hammer and punch.]

SIR,—An ox of mine got hurt last summer; there came a lump on the side and upper part of the hoof, the lump is as big as an egg; it is mostly in the flesh joining the hoof; he got some better; bunch still there; now he cannot walk on hard road; no veterinary here; some persons call it a sprain; do not know myself what it is; some heat in the foot; please tell me what to do and oblige. C. A. B., Green Ridge, Man.

[From the description you give we think your ox has injured the bone, giving use to the enlargement you speak of. Treatment:—Bathe well with hot water; after apply a blister composed of Biniodide mercury, one part, to four of lard, every six or seven days, until you have reduced the enlargement.]

SIR,—Will you please to advise me which kind of the Downs would be the best to improve the wool of our common sheep? Is there any complaint among cattle that effects them similar as the horse distemper does horses? I have had two; they commence swelling along under the tongue and up the glands, then down the dewlip; the first one the swelling extended back to the milk veins, then to the bag; she died about the twelfth day. If you know of any remedy you would oblige. Your answer to the two questions through your valuable paper, the FARMER'S ADVOCATE, would much oblige. J. N. P., Newboro, Ont.

[Shropshire Downs are considered good. See page 8, January No., 1882. Your cows suffered from blood poisoning, which was very likely produced from something they had eaten, as musty corn-stalks, hay, straw, or inferior food of any kind would be likely to give rise to it. Treatment: Change the food; give a good dose of purgative medicine, as epsom salts, 1½ lbs., followed by nitrate potash and carbonate soda, of each two drams twice a day.]

## Agricultural.

## The Yellow Head Pass.

We have given you many sketches of places and objects that we have seen which we deemed would interest you; now we give you one we have not seen and which the majority of us may never see. It is, however, of importance to us all to know as much as possible about our Dominion. The sketch was made by a daughter of Mr. T. Henderson, a Canadian, and one of our subscribers, who has occasionally sent us a few lines that have been of interest, we trust, to you. Mr. Henderson left Ontario about ten years ago to try his fortune in British Columbia, but the attractions of our Northwest Territory have been such that he resolved to give it a trial, as the damp weather and not too fertile soil of British Columbia did not exactly suit him, so he packed his goods and his family on horses and started for Fort Edmonton in the

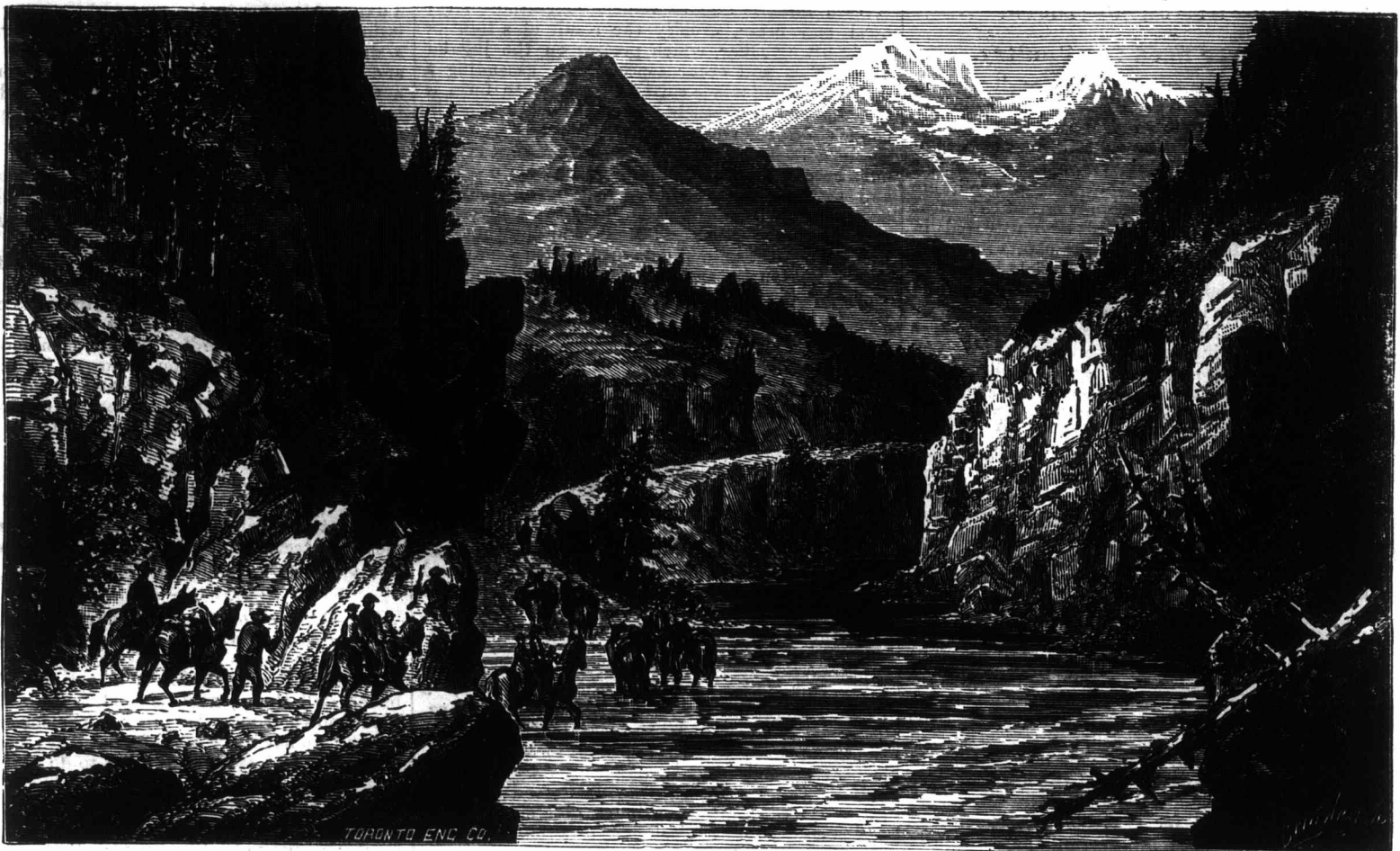
rays of the sun, their rocky, rifted sides covered in many places with the green pine—all combine to make a magnificent scene. Through the passes come the warm winds of the balmy Pacific, which render the Bow River district such a favored locality. The imagination helps us to complete the picture, and by a little exercise of thought a volume might be written, one of interest and that would prove instructive; from this sketch we deduce the fact that our great Northwest is being filled up by immigrants from the east as well as from the west.

It was on the 20th October that Mr. H. arrived at Fort Edmonton; at that time large fields of wheat, from twenty to fifty acres, could be seen standing uncut, but covered with snow. The climate is not always favorable, as frosts occur early in the fall and sometimes even in the month of August, and, as above stated, with snow falls in October. The wheat in the immediate vicinity or district is of a low grade, consequently making flour

## Annual Report of the Council of the Agricultural and Arts Association of Ontario for 1881.

Mr. H. Wade, the Secretary of the Association, has kindly forwarded us a copy of the report. It gives a pretty full description of the farms visited by the Association, and many useful hints are thrown out. We are pleased to notice that the majority of the prizes have been taken by our subscribers.

As a suggestion for an improvement in this mode of expending this grant, we would remark that the future regulations might be so arranged as to award more of the prize money to the real plain farmer who has built up his farm from his own resources. Some of the prizes may have fallen to some of that class, but the plain practical farmer has not a fair chance when brought into comparison with persons who have obtained large sums of money from other businesses or other interests, and purchased farms made by others. Such have great advantages, against which the majority of the plain average farmers cannot contend. We do not wish to detract from the good that such examples may do, but let us aim to ascertain what



THE YELLOW HEAD PASS IN THE ROCKY MOUNTAINS, BETWEEN BRITISH COLUMBIA AND THE NORTH-WEST TERRITORIES.

Northwest. This was no small undertaking, to move a wife and family a distance of 1,000 miles across the Rocky Mountains and through an extremely wild and unsettled country—one peopled by nomadic Indians, but he successfully accomplished the undertaking and arrived in Edmonton safely, and appears to be satisfied with the change. We have had the engraving made from the sketch sent us. The Yellow Head Pass is one of many mountain passes, dividing the Rocky Mountains. In the sketch, as pictured, our subscriber and his family are to be seen traversing a river, those on foot being obliged to crawl along the side of the cliffs, in order to avoid the water, the horses being laden with the women and personal effects—as little as possible being carried, as the cost of transportation is necessarily heavy. The view is a beautiful one; the grand beauty and majestic wildness, ever varied and changing; the mountains which for ages have reared their snow-tipped summits, from which are reflected the bright

of a poor quality, to the use of which it requires some time to become accustomed. Very little fall ploughing is done, and late springs frequently occur. Snow falls while harvesting operations are being carried on. One would naturally be impressed with the idea that it is not a favorable locality for farming, yet, while there are difficulties as above enumerated, the farmers there are doing comparatively well. Prices at the time our subscriber wrote were ruling as follows:—Flour, \$10 per 100 lbs.; barley, \$1 a bushel; wheat, \$2 25; oats, and potatoes, \$1 a bushel. One great advantage is that wood is plentiful, so that there is no difficulty in obtaining a sufficient supply for rails and firewood. This is a most important consideration, and one that outweighs at all times many disadvantages.

We are always exceedingly pleased to have descriptions or sketches from our subscribers. Facts, and facts alone are wanted, and unvarnished, too. We hope to hear from more of our subscribers, and shall be pleased to publish whatever may be deemed of interest to our readers.

good has been done by those in less favored circumstances and less favored localities. We presume all the prizes have been awarded to men owning land of naturally greater fertility than the average farmer has. Many a man who has only inferior ground yet may have done more to improve that land—may in reality have done quite as much to enhance the wealth of the country, were the facts brought out. Could we not ascertain who has done most good under adverse circumstances? Surely some great and beneficial contrasts can be made from farms where the soil is hard and sterile, or light, or wet.

Our aim is and has been to advocate the interest of the plain average farmer. The average farmer in Ontario does not possess more than 100 acres; nearly all the farms reported are over the average. The resources from which the farm or the money expended on it has been procured, should also be considered.

A very brief account is given both of the Provincial Exhibition, its management, and of the discussions that took place at the annual meeting, much of which contained matter that would be read with greater interest by the farmers in general than the reproduction of oft-repeated ideas and suggestions.



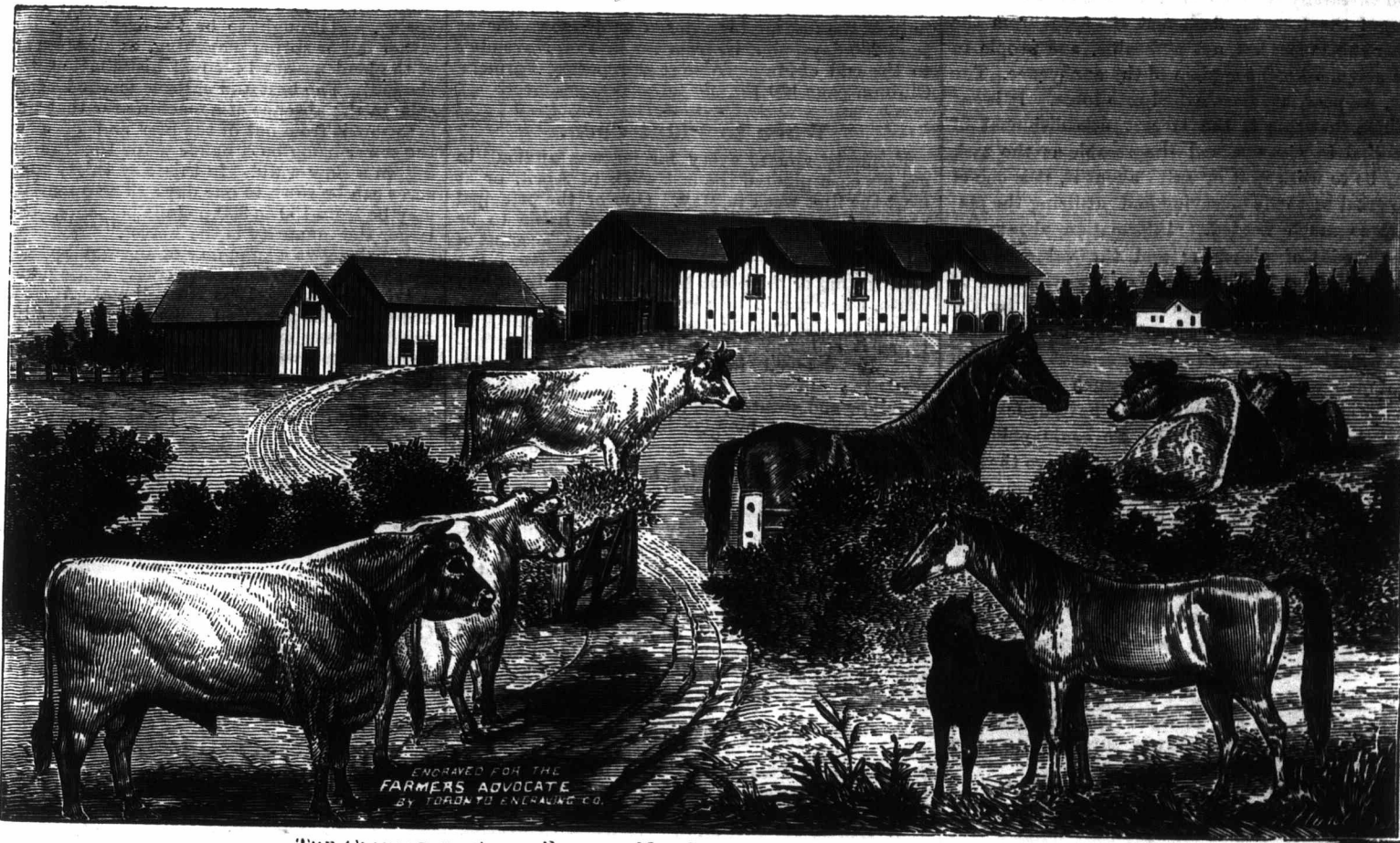
**On the Wing.**

In February we took a flight to the county of Lincoln. Mr. John Carroll, of Clandeboye Farm, St. Catharines, Ont., had advertised a sale of his Shorthorn herd. As his was one of the largest stock sales that has taken place in that county, we concluded it would be a good time to go there, as at these stock sales we can form some idea of the farms and farmers in any locality. Mr. Carroll's Shorthorns were not in as good selling condition as stockmen in the vicinity of Toronto, Guelph or London usually keep them. There were two reasons for this: One was that the men in charge of the animals were not good stockmen, the other is that neither the land nor the climate is so well adapted to the large, heavy Durhams as some other sections are. That narrow neck of land between Lakes Ontario and Erie and east of Hamilton, does not appear to have as much rain during the summer as the larger bodies of land to the west and

impoverishing system too often pursued on many farms. Rain is very seldom known here during haying or harvest in comparison with the fall in other parts, in fact very little water falls from the commencement of haying until the fall rains set in. This is one of the causes of the great success of fruit growing in this end of the Niagara district. The fruit is better, it keeps better when grown in a dry atmosphere than in a damp one; this is known to fruit growers and to fruitdealers. We presume that this district will form the chief source of supply for our Northwest Territory and the British market. Apples from the north of Lake Ontario are more apt to spot, scab and rot than those grown in the south.

Mr. Carroll has a large farm containing between three and four hundred acres, on which he has expended considerable money in draining and improving. He had devoted his attention to Shorthorns and Jerseys, also Cots-

revenue by crossing with pure Jersey Bulls. He has about fifteen blood horses, including mares and colts; the pedigrees of these animals trace back to and through the finest strains of winning stock in the world. He is the most extensive stock breeder in this country. We think he is quite right in disposing of his Shorthorns, as we believe this part of the country to be far better adapted to smaller breeds of cattle, such as the Ayrshires and Jerseys. There are large tracts of country in our Dominion that are adapted to raising Shorthorns, Herefords, Angus and Aberdeen cattle. There are other parts where the fine, well-developed Shorthorn, if he lives at all, must be of less value than an Ayrshire, and in some parts that we have visited even the cattle must give place to the goat. Some localities, such as the Annapolis Valley in Nova Scotia, Lincoln in Ontario, and Misisquoi county in Quebec, are adapted to raising fruit such as never can be raised in Manitoba or in many other parts of Ontario or Quebec. Adapt your farms to



THE CLANDEBOYE STOCK FARM OF MR. JOHN CARROLL, NEAR ST. CATHARINES, ONT.

north are blessed with. There are very few herds of Shorthorns in this part of the Dominion, and where there are only a few kept the value of those few is diminished; because purchasers will visit localities where they can make a selection, consequently the prices at this sale were not high.

Mr. Carroll's pastures had been poor because of the lack of rain; we do not consider this land as good grazing land as many other parts of Ontario, and Durhams must have the best of pasture to produce the best class of stock. We do not think this locality will ever become a favored one for Shorthorns. The fine animals raised in rich pastures elsewhere, will be apt to degenerate when transferred to the average farm of Lincoln. Although this section may not be adapted to the Shorthorn as well as some other localities, yet it has its advantages. The soil appears admirably adapted for wheat raising—very fine samples being grown, and by a little deeper ploughing, a fresh, new soil is brought into cultivation, equal to the present "worn out" surface soil, effected by the

wolds and blooded horses; finding his farm better adapted to Jerseys, horses and sheep, he determined to dispose of his Shorthorns, and devote his attention to such stock as he might find best suited to his land. He has twenty-seven head of Jerseys. He sold a short time ago to Mr. Geo. Smith, of Grimsby, Ont., a three-year-old cow and calf for \$1,000. At the sale he offered three young Jersey bulls, only one of which was sold, bringing eighty dollars, and was taken to Owego, N. Y., by the purchaser, Mr. H. J. Clapham. He was sired by the celebrated bull, Governor Lowe, at the head of his herd. He was considered by many as the best bull of his class exhibited in Ontario last year. His sire, Governor Lowe, is by Cash Boy, he by Rex, he by King Harold, thus constituting what is considered by many as the finest butter strain. Mr. V. Fuller, of Hamilton, Ont., has refused \$900 for a young bull by Governor Lowe. Mr. Carroll is convinced that where butter is the object, the Jersey is without a rival, and that the farmers of Ontario would add materially to their sources of

such system as is most suitable.

We believe this herd, that of Mr. Rolph, Markham, Ont., and that of H. Stephens, jr., of St. Lambert, near Montreal, are the three largest herds of Jerseys in the Dominion. There is now a greater demand for this class of cattle than was ever before known, and enormous prices are being paid for choice animals. Several other breeders in Canada have recently commenced building up a herd of them.

Our artist has made a sketch of Mr. Carroll's farm stock which will, we hope, interest and be appreciated by our readers.

Calling at Guelph on our way home, we made a visit to the works of the Fertilizer Company of Canada, of which Mr. Arthur Shaw is manager. They occupy a farm about 1½ miles from Guelph, and prepare different kinds of artificial manure. On the farm is a large stone barn and several other buildings. In the barn he has his crushing machines, wire screens, and barrels, bags and boxes filled with bones in different stages,

superphosphate, poudrette, etc. In one of the buildings are two large tanks, and on the outside of the buildings are large boxes or crocks covered with earth. In these boxes he places the meat and refuse from dead animals. In the tanks he steams the fat and meat from the bones. We saw six dead horses, some dogs, cats, chickens and pigeons lying ready for the next process. We did not inquire whether this fat was used for soap grease or for making oleomargarine. No doubt it is a marketable commodity. The bones are crushed into two qualities, the coarse and the fine. Some of the fine dust and superphosphate are mixed with the poudrette. This poudrette is made from night soil, which is collected from the back premises of Guelph and surrounding towns. Many of his men were at work in Dundas when we were there. This soil is shipped on the cars or teamed to the place in tight barrels. It is spread out on low, wide, long tables, covering perhaps an acre of ground. Here it is exposed to the sun, and when rain threatens it is covered with canvass. The odor of the decaying flesh and the scent from the other substances are not agreeable, and people in the neighborhood complain of the annoyance. The law, we hear, has been called into force. It is our opinion that this is the largest establishment of the kind in Canada, and disagreeable as the task may be to work in it or write about it, it is one of the great methods of saving and utilizing the manure so much needed. Information about the best modes of preparing and the value of this great source of fertility deserves our attention. If a small portion of the money expended by the Government had been devoted to such information and knowledge, and the encouragement of a practical man who is trying to do such a service as saving manure, the money might have done more good than some expenditures we could point to. Analyses or practical tests can only give the real cash value of this manure in comparison with superphosphate, gypsum or barn-yard manure. In Europe and even in some parts of the States fertilizers are in much greater demand than with us. As the value of crops increases and the natural fertility of the soil is diminished, the greater demand there will be for artificial manures.

Please let me know what time is the best to sow beets and turnips, and at what time should we sow mangles. Please answer through FARMER'S ADVOCATE.

E. W., Hamilton, Ont.

[All the beet tribe require the same sort of cultivation. A light, warm sandy loam made rich with well-rotted compost, with about 250 lbs. salt per acre is what these huge roots revel in; they grow so fast that they cannot make their way into the soil, and so make their way out of it, standing in all sorts of grotesque and comical ways—upright, leaning, and nodding to each other, twin roots trying to divorce themselves, and roots separated trying to embrace each other, but all stout and robust and ruddy, doing their best to make the farmer look as comical as themselves. To reach this result we must plough the ground early in April, and harrow; mark it out with a furrow-maker made of four strips of 2 by 8 12 feet long plank set on edge, 30 inches apart, and connected by three cross-pieces gained in and firmly spiked on the upper edge, and attached with a draught-pole well braced, that the machine may not wobble, but go steadily and evenly, and mark out straight lines across the field; then we open a furrow right on each of these lines, deep and broad, and returning on it double it and make a double open furrow. Then we should drop the manure in this furrow and cover it with the plough, returning the soil previously thrown out, and thus we form a sort of ridge. After this has settled a few days we must go with a seed planter, and drop the seed immediately over the manure, and cover it, and roll the surface at one operation. Then the fertilizer is scattered along the ridges and all between, and left for the rain to carry it down to the roots, which will spread from row to row and meet each

other. When the slender little twin leaves appear we must run on each side of them with the Planet Junior hand wheel hoe, which scrapes the soil on each side of the plants within an inch of them, and kills the weeds and loosens up the ground. By and by we run through the middle with the Planet horse hoe, a sort of universal tool, which stirs and ploughs the middle, and either scrapes the soil from the rows or throws it to them, just as we may wish to do. But the four pounds of seed we have sown to the acre is four times too much, but necessary to secure a close and even stand, and the excess of plants are to be cut out with a hoe, leaving spaces of 14 inches between the plants; or if one wants a few extra roots to win a premium with at the fair let him leave them 30 inches apart and add a little extra fertilizer, or give them a little liquid manure once a week. Last of all let the cultivator be kept agoing, not to keep the weeds down so much, but to stir the soil and let in the warm rays of the sun and the rain, which will carry the fertilizer down to the feeding roots and fill the great main top root of the plant, not one-tenth so large and heavy as its root, with rich sap, and force a rapid and healthful growth. By this manner of growing roots the crop will bring no disappointment with it; but if three acres are grown one may be sure of finding the bulk of the feeding for a dozen or 15 cows for at least 200 days, that is, from the first of November to the end of May. Also read report of Farmers' Club on page 100.]

#### When to Plant Corn.

Formerly almost every farmer was anxious to get his corn planted the last week in April, or at least the first week in May. One of the principal reasons for this was that it was less liable to be injured by the grub and wireworm on account of its early growth. Another was that in case of the seed rotting or the plant being damaged from any cause, there would be plenty of time to replant. A trial of this method has not resulted successfully, as it is found that early-planted corn is frequently delayed in sprouting by unfavorable weather; and when it does make its appearance it is yellow and stunted, and sometimes does not recover. Whereas, by planting from the tenth to the twentieth of May, the ground is sure to be warm and adapted to early germination, the seed starts to sprout at once and comes up strong and healthy. To combat enemies, six grains should be placed in each hill, properly separated, and then, should the plants escape injury from the grub and wireworm by the use of salt placed around the hill after the corn is up, remove the plants above three. Again, farmers are beginning to put their hills closer in the row, and with the increased number of grains to each hill, they seldom are disappointed of a good crop, if well attended to.

#### Land Clover-sick.

The soil on which the Clover plants die, after having taken root, is said to be "clover-sick." This clover-sickness is attributed to several causes. J. B. Lawes, the well known English agriculturist, enumerates such circumstances as the following: Severe weather; parasites, weeds, want of sufficient food; want of food in the right place, tight texture of surface soil causing the root to feed too close to the surface, by each and all of which the growth of the plant may be affected. That clover-sickness is caused generally by clover being grown too frequently on the same land without intermediate rotation of crops is well known. This it is that produces some or all of the circumstances mentioned. A preventative that has proved effectual is compressing the soil, thereby taking away that light texture that causes the roots to feed too close to the surface. The soil to be sown is rolled twice or oftener before putting in the seeds, which thereby has a firmer consolidated seed-bed, and the roots instead of seeking their food entirely from the surface soil, descend deep down, even to the subsoil, and they are thereby enabled to endure the vicissitudes by which they would be killed otherwise. This experience was tried by a farmer in Aberdeenshire and it proved quite a success, a full plant of clover being the result, although the field had for years previous shown symptoms of being clover-sick. He got a roller weighing 15 cwt. and rolled his fields, leaving in one field a ridge not rolled in order to prove the effect of the experiment. The result was that while there was an abundance of clover where the land was rolled, not a plant was to be seen on the ridge that had been left unrolled. He had been

led to try the experiment by his observing that in fields sown with clover the only plants that did not die were on the headlands, which had been trodden hard by men and horses. He determined to try firming the soil, hoping to save the plants from dying. He rolled the land and secured a good crop of clover.

#### Prize Essays.

In reference to the subject for our next prize essay, we give the following from an American authority. We want the results of experience in Canada by Canadian farmers:

"The Massachusetts Agricultural Society has arrived at the following conclusion in regard to the manurial value of salt: That salt has the property of hastening the maturity of all grain crops; that wheat on salted land will ripen six or ten days earlier than on unsalted land, all other conditions being equal; that it increases the yield from twenty-five to fifty per cent.; that it stiffens the straw, and prevents rust and smut; that it checks, if it does not entirely prevent, the ravages of a man's pocket permitting him to put too much salt upon his land, as two barrels per acre will injure no grain crop. The best time to sow salt is in the spring, and it ought to be the first thing done on either fall or spring ploughing, as all after stirring of the land assists in equal distribution through the soil. The best and easiest method of sowing salt, in the absence of a machine for that purpose, is to sow it from out of the rear end of a wagon, the sower using both hands while the team is moving on a slow walk. In this way thirty or forty acres can be sown in one day. The quantity used may be from 150 to 300 pounds per acre, but the larger the quantity is the better."

We also give a summary of an essay approved of by the Royal Agricultural Society of England: "In the year 1868 the Royal Agricultural Society, of England, offered a prize of £100 for the best essay on the use of salt as a fertilizer, and the essay which took the prize recommended the following quantities:

Description of crops.	Pounds of salt per acre:		
	Light soil.	Heavy soil.	Heavy loam.
Wheat.....	500	450	400
Rye.....	550	500	400
Barley.....	600	550	450
Oats.....	650	600	600
Peas.....	600	550	400
Hops.....	600	500	400
Potatoes.....	600	600	350
Turnips or Beets.....	500	400	300
Clover and Grasses.....	700	600	450

Hay, 20 lbs. per ton. Fruit trees, four pounds, in trenches, on each side of the tree."

#### Fertilizers.

Of all the elements now known to exist only ten are always found in plants, and of these it is usually the case that, with the exception of two, they are found in sufficient quantities to fulfil the demands of plants. These two are phosphorus and potassium, and these are supplied by phosphatic manures and by these containing potash. It will nearly always pay to add manures containing them to the soil. A farmer may generally set down any fertilizer as a humbug, unless these form the principal ingredients. Further, although nitrogen ammonia is found in the air, it is also found in all fertile soils, and may be added to the soil in properly prepared barn yard manure, or in ammoniated fertilizers.

Jas. Rennie recommends for general culture the Scottish Chief Swede.

But few operations on the farm, pay better, than the improvement of pasture lands, that have been fed, a score or more of years by cattle. Pastures fed so long, with nothing done to them, not only become mossy but the better varieties of grasses are superceded by the poorer and less nutritious varieties, so that the feed is not only less in quantity but poorer in quality.

In Algiers a deep steam cultivation is considered by the French agriculturists as the equivalent of half an irrigation. The ground is a sort of sponge, and absorbs the heavy dews to such an extent that it withstands the parching sun, and each might renew the moisture, while the shallow-plowed soil is effectually dried early in the season.

**Manure from Soiling.**

BY L. E. ARNOLD.

There are a good many valid reasons for making soiling a prominent part of the summer feeding of dairy stock, but the accumulation of the manure of the farm stock about the barn is not one of them. Farmers and writers who talk sensibly upon other farm topics, often talk wildly upon the importance of feeding stock in the stable in summer for the sake of saving their manure, and count every load thus accumulated as so much clear gain. At any rate, writers are in the habit, when counting up the profits of soiling, of placing the full value of the manure made to the credit of the practice of doing the feeding in the barn or stable. If the soiling food was purchased from outside of the farm, this would be right enough, but when it has been grown on the farm, the fertilizing power in the manure heap is simply so much plant food taken from a field, and, in a round-about way, dumped at the barn. Every shovelful of manure thus piled up means exhaustion to that extent of the plant food of the land on which the food producing the manure was raised. A field devoted to the production of soiling food soon becomes exhausted of its fertilizing properties if they are not restored by returning the manure from feeding the crops raised upon it, or the drain supplied from some other quarter.

An accumulation of manure about a barn seldom fails to mean waste. The liquid drippings generally run away and are lost, and the solids get leached with rains, and by heating and fermenting drive off ammonia and carbonic acid gas, which might have been useful if liberated in the soil instead of the manure heap. Then there is the labor of carting the heavy mass away to the field again, which is quite an expense for the value of the mass moved, more than four-fifths of it being nothing but water.

It is better, so far as economizing manure is concerned, to cart the soiling food to a clean lot, which can be used in the course of a rotation for growing soiling food, and feed it in the lot, thus leaving all the manure scattered over the ground where it will be wanted in the future. Whenever this can be done without waste of fodder, it saves all the manure, liquid and solid, and the labor of carting it. The earth will take up all the valuable constituents of the droppings and hold them till plant roots absorb them away. A farm will not lose anything in such a process, nor will it grow rapidly rich, for it is simply transferring the available plant food in the soil of one field to that of another. The idea that a farmer should imagine that his farm is growing richer every year by reason of dropping manure at the barn instead of the field or pasture is as ludicrous as a fancy that he himself could grow rich by taking money from his pocket and stowing it in his hat. If he faithfully returns to the soil all that he takes from it, the soil will simply be prevented from exhaustion. We can grow rich only so fast as by the cultivation of the soil new plant food is made available which was not available before.

The friends of ensilage often talk in the same strain. The great bulk of cattle food taken from a small plot of ground piles up a great heap of manure which some are led to believe is furnishing the material for making all the rest of the farm rich. There is often a double deception in regard to the manure made from ensilaged fodder corn. In the first place it is made up so largely of woody fibre and water that its value is much less than is apt to be supposed, and in the second place it has only been obtained at the expense of the ground it grew on, and if it is applied to some other part of the farm, it is only

robbing Peter to pay Paul, a process which does not make a farm rich very fast.

The profit from ensilage and soiling lie in the increased amount of stock which can be supported upon a given area of land, and in having succulent milk-producing food at a time when it is greatly needed. They are not manufactories of fertilizing materials for enriching the whole farm. For the former purpose they pay largely; for the latter they do not.

The large loss of milk from the protracted drought of last season should admonish dairymen of the danger of letting the spring go by without making some provision in time for supplying green food in a midsummer drought, which, for a longer or shorter term, will be very sure to come. A stitch in time, &c. But no one need hug the delusion that applying to one part of a farm the products of another part, will make one part rich without impoverishing the other.

**The Value of the Roller.**

It has always been a belief of ours that the true value of the roller has not been understood, and we have received considerable credit from our contemporaries for our efforts at various times to have this useful implement better understood. What we have said of it in the past has chiefly had reference to its use in the spring in passing it over the grain and grass and pressing back the plants to their normal position, where they have been disturbed by the action of the frost; but as we see farming conducted during the summer, we are tempted to inquire whether even still more use of the roller might not be made with advantage. We all know how great is the value of a well-pulverized soil, but we have come to regard mere stirring with a cultivator in summer as pulverizing. It is to a certain extent, of course. No matter how roughly done, it is better than a hard-baked surface. Under this condition the soil dries very rapidly. Still the lumpy, coarse way in which the cultivator often leaves the ground is anything but pulverization. We see a tendency in some quarters to favor hard-packed earth; but the thorough pulverization we recommend is a very different thing from this. A soil that is thoroughly crushed fine will not dry out near so fast as one which is coarse and lumpy, and this prevention of the escape of moisture is as well worthy of attention as the manure question, or any of the numerous ones which are generally uppermost.

It is not perhaps easy to carry out a plan after we know it is a good one; but surely something could be done to keep the soil from being so coarse and lumpy, as we see it so often after our cultivators have been over the ground. There is something wrong either with the soil or the implements. We want a clod-crusher as well as a hoe-harrow, let it be in the form of a roller or what it may.

**Double Use of Farm Implements.**

Henry Ives, in the N. Y. Tribune, tells how he makes some of his agricultural implements do double duty as follows:

"It is almost frightful to think of the multiplication of farm implements in these days of great improvement in agricultural tools: there is not a branch of tillage but has some 'labor-saver' especially designed for it. Many times, however, the farmer by exercise of a little skill can do different classes of work with such tools as he has, and there is no one that can be utilized in this way to better advantage than the common grain drill. For more than twenty years I have found it better for planting corn and beans in drill rows, and beets and carrots also, where quantities are to be grown for stock, than any of the planters made especially for these seeds, besides doing the work much more quickly and easily. I also sow any kind of grain broadcast with it, by taking off the teeth, when it will do better than any broadcast seeder in the market. I thus make it do the work of five different tools, and if the grass seed and fertilizer attachments are added, it will make the drill count good for seven uses, for each of which many farmers think a special implement necessary.

"For beets or carrots I take the quantity of seed required, and as these seeds germinate much surer and quicker by being previously soaked in warm water for one or two days, I in this way keep them moist until they are well swollen. Then, after

partially draining off, I mix them with about a bushel of fine middlings for each acre to be sown, rolling and rubbing the seed into this until it is evenly mixed and well incorporated with the meal, so as to flow readily. Then use such teeth of the drill as give rows of proper distance apart (mine is an eight inch drill, and I use every third tooth, making rows two feet apart), taking off or tying up the others, and shutting off the feed to them from the hopper. Then by gauging the drill for sowing three bushels to the acre, it will sow the one bushel of this prepared seed and meal through the one-third of the teeth used, and plant about an acre an hour as well as a seed drill, and I think even better, besides doing the work more quickly and giving the chance of soaking the seed before planting.

**U. S. Grain Crop.**

The Department of Agriculture at Washington has just completed the estimate of cereal production for 1881. An abstract is given which states, that—

"In no other season since the inauguration of crop reporting has there been so general disaster, involving corn, wheat, barley, buckwheat, rye, oats alone being exempt from loss. The aggregate corn estimates are 1,194,916,000 bushels, grown upon 64,262,000 acres, a reduction of 31 per cent, from 1880, wheat, 380,280,000 bushels, a reduction of 22 per cent., grown upon 37,709,000 acres, a yield of 10.1-10 bushel per acre, the lowest rate yet reported for the entire crop; rye, 20,705,000 bushels a reduction of 27 per cent., grown on 1,789,000 acres; barley, 41,161,000 bushels, a reduction of 9 per cent., grown on 1,067,000 acres; oats, 416,481,000 bushels, against 417,885,000 for the previous year, acreage 16,831,000; buckwheat, 9,485,000 bushels, grown on 829,000 acres. The aggregate product of all the cereals shows a decrease of 24 per cent. The aggregate value of cereals grown in 1881 is greater than the total valuation in 1880. Corn and oats, mainly consumed at home and used interchangeably, are most affected by the failure. Wheat advanced from an average of 95 cents to \$1.19. The values are:—Corn, \$759,000,000; wheat, \$453,000,000; oats, \$193,000,000; rye, \$19,000,000; barley, \$33,000,000; buckwheat, \$8,000,000; total, \$1,465,000,000, against \$1,361,000,000 in 1880.

Acton Burrows, Secretary of the Provincial Agricultural Society, of Manitoba, sends the following important information: "The standing of Manitoba wheat abroad has already been seriously injured by the large proportion of Canada Club and other soft and mixed varieties produced last year. Dark Scotch Fife is the most valuable variety that can be produced here, and is the variety upon which the reputation of the 'New Northwest' as a wheat producing region will mainly depend. No soft or mixed wheat is worth as much by fifteen cents per bushel, and this difference in price will hereafter be made by the undersigned millers and wheat buyers. Farmers will do well to consider that soft wheat can be raised anywhere, while hard Scotch Fife requires our soil and climate, and also that hard Scotch Fife is always sought for by millers, while other varieties are frequently neglected. Sow only pure Scotch Fife, and after you have harvested it, do not risk spoiling it by careless stacking. Ogilvie Milling Company, A. W. Ogilvie & Co.; Traill & Moulson; Jas. A. Graham for H. B. Co. The council of the Provincial Agricultural and Industrial Society, of Manitoba, has fully endorsed the above in every particular, and in view of the great importance of only pure Scotch Fife being grown in the Northwest, have decided to offer special large prizes for samples of it, to be shown at the Society's exhibition this fall. For particulars see prize list. Parties unable to obtain pure Scotch Fife for seed, should apply to the undersigned, who will cheerfully aid them in procuring it. Acton Burrows, Secretary P. A. & I. S." [Appreciating the importance of the above the Canadian Pacific Railway Company will transport seed wheat westward free of charge provided it is unmixed dark Scotch Fife. All other varieties and mixed wheat will be charged full tariff rates.—ED]

It seems impossible to do without the ADVOCATE now and farm. I have lately made an addition to my herd of some thorough-bred stock, and from your paper last year I have gained much information in that line that has now become tangible in dollars and cents. I still wish you success.  
J. MATTLAND, Woodstock, Ont.

## Stock.

### Hints to Breeders of Shorthorns.

To learn a trade, is to do things precisely upon the same principles, and up to the same general standard that experts in the same trade attain to. The principles are simple, though the parts are complicated. So of Shorthorn cattle. They are merely machines for converting crude grain or grass into bone, muscle, adipose matters, and hair; and the whole secret of excellence—the superiority of one beast over another—consists in their ability to convert the most crude food in a given time into the finest quality of the tissues named, so distributing these as to give us a roony frame of bone in the parts where we want room for the vital organs and for the choicest cuts, and thick, fleshy, well marbled roasts, and broad well marbled steaks, in the parts where best fibre is produced. Such a confirmation should be secured as will answer these ends so effectively as the engine is expected to generate steam through the consumption of fuel in the furnace. The conformation of the trunk of the cow is a subject worthy of very careful study. The bony frame is of secondary importance, the vital organs within being of the first importance, and the size and vigor of these, if accompanied by a liberal distribution of cellular tissue throughout the system, ensures a rapid conversion of food into nutritive particles and the disposition of these in the various tissues. Large lungs, and large heart, stomach and liver give size and rotundity to the trunk and width to the bosom. A large stomach is of the utmost importance, because furnishing a large surface. From this the gastric juice issues, and when we consider the inner surface of the stomach, and the air cells of the lungs, we must prize an extended surface in those organs as highly as we do a large surface in a steam boiler if we expect great results. Two of the worse faults in the construction of a Shorthorn are the following, viz: the ribs starting from the spine in a downward direction, giving a wedge shape to the upper third of the chest; the other is a long rib deficient at the lower end causing a curve upward in the lower line immediately back of the fore leg. We doubt if any other two defects are so hard to breed out as these. A drooping rump or low carriage forward may be brought up in one or two crosses, so that with after care they may not reappear; but the defects in the chest pointed out above depend upon deficient vital organs within. The re-organization and enlargement of the heart, lungs, stomach, and liver require many discreet crosses to accomplish. Passing from the chest backwards, we would call attention to the importance of the short ribs being long, and standing out horizontally from the spine, forming a level plane forward of the hips. This broad, level loin generally keeps company with a round, deep chest and is a point of excellence that should always be sought. The hind quarter that holds its width well back, carries a large amount of meat not represented in the quarter that narrows in rapidly from the hip back. A perfect, symmetrically organized frame, with the fleshy part so well distributed and packed as to make it difficult to tell where one portion of the carcass ceases and the next begins. This is the goal to be aimed at. The third and last subject, "quality" we will treat very briefly. No intelligent breeder while striving to increase the depth and breadth of the carcass, loses sight of the equally important point, the texture of those parts of the animal that are to be consumed as human food. This idea of texture is never lost sight of by the fruit grower, and the excellencies which fix the value of the apple, viz., fair size, smooth surface, and tender, juicy meat, are the three things upon which we base our estimate of a Shorthorn. Now, the common notion is that all animals that handle mellow have high flavored, tender flesh. This is an erroneous idea, proved every day upon the butcher's block. We couple two animals together, expecting to secure well fattened, ready feeders in the progeny they will generally transmit it. But if both the parents have dark, unsavory flesh, they and all their get, and all the progeny after for all time, will have the same, unless modified and improved by new crosses having light colored savory flesh.—[Irish Farmer.]

### Cross-Breeding Sheep.

In coupling a long-wooled ram with Merino ewes it produces a larger frame, longer and thinner wool, better nurses and weaker constitution than

the Merino possesses. In cross breeding, I prefer coupling a Merino ram with long-wooled ewes, as the cross produces all the good qualities of the former, and the progeny has a better constitution, and with marked zeal the effect of crossing the above described half-breeds, in all grades imaginable, and must say that the range of cross-breeding between fine and coarse-wooled sheep is comparatively limited, because there is but one breed of the former of any recognized importance, viz., the Merino; and no intelligent man at the present day would any more think of crossing the Merino with any other breed to improve the characteristic sought in the Merino than he would of alloying gold with copper to improve the quality of the gold. In coupling coarse, common-wooled ewes to a Merino ram, each infusion of Merino blood increases the density, weight and quality of the wool, but all crosses between Merino and the large, early-maturing, improved English breeds and families—such as the Cotswold, Leicester and the different families of Downs—have uniformly resulted in failure, and must always do so as long as the characteristics of the respective breeds remain the same. In the latter cross the long-wooled sheep loses its faultless form, size and early maturity, its propensities to fatten and its great prolificacy in breeding. All attempts to establish permanent international varieties of value by crosses between the Merino and any family of mutton sheep, with a view of combining the special excellencies of each, have ended in utter failure. The Merino possesses a force and tenacity of hereditary transmission which render it a most unmanageable material in any cross aiming at middle results. Its tendency to breed back is almost unconquerable, and after you have spent years and exerted all your energies, you will have nothing but a mongrel that is neither one thing nor the other, and is an inferior of the Merino that has long, white, well-crimped wool, with a black cap, clear of yellow yolk.—[Ex.]

### Shape of the Horse.

The supposition that shapeliness in the case of the horse is the massing of lean flesh or fat in such manner as to render the horse plump in form, hence pleasing to the eye of the man who considers plumpness a merit of the highest order, is a great mistake. A horse pleasing to the eye, though not fat, owes this quality mainly to a happy distribution and development of muscles. The stallion that is used to breed from should be an animal of this character. The horse made grossly fat is deceptive, because mere fat may accumulate in portions of the body where sharpness should only come from liberal development of muscle. If it comes from the latter, we have vigor, power and shapeliness, without fat; but if it comes from the former, we have merely bulk and weight, from material which has no contractility or vital force in it, but is, on the other hand, a burdensome material to carry, taking from rather than adding to the qualities necessary to action, power, speed, and endurance under severe strain, and long life.

### Feeding Young Bulls.

As a rule, cattle should have as much as they can eat, but what they eat should be administered with judgment. It will not do to set a portion of each of a variety of foods constantly before them, to be taken at will. A change is desirable, certainly, but one or more of the kinds will have to be given at stated intervals, and so changed that each may possess the freshness of novelty, and it will then be partaken of with a relish. The time will soon come when farmers and breeders shall have acquired the art of administering food to stock on physiological principles, in accordance with the function of the animal economy. Regularity of feeding is of the utmost consequence; indeed, of more than any unpracticed person can conceive. Three times a day, precisely at the commencement of a certain hour, ought to be the regular period; and cattle, particularly if fed grain, require their fill of water. The easy, contented, and improving disposition of the animal, and small waste of food attendant upon this regularity, is a source of constant satisfaction to the owner. Opinions differ somewhat in regard to what is best to feed. Our best feeders are in the habit of using bran, as the cheapest and best means of rendering the meal fed more digestible, and there is no better divisor for corn meal than wheat bran; but the feeder must use discretion as to the proper quantity to be used. One-quarter of the bulk of feed in bran to three-quarters of corn meal, may be

taken as a good, general rule, to be varied according to thicker and heavier wool than a half-breed possesses that is crossed the other way. And I will further say that I have spared no pains in watching to circumstances. Some feed in the proportion of one bushel of bran or shorts to one bushel of meal. Practically, bran and shorts mixed are worth for feeding about the same as good, bright meadow hay. Given with hay, they are worth about three-quarters that of whole grain. For a young growing animal, no exact quantity can be set down for daily consumption for any length of time.

### Over Feeding.

A correspondent of the N. Y. Times tells the following story of his own experience:—

A rather opinionated and wilful hired man, who requires the closest watching in feeding the stock, in defiance of strict orders, gave some young Berkshire pigs some cotton seed meal in their feed, in the expectation that it would help them to grow. Their feed had been skimmed mild, with a quart of wheat middlings to the pailful. Considerable more cotton seed meal was added to the feed during my absence from home for a day and a night, and on my return the next day, two of the young pigs were taken with convulsions and severe spasms. They died the next day, when two more were taken, and soon after two more. The whole six died in the same way. First they slowly turned around and around, then stood with the head in a corner and pressed against the wall or yard fence; the jaws were chopped together, and they foamed at the mouth. After a few hours they lay upon their sides and struggled violently with the legs until they died. A dose of lard oil allayed the symptoms for a time, and had it been given at the first, would probably have saved them. On opening them the lungs were found congested and very red in patches, and the brain, also, was much congested, the blood vessels being dark blue. The stomach and intestines were filled with cotton seed meal, the milk having been digested. So short a case of indigestion, or stomach staggers, as it is popularly called, is rare; but the pigs were but two months old, and had probably been misfed previously.

### Goats as Sheep Protectors.

In some parts of the West, goats are placed in sheep pens to drive away wolves, a service for which their superior butting powers peculiarly fit them. The experiment has been tried in Hunterdon and Somerset counties, N. J., with complete success, as a protection for sheep against dogs. Two goats, it is said, can drive away a dozen dogs, and two are about all that it is necessary to keep with a moderate sized flock. As soon as a dog enters the field at night the goats go at him, and send him rolling over and over in short order. A few doses of this heroic treatment prove enough for his dogship, and he is glad to limp howling away as best he can. Formerly, the farmers say, when a dog entered a sheep field at night, the timid creatures would run wildly about and cry piteously. Since the goats have been used to guard them, they form in line behind their sturdy defenders, and seem to enjoy the fun.

### The Care of Colts.

The following directions for the treatment of colts will be found practical by such as have the care of these animals: "In raising young colts it is very essential always to maintain a very keen relish for food and sharp appetite in the young animal. This can only be done by strictly guarding against over-feeding with grain. For a five-months-old foal of about medium size, if the weather be moderate, about one and a half pints of oats to a meal will be enough. Later, and with the advent of the cold weather, one quart at each meal may be fed with as much corn as could be shelled from a single ear. When the colt gets a little older, give it the corn upon the ear, the shelling of which will afford him amusement. Have warm quarters in cool weather, and have them kept clean and well ventilated. Turn the animal out to run during the warmest part of the winter's day for exercise. Provide the colt with a generous supply of dry bedding. Allow no manure to remain a day in the colt's box or stall; always keep the floor clean and well littered. Accustom the young animal to be fearless, and have full confidence in you and your actions."

### Which is the Better Way to Feed Meal, Wet or Dry?

There is no difference. The simple fact of wetting meal with cold water is no advantage. If soaked till near the point of souring, or wet with boiling water and fed when cooled, digestion would doubtless be facilitated. The best way to feed meal to cattle I have ever tried is to take hay or coarse fodder, either cut or long, and wet it enough to make the meal which is to be fed stick to it. In eating the coarse fodder the meal goes with it into the paunch, where it remains to soak and prepare for digestion, till it is remasticated, when it goes into the third and fourth stomachs to have digestion completed. If eaten alone it, as a rule, goes at once into the third and fourth stomachs and misses entirely the preparation it might have had if it had first gone into the paunch with the coarse fodder. There is an estimated difference of 25 per cent. in favor of feeding meal with wet fodder, over feeding it alone to grown cattle.—[L. B. Arnold.]

Mr. S. Folsom inquires as to the healthfulness for cows of the new process linseed meal with its low proportion of only 3 per cent. of fat, as compared with the meal made by the old process, with 11 per cent. of fat. There is no reason why this meal should not be quite as wholesome as the other; and it may be more useful in the make-up of the ration, since it can be used for increasing the richness of the fodder in protein or albuminoids without at the same time adding too much fat. It can be worked in well with corn meal, which, while but little richer than hay or grasses in protein, is not far from twice as rich in fat, and is very much richer in starchy matters. To the very common ration of hay and corn meal some addition is needed, especially for milk cows, to supply mostly protein; linseed cake by the old process was too liable in such a case to overcharge the ration with fat.—[Professor G. C. Caldwell.]

In reference to *corn meal and the ruminating process*—about which Mr. J. L. Bremer asks—I do not understand that when fed in either dry or scalded condition to ruminating animals the meal is brought up for remastication. I fed a two-year-old heifer on dry meal alone for one month and did not notice her ruminating. Mr. Miller, in report of his extensive winter feeding of cows on meal alone, declares that ruminating ceases. It is well known that milk to calves goes almost entirely to the fourth stomach, the first remaining undeveloped until coarse food is given. Physiologists claim that when meal is fed it goes mainly direct to the third and to some extent to the fourth stomach, from which it cannot be returned for remastication. For this reason it is often claimed that mixing grain with the coarse fodder renders it more completely digested, as it goes to the first and second stomachs largely with the coarse fodder. I have made some tests of this method of using meal, and without getting satisfactory results, have on the whole failed to get the advantages claimed. There are some interesting points here that need investigation.—[N. Y. Tribune.]

### Devons.

Devons are the most profitable cattle in the lighter pastures and the rougher farms, where beef is a convenient product. Thousands of farmers make the mistake of keeping the larger and more exacting Shorthorns where the lighter Devons would be far more profitably kept. This race has no early history further than that it was always the Devon as we know it now. It is the oldest pure race in Europe, or in the world, of domesticated cattle. Consequently it breeds as true as the buffalo—in fact truer—for a white buffalo has been heard of, but never a white Devon. These cattle are always deep blood-red, and very handsome in form and color in a green pasture. They have no white about them except the switch at the end of the tail, and the horns are fine, moderately long, and spreading. All through New England and in various parts of New York, Pennsylvania, Maryland, Virginia, and some of the southern States, the Devons are numerous and popular. They are the popular working cattle, and the most profitable breeders. But they are at work for the working owners, and are rarely heard of them in the noise of the "booming" which is given to Shorthorns and Herefords, and now of late the Scotch polled cattle; while for themselves given in many cases for single animals of these more fashionable breeds a whole herd of Devons could be purchased.

Farmers should beware of "booms." They always take money from the pocket of the purchaser

and put it into that of the owner of the "boomed" stock; and this is precisely the object of the "boom." A "boom" is now getting up for polled cattle, which are all well in their way, and they have the advantage of being without horns; but all the extra value of this special advantage would be hard to figure up, because we have not a coin small enough. This class of stock competes with the Devons, being of about the same size and build, and about as good for beef and as convenient for grazing or stall feeding. But there is very little sense in giving a thousand or two thousand for a black polled bull or cow when one can procure an equally good red horn Devon for a tenth of the sum, and neither one is any better than the other for which farmers keep such cattle.—[N. Y. Times.]

Dr. J. B. Lawes made in 1859 a series of experimental trials on about 300 fat animals, which showed the following averages: "The carcass weight of oxen 59.3 per cent. of live weight; of sheep 59.2 per cent. of live weight; and of pigs 82.8 per cent. of live weight." On the same subject the Mark Lane Express says: "A rough and ready way of estimating the weight of an ordinary fat bullock is to take three-sevenths of the live weight as offal and four-sevenths as dressed carcass. Thus one-seventh of the live weight will be the weight per qr. of the dressed carcass. For example, a ripe bullock weighing 1,400 lbs. live might fairly be taken to weigh 800 lbs. when dressed." This rule is about correct, if the animals are fat. No exact rule can be laid down, and buyers act very much on their own judgment, which becomes very reliable. The fatter the animal, the less proportion of offal.

### Garden and Orchard.

#### Seasonable Hints—April.

BY HORTUS.

Every season brings some change, and, for work in the garden and orchard, this is the most important month of the year, and should be the busiest. For on what is done now depends the future success of the garden in the way of harvesting the crop and gathering the fruits, according to the amount of labor expended in the way of pruning, manuring and preparing the soil, so that the returns be in proportion. The constant repetition of work and the changes to be made, give, we think, the pleasure experienced in working the garden. Here is an old raspberry patch to be dug up and cleaned, the young plants or suckers sorted out, cut back and healed in ready to form a new plantation somewhere else. The soil where they have been grown requires heavy manuring and good salting. Plant potatoes or corn for a cleaning crop. Currant bushes, especially old plants, should be thoroughly pruned and cut back, all hollow stems and dead parts removed. The good, stout, young wood, make up into cuttings to set out. Rhubarb and asparagus patches require heavy top dressings and well forking in.

Pruning, particularly old trees, should be done cautiously. The apple and cherry cannot stand the wholesale slaughtering we sometimes see pruners do, as well as the pear or plum. One thing always do, remove the dead branches and old bark, and any branch that interferes decidedly with the general interior of the tree branches or the convenience of climbing in and out. A good orchardist, in regard to pruning, requires the several qualities of nerve, judgment, foresight, and a knowledge of the variety of fruit the tree he is about to prune belongs to. For an illustration, it is evident the general system of pruning required for a Rhode Island Greening or a Swaar, would not be suitable for a Northern Spy or a Gloria Mundi. A pruner should have nerve in not being afraid to saw off a branch, no matter its size, if, in his judgment, the tree has sufficient vitality to stand the removal, and will, in his foresight and knowledge of trees, in the course of three to four years growth, en-

terly make up for the removal. The general cause of large branches being sawn off is their lowness of position on the main trunk and their nearness to the ground, making it awkward to plough under, or the too great convenience by which the fruit may be picked off. There is a natural desire amongst experienced orchardists to lift up the head of the tree by the ears, as it were, but this is occasioned principally by thick planting. Orchards planted over twenty years with trees eighteen or twenty feet apart, will require the bottom branches sawing off to allow the sunlight to penetrate to the soil. Cherry trees require little or no pruning. Pears can be cut in and pruned severely. If the tree shows signs of decay, or becomes stunted from bearing heavy crops of fruit, cut some of the leading branches back, and thus remove, as it were, the vitality of the tree and freshness of the growth by pruning. No tree will stand outting as freely as the pear, excepting perhaps a willow. Plum trees should be examined for black knot; if any shown, remove at once.

Planting all misses and new orchards may be proceeded with. It is a folly to plant in wet soils without being drained. Don't be in too great a hurry to plant until your soil is dry. Better to heel your trees in trenches when received and wait, than to plant in mud, and wonder all summer afterwards why your trees do not thrive. When your soil is ready be sure and dig the holes large enough, not necessarily deep—but being shallow and wide. Keep the roots close to the top and plenty of room; use the top soil, shake frequently when filling in, and tread firmly, leaving the soil on top nice and loose. Do not place any manure near the roots, nor mix it with the soil, but place heavy mulch on the top after your tree is planted.

### Garden Herbs.

Few things add more to the pleasure of a thoroughly good cook than to have a full supply of kitchen herbs ready to hand. A little of one thing or another in this line often makes all the difference between a successful dish and one of mediocre quality. Every garden should have a few, and where they are wanting should be looked after at this season.

Perhaps the most useful is parsley. That has to be raised from seed, although if the flower-stalks are cut off as they come up in the summer, the same plants may be prolonged several seasons. It does not go to seed, however, the first season of sowing; so that if sown early and gets strong before summer comes, we can get a pretty good supply of leaves the first season. The seeds, however, take several weeks to germinate, and should be put in as early as possible. Another herb of great service to the best cooks is the leek; a kind of onion which is no onion, as it makes all tops and little roots. It is not so strong as the ordinary onion, and gives a delicate flavor to certain soups and sauces that nothing of the tribe will do. This also has to be sown early and on very rich ground. But if possible the richness should be given to the ground the previous year. Fresh and rank manure is unfavorable to good leek-culture.

Many make good use in winter of marjoram and summer savory. These are raised from seed sown at the usual time in the spring. Sage and thyme are perennials; but they require an occasional pruning or replanting to get them in the best condition. If left to themselves they become woody, scaly, and somewhat barren of leaves, if they are not entirely killed by the severity of the winter. Thyme can be kept in good condition by being simply sheared down to the ground or cut back with a knife every spring. This induces a good healthy growth, which is in excellent condition for use at any time. Sage is often kept many years in good condition by simply cutting back; but often it needs starting quite anew. This may be done by taking cuttings of the old plant and burying them down deep in the ground so that the tops of the shoots are barely above the surface. These root very well and soon make good plants. There are other herbs useful on some occasions; but these are essential to every good garden.—[Germantown Telegraph.]

### Girdling Fruit Trees.

We have received numerous requests to give an account of the effect of girdling or disbarking trees in order to produce fruitfulness, and in reply publish the following:

I commenced experimental girdling or disbarking on some of the trees that were to come out about five years ago, and watched carefully its action, trying it in different months and seasons, even girdling some trees twice the same season, and am now practicing the system extensively on my permanent orchard trees as well as the ones taken out.

The most valuable tests were in the years 1878 and 1879, by girdling every other tree in many rows, and resulted in filling the girdled trees with splendid fruit, while the others had either none, or at best but a scattering few. I have also extended my experience by girdling or disbarking many thrifty trees three or four inches in diameter of body, which were of course too young to bear except by use of this process. I have kept a correct record of the times of operating on different rows, with a view to the discovery of the exact time when it would be most beneficial, and so I have discovered no injury to the tree, and I believe it will, if properly done, make unproductive trees productive. The time for girdling should be varied according to the age and condition of the orchard; in orchards fifteen years and upwards, it should be done in April, as the bloom buds begin to show color. Younger trees perhaps as late as June. Ringing trees might also prove beneficial, but I have not concluded my experiments. J. B. S.

[We would ask such of our readers as have practiced girdling, to be kind enough to send us their experience in the matter. It is an important subject, and the more information we have the better.—Ed.]

### Strawberry Plantations.

In a few weeks will be the time for planting strawberries. Plants can be procured so cheaply that I find it more economical to plant new beds every second or third year and to turn under the old beds than to loather and fuss with the latter. After several years' trial of several kinds I have chosen a few varieties which I find on my light soil to be the best. For my own special use I prefer, first, Kentucky Seedling. This is a first-rate berry, large and sweet, the fruit hanging up well from the ground, but only moderately prolific. One cannot have every virtue in one berry, but in this variety I find all the virtues excepting large productivity. This, one can have in the Crescent Seedling, which bears enormously. The berries are of good size, light in color, of good form, and purchasers choose it for its looks before any other. Its productivity is wonderful. The flavor is poor, and it is rather soft. These are its defects. But its growth is so vigorous that it smothers even white clover, that bane of the strawberry grower. Sharpless is an unusually fine berry, large, of excellent flavor, a good bearer, of good color, solid, and as vigorous as Crescent. Champion is "A No. 1." It is a deep red color, the finest flavor, acid enough to match well with cream and sugar, very productive and bears long. Wilson needs no recommendation. It is the old stand-by. But one rarely sees Wilson as it might be seen if well cultivated. When well manured with cow manure and a little dusting over with guano and moderately thinned in the bed, well hoed in the Spring, and then mulched with cut straw, Wilson will hold up its head with the best of the prize berries, and if it were a new sort people would rave wildly about it. It is thus that our old and valued friends, being neglected, and, from our familiarity with them, being treated with contempt, become as strangers and are little cared for; but yet the gold in them is only dimmed by misuse; it is there all the time. —[N. Y. Times.

Mr. C. H. Johnson tells The Fruit Recorder that by going carefully over his grounds several times each season and removing and burning all plants showing raspberry rust, he has succeeded to such an extent that not more than half a dozen cases of the disease appeared last year in the whole of his three acres devoted to this fruit, while another grower at some distance "lost almost his entire stock without knowing the cause." Of the character and habits of the fungus this is said: "The first visible indications are a slender growth of the young canes, and in plants more than a year old an unusual number of slender canes, and invariably in connection an apparently yellowish red rust on

the under side of the leaves, particularly on the border of the leaf. The disease seems to be both hereditary and contagious, tips from diseased plants showing the disease before they are a foot high; while plants vigorous and healthy and bearing fine crops of fruit will sometimes become entirely worthless the following season."

### Native Fruits.

A PAPER READ BY W. C. BARRY BEFORE THE WESTERN NEW YORK HORTICULTURAL SOCIETY AT ROCHESTER, JANUARY 25TH, 1882.

APPLES.—The list of valuable apples is now so large that few attempts are made to acquire anything better. Chance seedlings of apparent merit are frequently brought to notice, but when placed beside the older sorts and compared carefully, few are found worthy of introduction. We have several seedlings grafted upon bearing trees, and hoped to obtain fruit of them the past summer, but did not; hence we must defer mention of them till the next annual report. At the west strenuous efforts are being made to obtain sorts which will endure extreme cold. The Russian as well as other hardy sorts are being carefully tested, and ere long we may expect some important developments relative to this class of fruit. The introduction of the Wealthy is an important step in that direction. Hardiness and fine quality are combined in this variety, and the new apple has come to be regarded as an acquisition of much value. The Whitney Crab fruited with us for the first time the past season, and as regards its quality was an agreeable surprise. The fruit is of medium size, large for a crab, flesh fine, melting, juicy and pleasant flavored. It matures in August. Occident, the new California apple, resembling Yellow Bellflower, and referred to in former reports, is now being disseminated, and we hope it may succeed so well as to merit a permanent position on the select lists. Sutton Beauty continues to grow in favor, and should it succeed as well generally as it has in New York and Massachusetts, it may with all justice be accorded a high position among our best apples. Stump, frequently mentioned in the reports of this society, is a beautiful and valuable table apple. It has been on trial long enough to enable us to award it a place among the most desirable fruits. Magog Red Streak is a hardy variety, of which Dr. Hoskins says:—"If it were not for the Wealthy, this would stand at the head of our winter apples;" and of Scott's Winter, another variety, he adds:—"This is the apple which well replaces for us the Roxbury Russet of a milder climate." In our anxiety for novelties, we frequently place too low an estimate upon the older fruits, and the committee feels that a brief reference occasionally to some of these sorts will not be out of place. Some fruits require peculiar care and culture to develop their best qualities, and when a variety of acknowledged merit fails to succeed with us, we should endeavor to find out the cause, and if possible apply a remedy. Soil and climate often exert such a powerful influence over the fruit, that particular sorts cannot be grown in certain localities, even with the best of care. But several sorts fail from utter neglect, or from a lack of the requisite care which such sorts demand. The Fameuse apple, than which there is no finer dessert fruit, is very small and scabby in some localities, and in others remarkably fine. During the past summer Mr. J. J. Thomas, chairman of our committee, compared specimens of the new Kieffer pear which were grown in Rochester with those from New Jersey, and found the former too poor to eat, while the latter were of fine quality. Mr. Thomas also cites the case of the Winter Nelis pear, and in Westchester county it is said to be hardly worth cultivating. Mr. Thomas therefore suggests that it is worth while to try and find out the influences which produce these great differences. The causes of failure of such valuable fruits as the Winter Nelis pear and Fameuse apple are worth looking into. Intelligent cultivators, such as assemble at our meetings, should give the results of their experience on these points, and if they are aware of any peculiar methods of culture for certain fruits they would do the public a great service by making them known. I am pleased to note that the valuable qualities of the Fameuse are becoming appreciated. When in New York a short time ago, I noticed an abundance of fruit upon the stands, and dealers now advertise it as the delicious Snow Apple. The Jonathan is another white-fleshed apple which is destined to rank high as a table fruit. It ripens immediately after the Fameuse,

and is very desirable to succeed it. Ladies' Sweet is one of those delicate-fleshed apples which deserve the highest esteem. Its flesh is white, tender, rich, and being entirely free from acidity it is easily digested, and as an article of food for dyspeptics would be highly prized if better known. The Mother is a choice winter apple of fine quality, which deserves a higher place than is usually awarded it. The Northern Spy has valuable qualifications as a dessert fruit, which do not seem to be fully appreciated. Succeeding the Jonathan, it is in prime condition for eating in mid-winter, and in point of delicacy and delicious flavor is hardly equalled. Too much praise cannot be bestowed upon this noble fruit, and we may be excused for taking a special pride in it, since it originated in this county. I trust the time is not far distant when consumers will readily pay three times the price for it that they do for Baldwin and the like. Jeffers, from Pennsylvania, is worthy of attention. It is of medium size, skin yellow, splashed with crimson; flesh white, tender, juicy and mild sub-acid. It ripens in September, and is a variety which will always rank high on account of its admirable qualities.

PEARS.—It requires so much time to determine the value of a new fruit, that although several novelties have been on trial for some time, it is not possible yet to give much accurate information concerning their importance for general cultivation. In the localities where they originated they may be very desirable, but when tried elsewhere they are often found to be of little value. At the present time the most prominent aspirants for public favor are Hoosic, Frederick Clapp and Kieffer's Hybrid. The two first are unquestionably of the highest quality, and bid fair to prove acquisitions. The last named has acquired considerable popularity in New Jersey as a market sort. We had fruit of it from our own tree the past summer, and found it too poor to eat. Mr. Thomas compared our specimens with some from New Jersey, and found the latter of good quality. The tree is remarkably vigorous, and has handsome glossy foliage, which readily distinguishes it from all other sorts. P. Barry, Fox's Seedling, is a remarkable new variety, and particularly valuable, as it extends the season of fine pears into April. The flesh is very juicy, buttery, fine grained, sprightly and rich. It resembles Buerre d'Anjou in texture of flesh, and Winter Nelis in color of skin and juiciness. Its keeping qualities are really wonderful. Unlike other late winter pears, the flesh retains its freshness, delicacy and juiciness even under unfavorable circumstances, and in April it is just as agreeable to the palate as a fine Winter Nelis in December or January. Now that the Buerre Easter can not be ripened successfully, this variety will supplant it. The Secretary suggests that cultivators should give Clapp's Favorite more attention than they have hitherto done. This splendid pear, one of the handsomest of American fruits, is rarely seen, and from all we can learn has never been tested as it ought to have been.

CHERRIES.—The Windsor, a new cherry, originating with James Dougall, Windsor, Ont., is very promising. It is black, or liver-colored, flesh very firm and of fine quality. It ripens a few days after Tradescants. On account of its lateness and firmness it will undoubtedly be found valuable. We have fruited it upon our grounds several seasons, and esteem it highly. Mr. Dougall says:—"The Windsor is enormously productive, very hardy, being the only Biggarreau or Heart cherry the fruit buds of which were not winter killed last winter on my grounds; even Dukes were killed."

PLUMS.—The Wild Goose is a pleasant flavored early plum, and is justly entitled to a place among worthy fruits. Miner, similar in character, ripens late in September, when plums are scarce, but in quality it is not equal to Wild Goose; nevertheless it may have value.

PEACHES.—This is a subject which still possesses more than ordinary interest. The large number of new sorts introduced within the last ten years has drawn peculiar attention to this fruit. Special interest is taken in the very early sorts, which are now so numerous and so similar as to render it difficult to determine which to keep and which to reject. We have many of the early sorts growing side by side, and though we watched them closely from day to day we have often been puzzled to determine the values of each. It would be tedious to give the results of these tests in detail, so we will at once state the conclusions we reached after careful examinations:—Alexander or Amsden are not surpassed in size and earliness; Alexander averages larger, but Amsden is better flavored

Waterloo is higher flavored than either. It may not be any earlier, but its fine quality will render it valuable. Early Canada is a close competitor in this class. It ripens with Alexander, is not so large, but very handsome, and may part from the stone a little more freely. Brigg's Red May is not so large as Alexander, and three or four days later. Governor Garland, we are informed, ripens several days after Alexander or Amsden. The lengthy list of new sorts is becoming gradually reduced, and though the results prove that much labor has been in vain, we have the satisfaction of knowing that the claimants have had a fair trial. We earnestly hope that future introductions may possess qualifications not yet realized. We want early sorts that are free at the stone, and that are less liable to decay than those now known. The following are the latest introductions:—Garland June, May Beauty and Williams' Early Freestone, said to be two weeks later than Amsden, and of better quality. The following well-known varieties ripen nearly at the same time, but when compared and tested, they show a marked difference in quality. Conkling is superior to all in flavor. Foster comes next, then Surpasse Melocoton, Crawford's Early and Richmond, ranking in quality in the order named. Ward's Late Free is the most delicious late peach in this district.

GRAPEs are receiving marked attention from cultivators at the present time. Particular interest is manifested in the new sorts, and all growers are waiting anxiously for the experience of those who have the novelties on trial. We regret that it is not in our power to offer any information about them. It will probably require two or three years more to determine their value. I had the pleasure of testing a new grape which is remarkable for its fine flavor, equaling, if not surpassing in this respect, any variety I know of. The grape I refer to is the Amber Queen, raised in Massachusetts. It is of medium size, purple when perfectly ripe, and has a rich sprightly flavor which is remarkable. The vines which produced the fruit being young, it was not possible to judge fairly of the habit of the plant, or size of cluster. This variety may be regarded as promising. Burnet, a hybrid between Hartford Prolific and Black Hamburg, raised by Mr. Dempsey in Canada, deserves notice on account of its fine quality. Early Victor, a black grape originated by John Barr, of Leavenworth, Kansas, the same gentleman who originated Burr's Seedling Strawberry, is said to be the earliest variety known, and is expected to displace Champion and Hartford Prolific. Reliable grape culturists give us this assurance, so we may look toward this grape with considerable interest. The Secretary Grape, one of Mr. Rickett's seedlings, referred to in a former report by the writer of this as a grape of poor quality, produced some fine flavored fruit the past summer. It ripens very unevenly, however, and the vine is such a poor grower that it cannot become popular. Highland, another of Mr. Rickett's grapes, appears very late. Lady Washington we did not see under favorable circumstances, and cannot speak of it intelligently. Miner's Seedlings fruited with us for the first time, and were quite a disappointment. They all partake of the character of Concord, and are said to have been selected from 1,500 seedlings. One trial is not sufficient to estimate their value, but I fear they are not destined to become popular. The seven white varieties bear a strong resemblance to each other, though, of course, there are points of difference. Victoria is the best. There are two black ones, Linden and Rockingham, neither of which show any points of excellence. All resemble Concord in habit of growth and productiveness, and some of the white varieties would have been considered acquisitions had they been disseminated a few years ago before the new white grapes were now have in the market. Lady Charlotte, one of Pringle's Hybrid grapes, gives promise of excellence. It is remarkable for its fine flavor. Vermont Giant, another of his hybrids, is to all appearance of no value. It is black, very pulpy and the flavor poor. I should not fail to refer to three varieties of Roger's Grapes, the importance of which has been overlooked. They are Lindley, Herbert and Gaertner. Herbert is a magnificent black grape, superior in quality to Wilder or Barry, and the bunch is nearly as large. Gaertner is a very large red grape, and so attractive that when exhibited in a collection it is the first to receive notice. Lindley we have spoken of before. It is one of the best red grapes, and deserves to be so regarded. It is singular that these varieties have not attained the distinction which they merit. It shows plainly that we are liable to overlook some important fruits. Rockland Favorite, from Mas-

sachusetts, resembles the Concord, but does not surpass it in any respect so far as we can see. The White Ann Arbor, raised from seed of the Concord, is represented to be of much value. The bunch and berry are described as being large, fruit of first quality, and the vine vigorous and free from mildew. Feemster Favorite, from Indiana, is said to excel the Concord in hardiness, and if so, is probably of some value at the west. The bunch is said to be of medium to large size; berry large, green in the shade, and in the sun slightly shaded with salmon. Wyoming Red or Wilmington Red, which originated on the Hudson, being described as a variety which was likely to supersede the Delaware, was watched closely. We may have a spurious sort for the plant which we have under that name. It produced a dark red or purple grape; very purple, foxy and of inferior quality. Mr. A. M. Smith, of St. Catharines, writes that several promising seedlings have been raised and are on trial in Canada. One, an improved Delaware, raised by C. H. Biggar, Drummondville, Ont. Another being a fine white grape, seedling of the Concord, and better flavored. Our own seedlings, Rochester and Monroe, continue to be very satisfactory. Last season, when many grapes failed to set their fruit well, owing to unfavorable weather at the blossoming time, these proved remarkable exceptions and produced such an amount of fruit that we took off fully one-half from the vines when in a green state. The Rochester, with its large, shouldered, compact clusters, is a remarkably handsome grape; and the bunches are borne in such abundance that they are very showy and attractive. The vine is vigorous and the foliage very healthy. It has some defects, but where is the grape that has not? The Rochester is not destined to be spread broadcast, for it cannot be propagated except with some difficulty. Monroe is very early, pleasant flavored, vine very vigorous, hardy, prolific, and the foliage is healthy.

RASPBERRIES—Public attention seems to be concentrated in the Cuthbert. I have not seen enough of it to form an opinion. It is evidently the best flavored of the so-called hardy sorts, and as such is calculated to displace a number of varieties which have been valued for hardiness and shipping qualities. In 1877 I fruited side by side nearly all the raspberries then known, new and old. Clarke and Brinckle's Orange seemed to be the cream of the collection, so far as the quality of the fruit was concerned. I have fruited the assortment since, and have not changed my opinion. Objections are raised occasionally to the Clarke, but for the amateur I think it is unequalled. Turner is one of the hardest sorts, and withal of good flavor. Caroline, the new Yellow Cap, is hardy and very productive, but its quality, we must admit, does not equal our expectations. We were promised a luscious fruit, but with us it proved to be only of fair quality. Niagara is the name of a raspberry originated and introduced by A. M. Smith, of St. Catharines, Ont. It is said to be a cross between the Clarke and Philadelphia, and superior to either as a market fruit. Berry large dark red, shape of Clarke, but firmer and more productive, and fully a week later. The Superb, which originated in New Jersey, was sent out for the first time last autumn. It is described as large, handsome, bright crimson, and having a sprightly sub-acid flavor. Shaffer's Colossal is a new Cap berry, which originated with George Shaffer, in the town of Wheatland, Monroe county, N. Y., in 1869, and is now being disseminated by Mr. Charles A. Green, of Clifton, N. Y. It is said to be the largest raspberry in the world, and the most vigorous in growth of cane, and exceedingly productive. Mr. Green is also sending out Lost Rubies, a red raspberry, described as large bright red, with considerable bloom, firm and of fine flavor. The plant is said to be very hardy. Souhegan, a new Black Cap, is described as being early and of fine quality. Well known authorities give it the highest commendation. Hopkins is another which originated at the West, and is said to be harder than the Gregg. Centennial Black, from the West, is still another which Mr. E. P. Roe recommends highly. The Black Cap family has been considerably augmented by these accessions, and it will be interesting to compare them.

STRAWBERRIES—The list of new strawberries is being constantly enlarged, so that our interest in this fruit is not allowed to flag in the least. The Bidwell leads the newcomers, and is introduced with notice with the most flattering recommendations. On the Hudson it has done admirably, and from all accounts possesses so many valuable characteristics that we may reasonably expect a great deal from it. The Manchester, which originated in

New Jersey, follows, fairly loaded down with commendations from prominent fruit growers. Jersey Queen, one of Mr. Darand's seedlings, is also regarded as promising. Mr. Green mentions the Moonstone as a variety which ripens late in the season. New Dominion, raised by J. H. Biggar, of Drummondville, Canada, is said to resemble Cumberland Triumph. Mr. Beadle says it possesses all the good qualities of that variety, and is at the same time more productive, of somewhat firmer flesh and better flavor. The fruit which we tested the past season was not as good as Cumberland Triumph. Early Canada was originated by A. M. Smith, of St. Catharines, and is said to resemble Wilson strongly, but it ripens a week earlier. I compared Glendale carefully with Kentucky, and came to the conclusion that the latter was more valuable.

CURRENTS—Fay's Prolific is now in the market, and we hope to give it a trial soon. Mr. Smith says Lee's Prolific does not show any points of superiority over the Black Naples.

#### Culture of the Tomato.

Mr. W. H. White, gives in the *Country Gentleman* the following directions for growing tomatoes: He says either as a fruit for the table or as a produce for market the tomato is held in, and is worthy of high esteem. It seems to have a place filled by no other relish, being agreeable to the palate and inviting to the eye. Add to its many other good qualities that of its immense productive capacity, and no wonder that the subject of its culture is so often referred to. Every section and locality must be governed by the closing season of frost, as a very light frost destroys the young and tender plants.

About eight or ten weeks previous to the last expected frost, seed may be sown in the hot-bed, or if there is no hot-bed, seed may be sown in window boxes. Early bearing of the plant is promoted by transplanting or "pricking out" the young plants as they come to suitable size. A dozen or two of plants will supply the wants of a large family for the season. Only thrifty, strong, and healthy plants should be planted out, and in order to secure this the young plants should have plenty of room, in the seed bed or boxes, with good, rich sandy loam soil, and be kept well watered, occasionally giving liquid manure. This is also essential after planting out in garden soil up to the time of maturity of the fruit. A dark, warm sandy loam soil, made rich through fertilizing for previous crops, suits the tomato. Some light application of thoroughly rotted manure, ashes or guano will stimulate a quick growth, as early production is usually very desirable. If the soil is poor, manure heavily, broadcast and in the hill, with well-rotted and fined stable manure and compost.

The land having been properly prepared, it should be laid off in rows and hills, four feet each way. Make the hills large and the soil mellow and fine. Dig out a hole sufficiently large and deep to hold the roots of the plant with any clinging earth from its previous bed; with one hand hold the plant in position in the hole, while with the other pour water to fill the hole. If properly done the mellow soil will fill in about the roots and nearly fill the hole and hold the plant, so that, if freshly taken from its bed, it will not wilt even if transplanted in hot sunshine. When the water has settled away, fill around the plant with good fresh soil. I prefer to train tomato plants to a stake, when, if properly cared for, there will be more and better fruit. Side shoots should be stopped at the first blossom; your fruit is then fully exposed to the sun, is always clean and sweeter than if grown on plants not thus trained. The stakes may be as for beans, and when set as high as a man's head, attention will be needed to tie up and nip the side shoots as the plants grow, which can be done when hoeing.

Varieties are numerous, with very little difference in earliness, more being due to culture in this respect; but there are other differences to be considered, such as flavor, meateness, perfect coloring, and ripening. A round, smooth, thick meated fruit is to be preferred, other things being equal. The best I have tried is the Acme. Rot sometimes attacks the tomato, its cause being largely due to warm, wet weather and heavy dews, especially where the plants spread and lie low, or on the ground in masses. Thin planting, pruning, and tying to stakes will obviate this difficulty in nearly every instance, so that where the plants are properly raised and trained from the ground little damage is to be apprehended.

### Plums by Aid of Poultry and Pigs.

There is no choice hardy fruit that blossoms and sets fruit more abundantly than the plum; there is nothing so lusciously delightful to the palate as a rich, ripe gage; it is the first of fruits that the average owner of a lot thinks of planting. The curculio is the difficulty. Some are too busy, and some too forgetful, and some too indolent to jar off, catch and burn the sneaking destroyers, and in many cases the shape or surroundings of the tree make this impracticable. The planting season for 1882 will continue until late April; there is, therefore, time to plant for plums. Where there is choice of situation a small inclosure adjacent to the stable yard is the place for a distinct little plum orchard, to be kept bare of weeds and grass, and well manured all automatically by giving the chickens and small pigs the run of it. They will pick up every insect that appears on the bare surface, and even if there are plum trees near from which the curculios—which fly freely after dusk, quiet and collapsed as they appear in the daytime—can come into yours, they will not stay to do harm if there is an odor of the pig-pen or chicken-house about the trees. They seem very sensitive to odors, and heavy crops have been grown in the midst of trees on which every plum dropped prematurely by merely putting a forkful of wet, fresh manure in a crotch of the tree or by hanging an old bucket under it containing smoking rubbish, during the curculio term—May 1 to 10 or 15, in latitude of New York. Where there is room for but a tree or two, a backyard or the side of a much used path is the best place, and if practicable the ground should be bare under it, or at least have nothing higher than grass or strawberry vines, so that the curculios may be easily caught. The rich plums, having thin skins, are most liable to be assailed by them, and by rot too. The damsons and prunes are more exempt; and the Chickasaw sorts, excellent for marmalade, are almost totally so.—[W.—[N. Y. Tribune.

### Mushrooms.

A steadily increasing demand for Mushrooms in most of our large cities has awakened a lively interest in the cultivation of this peculiar delicacy. During summer and early winter there is but little difficulty in raising Mushrooms—any shed or dark place sheltered from rain and frost can then be turned into a Mushroom house; but when they are desired during the winter months for market or home use, more extensive and careful preparations are necessary.

Mr. Samuel Henshaw read a valuable paper before the New York Horticultural Society, from which we condense the most important points.

It is useless to attempt winter forcing of Mushrooms in any place where the temperature falls below 50°. Cellars under greenhouses were formerly considered most suitable.

"In my own practice," says Mr. H., "I do not find it necessary to have fresh manure from the stable, as is so often recommended by some growers. When we get our supply of horse-manure I take care to have all the finest portion of it carted to an open shed, where there is sufficient room to pile it in a loose heap, so as to be turned as often as the heat becomes violent. This will not be so often as once a day; but care is taken that it does not burn. If it is fresh manure, it will take nearly a month before it is sufficiently fermented to get rid of the offensive smell, and prevent the danger of burning when it is made into a compact bed.

"I never mix any soil with the manure, either when turning it over to ferment or in making the beds. In making the beds a layer of manure is spread about four inches deep, which is all trodden or beaten down as firm as possible; then another layer of the same thickness, with another treading, and so on till the bed is from twelve to fifteen inches deep; trial sticks are then put in, which are pointed sticks about eighteen inches long, driven into the bed about four feet apart, and these are examined occasionally in order to know when the bed is of the right temperature for putting in the spawn. If the bed does not begin to ferment in about a week from the time of making, it is covered with hay or leaves, but this is not often necessary; for as a rule, the heat is very violent. Usually in about ten days the bed will be cool enough to spawn, or about blood heat (98°).

"In spawning the bed, I prefer what is called flake spawn, which is produced by breaking up the brick spawn into pieces about two inches square, and mixing them in a heap of manure that is fermenting gently. After being in this heap about

three weeks it will be found one mass of spawn, and in just the right condition for running vigorously all through the bed in a very short time.

"A handful of it is put in, about four inches deep and one foot apart, all over the bed; if brick spawn is used, it is broken into pieces about the size of an egg, and put about three or four inches deep, nine inches apart, then the whole bed beaten down as firm as possible.

"When the spawn used is in a state of activity, as it is when flake spawn is used, the appearance of the crop is from two to three weeks earlier than when brick spawn is used.

"If it has begun to run the bed will be found



GROUP OF MUSHROOMS.

full of a very fine thread-like substance, having that peculiar smell of Mushrooms.

"Of late years I have practiced what has proved to be a reliable way of putting soil on the bed, which consists of cutting fresh grass sods, about two inches thick; these are laid all over the bed, grass side down, and trodden or beaten down as firm as possible. With this covering, I have never found the small Mushrooms to wither before coming to maturity.

"Another advantage is, they continue in bearing longer, the Mushrooms are larger, and come through the sods in a healthy, vigorous way, that is pleasant to look upon.

"After the bed begins to bear I never use any covering, such as hay, or similar material, for if the place is not absolutely dark, the small blades of grass grow through the sods, and form a mulch, and the Mushrooms, as they peep through the grass, appear much more natural and cleanly than when covered with rubbish; besides in many cases, the covering is only a harboring place for vermin, such as slugs, woodlice, etc., which are all great enemies to the crop, and will devour both the Mushroom and the spawn if they can get at it.

"The beds are made on the bare soil, and cover the entire floor.

"For watering the beds and sprinkling the sides of the house I use warm water of about 68°; the steam arising from the warm water is very congenial to the growth of the Mushrooms.

"When the bed is in bearing the surface is watered about every second day, and when the crop shows signs of exhaustion a dose of liquid manure, previously warmed, is given about once a week. The drainings from the manure heap are found to be best, but if these cannot be had, a weak solution of guano will do, in proportion of one pound to twenty-five gallons of water.

"I have had the best success when the house has been kept from 60° to 65°. If the temperature is higher the Mushrooms grow smaller, and the bed becomes sooner exhausted; if kept below 50°, the Mushrooms are slow to grow and are not tender when cooked."

"I have pleasure in renewing my subscription, as I find the paper to be worth the money in every sense to farmers. Wish you every success.

H. WINGER, Ridgway, Ont.

Subscribers are desired to send the name and address of any farmer who should take the FARMER'S ADVOCATE, and a sample copy will be at once mailed free to him. As our subscription lists swell, so greater improvements can be made.

### The Dairy.

#### Barley or Corn for Production of Butter, Cheese and Milk?

BY L. E. ARNOLD.

Theoretically, barley is to corn as 85 to 100, that is, when corn is worth a dollar a hundred, barley is worth 85 cents. This is the relative value of average barley and average corn, when both are fed for the simple purpose of sustaining life; but this relation is liable to vary when different samples of the grains are compared, since neither kind is uniform in value. Thus State barley does not average as well as Canadian barley, but State corn averages better than Western corn. If we compare State barley with State corn the difference will be wider than when Canadian barley is compared with Western corn. But an interrogator asks what is the relative value of the two as food for producing milk. That will depend considerably on the purpose for which the milk is to be used, and on other considerations.

If milk is to be produced for making butter, the value of corn above that of barley will be greater than that indicated above. The butter produced by a given weight of barley will fall more than 15 per cent. short of the amount produced by an equal weight of corn, and the butter from the barley will be greatly inferior to the butter from the corn. The fat in barley is scanty and poor. It is pale, insipid and heavy—very likely chiefly stearine. The fat in corn is much more abundant; is higher flavored, higher colored, and has a higher melting point. In barley we cannot look for more than about 25 per cent. fat, and rather less than half of that is digestible. In corn we may expect 5 to 7 per cent., with more than half of it digestible.

This makes a wide difference in the values of the two grains for butter-making, for, whatever theorists may hold in regard to fat being produced out of sugar, starch, etc., or out of albuminoids, it is a practical fact that the quantity and quality of butter are moulded by the amount and character of fats in the food it is derived from. This gives corn a special value as a butter-making food. There is no food in use which excels it in the fine flavor and delicacy of tint and flavor it gives to butter when, without exceeding the limit of healthfulness, it is made a leading element in the ration. It is for the same reason that cotton seed meal, which contains a large per cent. of clean (but not high) flavored oil, derives its great importance as a food for producing butter.

The value to be derived by way of heightened quality in butter by the use of such food as corn, cotton seed, oats, fruit, green grass, etc., on the one side, and the depressing influence of barley, buckwheat, shorts, bran, straw, too mature fodder, etc., on the other, cannot be measured in figures or appreciated by the chemist. He can only deal with absolute quantities. The difference in foods in these respects is nevertheless real and valuable. To discriminate between such influences in food is a work for the intelligent and discerning farmer, and the skill with which he does it will be sure to be appreciated and liberally paid for by the consumers of his products.

If the production of milk for cheese, or for selling by measure, is the object, the relative value of the grains would be changed in the opposite direction, and become nearly equal. Corn does more toward making milk rich than toward increasing measure, while barley does more toward increasing weeks of brooding lays the foundation for after success. Pullets hatched in March will lay through the succeeding winter, or it is from neglect of rules here written. One hundred hens will consume about the weight of food of one cow—say about four ounces per day for each hen. I cannot decide on the best breed of hens for keeping, from my limited experience, but as far as that goes I should say the Brown Leghorn for eggs and the Light Brahma for eating. I have not exhausted this subject, but, perhaps, I have the patience of the club. But a few words more. Exercise is all important to the laying hen in the summer. I plowed in oats for them, in winter hung a beef's head two feet from the floor in such position it would swing when the hens jump to peck at it. Remember, nothing for the hens to eat must remain in the house over night.—[N. Y. Tribune.



**A Cheshire Dairy Farm.**

Properly speaking the farms in this neighborhood (East Cheshire) are hill farms, principally grass. There is a little tillage, but it is a question if it would not pay better the green side up. The farm that I hold (on yearly tenancy) has a northerly aspect, and is much exposed, consequently we have long winters. The soil is most of it loose and friable, and lies on rocky sandstone. The rest has a clay sub-soil, all underdrained, but does not work well; the rent is 33s. per statute acre; the rates are heavy. This last year highway rates were 20d. in the pound, with school board, sanitary and poor rates and land tax, in addition to the rent and tithe. The buildings are very far from what they might be, the shippens are badly ventilated, with no light except at the doors. When these are shut the cows are in solitary confinement. With regard to the breed of cattle there is only one object, and that is as far as we can, to keep them entirely for profit. They are a cross-breed Shorthorn. We milk eighteen or nineteen, and keep up the stock by rearing. We always rear both bulls and cows from the best milkers; the heifers are put to the bull generally at two years old, but if in good condition at 15 months. We rear the calves in spring, just when we have the most milk. They have new milk about three weeks; and then porridge made of maize and ground oilcake and oatmeal, and about 2 qt. of milk each, all mixed together. In the day they are turned out, but put in at night until the end of June, or in July, when they are left out altogether and weaned. All the stock is brought indoors the latter end of October and tied (except calves, which run loose). There is no such a thing as open sheds about here; the cows, as a rule have no littering, except a little shoddy from the factory. The straw is cut and mixed with two-thirds chaff and one grain, damped with cold water; 2 lb. maize pieces mixed together. Best milkers get 2 lb. oilcake. Turnips always increase the quantity of milk, but very much deteriorate the quality. Last winter I had hard work to pull through with my milk customers through using them. This winter I have none, and the milk gives satisfaction. They have as much hay as they can eat, and the mixture of grain, corn and chaff, twice per day—cows, a large bucketful; young ones, less, according to age. We send the milk to Manchester, and get in summer 2s., and in winter 2s. 6d. per dozen quarts. Out of this there has to come the railway carriage, 1s. per can (cans hold about 18 gal.), running to the station, and all wear and tear. I have been fortunate in getting paid for it so far, and have been selling milk eight years.

I have been fortunate also as to loss of cattle. I have on my account been keeping for seventeen or eighteen years from eighteen to thirty-six, and at present I have never lost a cow or horse. I have lost calves, and one or two 2-year-olds by quarter evil. Of course we have had sickness among them—often food-and-mouth disease; but I always make it a point when anything ails them to attend to them myself. If bad I have a veterinary surgeon, and if he cares about his reputation he will be anxious for the beast to recover. Cleanliness, warmth, with proper air and quietude, and a strict attention to them night and day, if bad, are my maxims. Some farmers when they have had the vet. at them will shut them up, and think, "Oh they will soon be right now!" Perhaps go away somewhere (on business) and say to some at the house, "You must look in at this cow." "Yes, all right;" and when he comes back he finds that the cow is going down very fast, and then, jumping at the opposite conclusion that she is going to succumb, he turns away and makes his mind up to it, and with a strong faith and a persistent inattention, the beast does die; as he says, "I knew she would do." I have seen this sort of thing many times over. I have often had them given up by the vet., but told him he must not be talking like that—"While there is life there is hope"—and so he has persevered; and up to the present (although I have not the least wish to do anything like boast), as described, and with the blessing of God they have always recovered.

Four years ago last Christmas I came to this farm, and it was then in a very poor exhausted condition, previous tenant for several years selling all off, hay, straw, potatoes and grain, and bringing very little back to keep up fertility. Some of the tillage had been cropped for three years together with wheat and oats, using no artificials or bones—in short, nothing whatever except a little farmyard manure most of it oat chaff and shoddy from the factory) for the potatoes; and, to say the least, it had been

farmed in the worst possible manner, and three previous tenants came to complete poverty upon it; so you may easily conceive my position. I, however, had prospered well upon a small dairy farm in North Derbyshire, and was confident; but I found, when the curtain was raised, some ugly spectacles to gaze at. Rotation in cropping was out of the question, and the grass land was in no condition for bearing a stock of milkers; so there was nothing for it but pay, pay, pay. The labor bill for first year was 22s. per acre (two-thirds grass and one tillage); next, same; next, 18s.; last, 15s.; current year expect to be 5s. I have three sons, 16, 14 and 10 years old respectively, who take a good share of the ordinary work. Harvest men are hired by the week; good ones, 18s per week, with meat, drink and lodging. We think it much better to provide for them, as much time is thereby saved.



**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 ½ ounce. We do not hold ourselves responsible for the views of correspondents.

**Errata.**

By an unfortunate transposition of lines, please read continuation of "Management of Poultry" on page 103, at 17 lines from bottom of page 112, 3rd column, and *vice versa*.

SIR,—I am again in Manitoba after an absence of four months in Ontario, which I left on the 14th of February, the weather at that time being very mild, with not a particle of snow around Toronto, although at Orillia we had been favored with very good sleighing nearly all winter, but it pretty well disappeared the two days previous to my departure. In some places as we passed along the route of the railway (I came via G. W. R., M. C. R. and Chicago, Milwaukee and St. Paul), I saw farmers harrowing and plowing and other work such as we generally do in April. When we got to St. Paul the weather began to get colder, and the farther north we went the colder it became, and we began to find snow, and when about 50 miles from the boundary we overtook the passenger train (which had preceded us the day before) blockaded in the snow. We were not detained long, but followed the other train through, the road having been opened. As we came into Manitoba at Emerson we found the snow getting deeper, and on the level should consider it was about 18 inches deep. We arrived at Winnipeg about 15 hours behind time. At Winnipeg I found the usual stir and energy displayed, only a great deal more so, particularly in real estate. To one estate office there was in October, there were 20 now. Every person was full and running over with real estate, and every man was trying to dispose of what he had in order to make room for the next estate. Hotels were full, buildings going up in all directions, fortunes being made in many cases in a day (do not hear so much about those who are losing, but I have no doubt there are many who are losing). The C. P. R. to Brandon has been blocked with snow several days for the first time this winter, but was very clear so that on Tuesday following my arrival I got through to Brandon on the usual time. I was very much surprised to see the improvement that had taken place here, the numbers of new buildings put up since I left in October, and the very great many which are now going up every day. We can see new ones starting in all directions. Lots which could have been bought in October for \$250, are now worth \$1,500—others in proportion. The citizens are asking for a special Act of Incorporation as a city, and have placed the bounds three miles square. There are two bridges to be built across the Assiniboine River, and work has been commenced on one of them. Hotels are full, but there are a number of new ones under way, which will be completed soon, so that all may find accommodation. There are large stores and

outfitting establishments. The firm of Johnston, Starr & Co. (Ontario men), but more recently of Meadow Lee, are doing a large business in supplying parties with outfits, horses, oxen, cows, implements and general outfits. Brandon being the terminus of the road, immigrants will branch from here in all directions, Turtle Mountain and Quappelle being the principal points of interest at present. There is a good deal of grain coming in here at present—wheat, 85c.; oats 70c.; hay \$10 a ton, but likely to be high; potatoes \$1.50 a bushel. This place is going to advance very rapidly, and the greatest difficulty will be to get lumber in fast enough to meet the demand. The road will be taxed to its utmost capacity to carry the trade. Everybody I see speaks in the highest terms of the winter here, this having been one of the finest ever known here. The crops turned out splendid, and the farmers whom I have met generally are well satisfied, with the exception of one now and again, who want to sell out and go into speculation. This in many instances gives an excellent opportunity to those coming in (who have means enough) to buy a place with teams, houses, implements, and very often a large amount of ground ready for crop in the spring, and find a good home at once, where they can take their family and be comfortable, at a reasonable price. J. W. V., Brandon, Man.

**TO CHANGE POTATO SEED.**

SIR,—It is often quite desirable to get seed potatoes from a distance, and so renew the seed by the change of soil and climate they are grown in. I believe that through Upper Canada until 18 years ago, when a severe drouth nearly out of the crop, they had paid very little attention to changing seed, or in trying to improve this crop much; but as they then got a large share of their seed from the State, it gave them a change which I think has greatly improved the tuber as a crop in the Dominion. Now there is again a chance to make another good change of seed by getting it from Scotland and Ireland, as it is offered so freely now in our markets. H. I., Batavia, U. S.

SIR,—Can you inform me if there is in Canada a factory for condensing or concentrating milk? I would be thankful for any information on this subject, as I am thinking of establishing one, if I can see my way to do so safely. It would be a great benefit to the buyers of milk in towns, as well as to dairymen, as buyers would have it at hand for use at any time. It would also serve to equalize in some measure the prices between town and country. The price of milk in some country places is but two cents a quart, while it is from five to seven cents in the towns. Your giving insertion to this letter of enquiry in your paper may be a means of initiating a new industry here, and will oblige J. G., Yarmouth, Ont.

SIR,—Most of the crops in this section were not as good as in the previous year. The hay crop, however, was unusually large, and is selling from \$9 to \$10 a ton. The potato crop was not up to the average, but the demand has been so great for export, with high prices, that farmers have received more money for this crop than they have for many previous years. I have been experimenting for the last two years with different new kinds of vegetables, and give you the results in some instances. In potatoes I had Beauty of Hebron, Clark's No. 1, Burbank's Seedling, American Magnum-Bonum, Mammoth Pearl, St. Patrick, Early Ohio and White Elephant. The Beauty of Hebron and Clark's No. 1 proved the best early potatoes for yield, and equal to any for quality; Early Ohio is a first-class potato in quality, but requires very rich land to yield well; Mammoth Pearl yielded well, of medium quality; American Magnum-Bonum a failure with me, both in yield and quality; Burbank's Seedling a very good yielding late potato of fair quality, could not see much difference between it and the St. Patrick; White Elephant, a late potato, proved the best of its class both for yield and quality. I had about thirty different variety of peas, of which I consider the following the best:—Early—Bliss, American Wonder, Ferry's First and Best, Blue Peter; late—Telephone, Stratagem, Webb's Kniver Marrow, Telegraph. I also procured a pound of Defiance wheat from the Agricultural Emporium, and it yielded twenty-five pounds of splendid grain; the heads were the heaviest of any spring wheat I have seen. I shall be glad to hear from others of your subscribers in other localities on this subject, believing it would prove profitable and interesting. W. H. T. D., Weymouth Bridge, N. S.

SIR,—In the March number of the F. A. my attention was called to your article on meadow fescue, so to keep the ball rolling I have sent you another, as I think too much cannot be said in favor of English grasses, as they only require a fair test to be fully appreciated. As a general rule the sowing of grass seed does best when sown early in spring on a fair, rich, mellow soil; if this is done while the frost is leaving the ground, no harrowing will be necessary, as the spring rains wash the seed into the honey comb left by the frost, and secure to it an early germination. They are also successfully sown in August and September, when the fall rains generally give them sufficient growth to withstand the effects of the succeeding winter, if the land is free from standing surface water.

Grass seed is generally sown with grain, wheat, rye, barley or oats, but if the grass be sown alone, and sufficiently thick, the young plants will exclude the weeds and occupy the soil as profitably as can be done with the grain, through the moisture and shade which is secured by the presence of the grain; yet it often fails when thus sown from the absence perhaps of sufficient sun and air, or more probably from the exhausting crop of grain which precedes it.

We do not sufficiently appreciate the violation of one of the essential principles of rotation in this practice, as the grass is of the same class of plant as the grain which has just been taken from the field; when followed by clover this objection fails.

There is usually a great deficiency of grass seeds sown when permanent meadows or pastures are required; the English method is to mix together and sow on a single acre, without any grain, two to four bushels of various grasses, which are best adapted to the purpose; a quick and full growth rapidly covers the surface with a rich herbage, frequently surpassing in value that of the best matured pastures or meadows.

I would here say, in justice to the English farmer, that were we to follow his example of sowing more grasses, the varieties of which I will hereafter mention, we would as you remarked, enrich our land, improve our stock, and fill our pockets, the latter being the principal thing we are all looking after; for nothing less than two bushels or 28 pounds of mixed grasses will ensure a good, lasting, permanent pasture. We do not say that it requires two bushels of timothy or clover, but permanent grasses. When I first thought of sowing grass seeds, I was told by the seedsman with whom I dealt that it would take from two to three bushels of seed per acre, which would cost from five to seven dollars; this I thought enormous, and I did not fully make up my mind to sow any for three years afterwards, but being a constant reader of an English journal, which contained many good articles on grasses, I at last made up my mind to give it a trial. I first experimented on one acre, and the result is I now have ten, and I intend seeding down ten more this spring. For the amount of early hay I have cut, and the excellent pastures I have had for my stock I would not be without it for double the cost.

I cannot altogether agree with you in recommending it for trial in such small quantities. I think a half acre is little enough for a good trial, as those grasses are no new thing; they may be to us, but practical farmers who have tried them, and who now have good meadows and pastures for years in climates similar to ours, is, I think, a sufficient guarantee to warrant a thorough trial, as experience has taught me that they only have to be tried to be appreciated. I do not allude (when I am speaking of grasses) to meadow fescue alone, but several other varieties, and I will, if not occupying too much of your valuable space, give a description of the grasses for the use of animals in England; there are said to be no less than two hundred varieties, while, in the occupied portion of this country, with a greater variety of climate and situation, we hardly cultivate ten. Meadow Foxtail is a variety of grass in England, both for meadow and pastures; it grows early and abundantly and gives a large quantity of after grass. Kentucky Blue Grass or Smooth Stalked Meadow is highly esteemed for hay and pasture; the seed ripens in July and is self sown upon the ground, when the succeeding rains gives it vitality, and it pushes out its long slender leaves two feet in height which in autumn falls over, matting the whole surface with excellent herbage; then there is the Annual Meadow Grass which flourishes in most soils and in nearly all situations, affording an early herbage and relished by all stock, being very hardy; the three fescues, called Purple Fescue, Sheep's Fescue and Hard Fescue, are all indigenous to this country and good pasture grasses.

Orchard or Cocksfoot grass.—I have read in the F. A. from time to time articles on this variety, but a word here may not be out of place; this is one of the most profitable grasses grown for good arable soils and especially for those that are shaded; it should be cut for hay before it is ripe, as in seeding it becomes coarse and hard, and is less acceptable to cattle; it is ready for the scythe with the clover, and after cutting it immediately springs up and furnishes two or three crops of hay or constant pasture throughout the season; it should be fed closely to secure a tender herbage; twenty to thirty pounds is what I usually sow per acre; it will flourish from Maine to Georgia. Recently experiments have shown the Italian Rye grass to be of great benefit in this country; though I have never tried it, I know of its being cultivated with good success on good soils; it has yielded large returns of valuable forage; it is better sown in spring, either by itself or with barley. Sweet Centred Vernal grass is also an early and valuable grass; it has a delightful fragrance, being a late as well as an early grass, and succeeds best in a dry, sandy loam, affording two and sometimes three crops in a season; then we have the Red Top grass, which is better known than all other kinds in this country; it is a very hardy, luxurious grass, loving a very moist soil, and grows luxuriously under favorable circumstances, and is relished by cattle; I have found it to succeed well when sown with Orchard or Blue grass.

In connection with the above mentioned grasses we must not forget our Timothy, which usually comprises a portion in each mixture and is a fine grass, but has not the standing qualities for permanent pastures that many of the others have, nor has it the early growth, nor the powers to withstand drouth. I have also tried many kinds of clover, and probably in the future will give my experience with them, for advice to new beginners. I hope that some of my brother farmers will give their experience with grasses and let us keep the stone rolling, and find from each other's experience the advantage of grasses for permanent pastures and for hay.

#### IMPROVED GRASSES, Askin, Ont.

#### WILD OATS.

SIR,—I want to know the best plan for killing wild oats on a field when I summer-fallow and the oats grow up. Would it be any advantage to pull them out, or plough them down again?

G. M., Marsh Hill.

[There is great difficulty in exterminating wild oats, owing partly to the great vitality of the grain; when you come to consider the fur jacket, thick skin, and small, fur-covered kernel, it may be easily understood that they may be for a great length of time, especially in a dry season, on or in the ground without either germinating or dying. On the subject of wild oats we published a prize essay (see FARMER'S ADVOCATE, Vol. 9, pages 19 and 20). However, for the benefit of our subscribers and others who have not preserved their numbers, we give the method most approved of for eradicating this pest. The most favorable time to eradicate wild oats effectively, is after harvest. Immediately after the crop is taken off plough the ground, but in no case plough over two inches deep, and have it ploughed on a fine dry day; harrow it and let it remain so till early in spring, then harrow it with a heavy harrow, so to cut the two inches through. This is done that the seed which fell on the ground from the former year's crop must be kept so near the surface that it will have every chance to grow. In two or three weeks the wild oats will look splendid; then plough them four inches deep, and you will have a nice few after this ploughing. Give the land at least three ploughings through the summer, increasing the depth, for the seed will be in the ground for a long time, until it is brought near the surface with the plough. Plough a little deeper the last time than is your usual custom; harrow after each ploughing when the oat plants appear, and always choose a fine day.]

SIR,—Can you tell me through the ADVOCATE the size and depth of a silo required to hold, say five acres of western corn of good average crop? Also the probable length of time that amount of ensilage would feed a given number of cattle. Also if sides and floor require to be plastered with water lime, the former being eighteen inch wall and the latter clay.

J. F. C., Ingersoll.

[We would thank any of our subscribers to give the information asked for, from their own knowledge.]

SIR,—Would you please (1) inform me through the columns of your valuable paper whether whitening would be of any use for manure if it cost nothing but the labor of digging and bringing 7 or 8 miles? Also the manner of applying it. (2) Is it of any commercial value? (3) If a person exhibits poultry at a show, has he to give their pedigree? (4) Would you publish a plan for building a cheap and efficient fruit dryer for home use? I think it would be of value to many subscribers. (5) Aught a colt to be carried before it is two years old.

W. B. N., Angus, Ont.

[We have had no experience of the use or value of whitening as a fertilizer; whitening is merely a species of white chalk; some of our subscribers may have seen it so applied. It depends on the rules of a poultry association whether a pedigree for fowl exhibited is required or not.]

SIR,—I observe your entry on Ensilage—very encouraging. I sent a communication to the Annapolis Journal, explaining an experiment conducted here. If you should wish to give your readers the benefit of it, it is at your service. I also notice the Meadow Fescue. I have grown it—stock like it. The seed is expensive, and for a permanent pasture it is most too expensive for ordinary farmers. I think of trying the common clover (*Trifolium incanum*) for soiling. I have an animal, a Guernsey cow, that was put in the stall the 22nd of December, 1879, and has stood there since, with the exception of a few weeks on the after feed, and occasionally littered when the feed is young and tender in the first part of summer. I find Comfrey the earliest and yields the most cuttings. I don't understand how Professor Brown could place Comfrey so low on his scale.

W. H. H.

[Reports of Comfrey from Maritime Provinces are favorable, but the reverse for Ontario.]

[Several letters are laid over until next issue.]

## MARCH-APRIL, 1882.

### READ OUR

## GRAND PREMIUMS!

Every Subscriber or member of his family, every Postmaster or Schoolmaster, who sends One Dollar before the 1st of May, 1882, to pay for a new subscriber to the FARMER'S ADVOCATE AND HOME MAGAZINE for one year may choose one of

### FOUR VALUABLE PRIZES

NAMELY:—

**One Plant, 6 to 12 Inches, Russian Mulberry;**

(See cut in March Number)

**1 Pound Meadow Fescue or English Blue Grass;**

(See cut in March Number)

**A Collection of Vegetable Seeds, 15 Varieties, and a Packet of this Year's Novelties;**

Beans—Golden Wax	Parsnip—Hollow Crowned
Cabbage—Early York	Pumpkin—Mammoth
Cucumber—Long Green	Radish—Scarlet Turnip
Lettuce—Hanson	Savory—Summer
Melon, Musk—Green Nutmeg	Spinach—Summer
“ Water—Long Island	Squash—Hubbard
Onion—Red Wethersfield	Tomato—Acme
Parsley—Moss Curled	

and One Packet New Estampes Cabbage.

—OR—

**A Collection of Flower Seeds, 15 Varieties, and a Packet of this Year's Novelties;**

Asters—Mixed	Mignonette—Sweet
Balsam—Double mixed	Nasturtium—Dwarf, mixed
Candytuft—Purple & White (mixed)	Petunia—Countess Ellermere, Dark Rose
Convolvulus—Major, mixed	Phlox Drummondii—Mixed
Dianthus—Heddiwigii double	Portulaca—Extra Fine, mixed
Feverfew	Sweet Peas—Mixed
Marigold—Finest mixed	Zinnia Elegans—Fl. pl. mixed

and One Packet Verbena—Defiance—Deep Scarlet.

The above Seeds have been put up expressly for our Prizes by one of our best seed firms under a guarantee that they are first-class in every respect. The plants and seeds will be forwarded in the proper season by mail, postage prepaid.

**The Shepherd's Dog.**

No farm is complete without one or more intelligent well-trained dogs, adapted to the various wants of their owners, and the general taste has made their presence almost universal in every rural household. The dog is peculiarly the friend of man and the delight of the children, particularly the boys. The dog alone of all the brute creation seems capable of a disinterested self-sacrificing affection, and this, with his usefulness and adaptability to all climes and countries, has made him a favorite in every quarter of the globe.

The Colley or Scotch sheep dog differ much in their form and appearance, but agree in their intelligence, docility and usefulness. They are of medium size, with a sharp nose, broad forehead, and small upright ear; they are both shaggy and smooth-haired, with a bushy tail, and much hair about the neck; variously colored, though more frequently inclined to black or darkly spotted and gray; and one branch of the family is entirely destitute of a tail. They possess an instinctive sagacity for the management of sheep; and in company with a well-trained dog, under the direction of the shepherd, they soon become entirely competent to the control of the flock. They perceive his wishes by a word or sign, and with almost the speed of a greyhound, dart off to execute them. Accounts of their performances have been frequently related, which seem almost incredible to those unacquainted with their peculiar character.

The following anecdote, often told by the gifted poet, Mr. James Hogg, more generally known by the sobriquet of the Ettrick Shepherd, will show their capacity more fully than any description:—

"On one night, a large flock of lambs that were under the Ettrick Shepherd's care, frightened by something, scampered away in three different directions across the hills, in spite of all that he could do to keep them together. 'Sirrah,' said the shepherd, 'they're a' awa!' It was too dark for the dog and his master to see each other at any considerable distance, but Sirrah understood him, and set off after the fugitives. The night passed on, and Hogg and his assistant traversed every neighboring hill in anxious but fruitless search for the lambs; but he could hear nothing of them nor of the dog, and he was returning to his master with the doleful intelligence that he had lost all his lambs. 'On our way home, however,' says he, 'we discovered a lot of lambs at the bottom of a deep ravine called the Fleah Clench, and the indefatigable Sirrah standing in front of them, looking round for some relief, but still true to his charge. We concluded that it was one of the divisions which Sirrah had been unable to manage, until he came to that commanding situation. But what was our astonishment when we discovered that not one lamb of the flock was missing! How he had got all the divisions collected in the dark is

beyond my comprehension. The charge was left entirely to himself from midnight until the rising sun; and, if all the shepherds in the forest had been there to have assisted him, they could not have effected it with greater promptitude. All that I can say is, that I never felt so grateful to any creature under the sun as I did to my honest Sirrah that morning."

They are quiet and good-natured, good watch dogs, never inclined to roam or neglect their duties, and as little disposed to injure the animals intrusted to their keeping. They have almost the intelligence of the shepherd in discerning the vagaries of the flock, and ten times his efficiency in driving it. No extensive sheep-walks, unless closely hemmed in by impassable fences, should be without one or more of these useful animals.

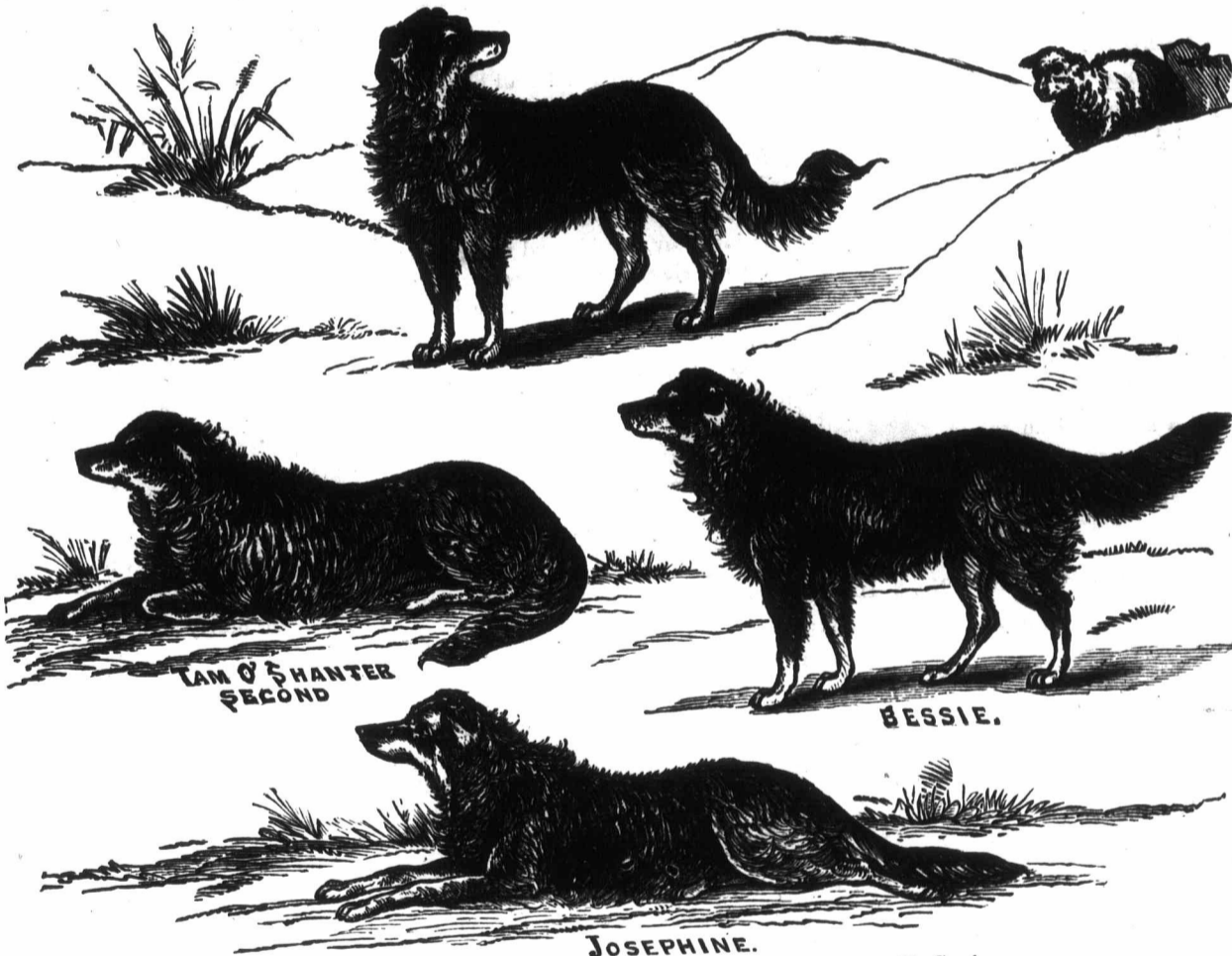
**Sometimes.**

Sometimes—not often—when the days are long  
And golden lie the ripening fields of grain,  
Like cadence of some half-forgotten song  
There swept a memory across my brain.  
I hear the landrail among the grass,

Impatient of the tears that rise to mine,  
I turn away to seek some work undone,  
There dawns a look upon some stranger face;  
I think "How like and yet how far less fair!"  
And look and look again and seek trace  
A moment more your fancied likeness there—  
Sometimes

O! sad and sweet thoughts! O! foolish vain regrets!  
As wise it were, that time June roses blow,  
To weep because the first blue violet  
We found in spring has faded long ago.  
O love, my love, if yet by song of bird,  
By flower accent, by some sad poet's rhymes  
My heart, that fain would be at peace, is stirred,  
Am I to blame that still I sigh sometimes?  
Sometimes!

And sometimes know a pang of jealous pain.  
That, while I walk all lonely, other eyes  
May haply smile to yours that smile again  
Beneath the sun and stars of Southern skies?  
The past is past! but is it sin if yet  
I, who in calm content would seek to dwell,  
Who will not grieve, yet cannot quite forget,  
Still send a thought to you and wish you well—  
Sometimes?



SCOTCH COLLIES, OWNED BY J. K. FELCH, NATICK, MASS., U. S. A.

**Boiling.**

I wish it were possible to impress every cook with the conviction I hold upon the subject of boiling. More mistakes can be made in carrying on this process than almost any other; things that ought not to be boiled are boiled, and things that ought to be are not. It is easy to make these mistakes; there comes a time in baking, frying or broiling when injured nature revolts and burns up. But a thing may boil until not a vestige of its original condition remains, and unless the water evaporates it may go on boiling for hours without

The dro sy murmur among the scented limes;  
I watch the radiant butterfly pass,  
And I am sad and sick at heart sometimes—  
Sometimes.

Sometimes, when royal winter holds its sway,  
When every cloud is swept from azure skies;  
And frozen pool and lighted hearth are gay  
With laughing lips and yet more laughing eyes,  
From far-off days an echo wanders by  
That makes a discord in the Christmas chimes,  
A moment in the dance or talk I sign  
And seem half-lonely in the crowd sometimes—  
Sometimes.

Not often, not for long. O friend, my friend,  
We were not lent our lives that we might weep:  
The flower-crowned May of earth hath soon an end  
Should our fair spring a longer sojourn keep?  
Comes all too soon the time of fading leaves.  
Come on the short, cold days. We must arise  
And go our way and garner home our sheaves,  
Though some far-faint regret may cloud our eyes—  
Sometimes.

Sometimes I see a light alm't divine  
In meeting eyes of two that now are one,

reminding one by smell or smoke that it is spoiling. Nothing suffers more from treatment than coffee. To make the ideal cup of coffee—the almost unattainable—brown and grind the berry at home; it is more trouble, but the result is so satisfactory that you will be more than paid for your labors. Then have the water boiling when it is poured over the coffee. If you use the ordinary tin coffee-pot, be sure to stuff something in the nose to keep in the steam and fragrance (and, by the way, do not try to use one of these for a lifetime). Our own coffee-pot being sent to the tinshop to be repaired, we tried the experiment of making coffee in a new tin pail with a tightly fitting cover, and such coffee have we had that the tin pail has been in use a month. It is, of course, a little extra trouble to pour it into a presentable pot for the table, but it is enough better to pay. There is nothing so nice to settle the coffee as an egg. Mix an egg with the ground coffee before pouring hot water on. If eggs are expensive you may compromise by measuring the coffee for two mornings and dividing the egg; or mix the coffee, adding a little cold water, and divide this, taking great care to cover that which is left very closely.

### Nucle Tom's Department.

MY DEAR NEPHEWS AND NIECES.—It is beginning to feel something like spring. However, we must not be too certain, for April is the month for little tricks of all kinds. Let us be careful and not be caught by make-believe spring weather. I was pleased with the great number of letters I received for March, and so many with all the answers to the puzzles correct; now do not let there be a falling off because the fine weather is approaching, but rather follow the words of the good old motto, "Persevere and you'll succeed." I see you do not understand the rules yet; you must always send the answers with the puzzles, and if J. R. H. will read my letter in January number, he will see what prizes are offered. Miss Elizabeth E. Ryan, of Mount Forest, Ont., has been the fortunate one to win the illustrated rebus for April. Some one sends us an illustrated rebus by writing and telling us how to draw it. That's no way to do; sketch your own.

UNCLE TOM.

### PUZZLES.

#### No. 1.—DIAMOND PUZZLE.

A consonant; a jewel; a small horse; a country-like meal; to examine; a consonant.

ELIZABETH E. RYAN.

#### No. 2.—ANAGRAM.

Shote how canton peek herit now rectess tough ton ot eb strutneed thiw het cetress fo hersot.

CHARLES FRENCH.

#### No. 3.—ENIGMA.

I am composed of 10 letters.  
My 2, 5, 4, is a river in Switzerland,  
My 4, 10, 6, 7, is an ancient city,  
My 3, 2, 4, is a carriage  
My 1, 9, 10, 8, 7, is a common land substance.

FRANK DOND.

#### No. 4.—HIDDEN FEMALE NAMES

Old Peg races well.  
Jim! a bell is ringing.  
What! tie, scarf and ring lost, Hattie.  
Ed; I think you are mean.

The earthquake shook it and the bridge tumbled into the river.

SARAH HENDERSON.

#### No. 5.—WORD SQUARE.

- 1—A collection of maps.
- 2—To copy.
- 3—A language.
- 4—Sour substances.
- 5—The understanding.

HERBERT W. MACKENZIE.

#### No. 6.—DOUBLE ACROSTIC.

(1) To cover. (2) To kindle. (3) Shaped like a circle. (4) Rushes. (5) A weapon. (6) A large house. Each word is composed of five letters. My initials read upwards, and my third letters read downwards will name two kings of England.

H. W. MCK.

#### No. 7.—DECAPITATION.

Whole I am very essential to the success of a mechanic. Behead and I was forbid to the ancients. Behead again and I am what none desire to be. Twice curtail and I am what none desire to lose.

JAS. A. KEY.

### Answers to March Puzzles.

- 1—Boston.
- 2—Let us then be up and doing,  
With a heart for any fate,  
Still achieving, still pursuing;  
Learn to labor and to wait
- 3—Piebald.

4—OPAL  
PET  
AT  
L

- 5—Dr. Livingston.
- 6—Telephone.
- 7—Bath, Perth, Tunis, Dover, Lima, Reading.
- 8—Constantinople on the Bosphorus is the capital of Turkey.

### Names of Those who have Sent Correct Answers to March Puzzles.

Hattie Mitchell, Mabel Roe, Millidge B. Troop, Thos. Dearing, Edwin Robson, C. Gertie Heck, Emily A. Vansickle, H. B. Herrington, Robt. McFaul, Fannie S. King, Sarah Henderson, Isaac Martin, Esther Louisa Ryan, Arthur H. Mabee, Geo. Chisholm, Louie Meston, Fred Mills, Lizzie McLaughlin, Maggie Smith, Gile Arnold, Charles French, Calvin W. Finch, W. Hull, Robt. Wilson, John Clark, A. J. Taylor, R. Hood, Reuben Truesdale, Lizzie, Ada, Aggie Gilroy, Tena, Addie V. Morse, Frank Dond, Charles S. Stephens, Nellie McQueen, Jas. A. Key, Winifred McEvoy, Walter C. Laing, Walter J. Stretton, Anny A. Lancaster, Willie Andrews, C. G. Keys, jr., Frank Sharman, Minnie G. Gibson, Nellie McQueen, A. Philips, J. A. Hornbrook, Albert Bateman, Maggie H. McKerron, Flora A. Shaver, Robt W. W. Purdy, W. H. Bateman.

### Minnie May's Department.

MY DEAR NIECES,—I want a little plain, private talk with you, upon a very interesting subject. You know you all have "gentlemen friends"—some more, some less—but you are all blessed to a certain degree with these useful and pleasant appendages. Of course it is understood that they are "only friends," nevertheless they call on you unnecessarily often, unnecessarily take you to theatres, operas, etc., and—confess it!—occasionally lure you into cosy, confidential talks, on occasions when your sisters are otherwise engaged. From generalities they gradually glide into per-

and charmingly as though he had continued to feed you with confidence. And you—well, you begin your recriminations! Now this is the point at which I want your full attention. Do you know that is the most utterly stupid and suicidal thing you can do? In the first place it flatters the man's vanity, which is usually full-fledged from the beginning; but where are your grounds for reproaches? if he could not give a satisfactory reason for his prolonged absence (as he probably could not), what must be your conclusion? simply that he had no overwhelming desire to see you; and thus it would place you in a very humiliating position. Bear in mind always that if your friend proves not to be so devoted and true a one as you thought, no amount of recrimination or "nagging" will bring him up to your standard. Affection cannot be forced. Finally, my dear young ladies, do not be too quick to fancy you are the chosen confidante of the friend who can talk to you as he does with all his other lady acquaintances. On the other hand, do not too hastily assume that a friend is indifferent. He may have the best and most flattering reasons for keeping aloof from you; but where the evidences strongly point to indifference, let it alone, there is no help for it; to attempt to fan the faint spark into a flame is to extinguish it.

MINNIE MAY.

### Answers to Inquirers.

SUBSCRIBER.—To make good bread you must have good flour and good yeast. The sponge is made over night in the centre of a pan of flour with warm water and a cup of home-made hop and potato yeast to about four loaves, the yeast is put in when about half the flour and water are mixed and then the remainder of the water is added and the sponge beaten with a wooden spoon for fifteen minutes and left to rise over night in a moderately warm place. In the morning the bread dough is mixed and kneaded for half an hour, adding flour to make a stiff dough and left to rise in a mass. It is then made into small loaves, being kneaded with as little flour as possible, and put in pans to rise the second time, and when light bake in a moderately hot oven for nearly an hour.

A SUBSCRIBER.—In what way should a lady answer a letter of condolence from a gentleman friend? By letter, or is sincere thanks when meeting him sufficient? ANS.—It depends altogether on circumstances, the depth of the lady's mourning, the degree of friendship subsisting between herself and the gentleman, and many other considerations. As a rule people do not expect answers to letters of condolence for some time, and should a meeting take place in the meantime a few words of thanks for "your kind letter" would be sufficient.

P. W. S.—There is no rule of etiquette against an old man of sixty marrying a lady of nineteen. So long as the lady is pleased, her friends have no right to criticise. Those who are nearly related to her may advise, and her parents, until she is of age, may command, but we can have little to say on the subject. As a rule, we think it is best that the husband should be some years older than the wife, but how many depends upon the individual taste. We certainly do not think that ten to fifteen is too much; forty may be.

OLD SUBSCRIBER, MONTREAL.—COOKING FROGS.—Only the hind quarters are eaten. After skinning them boil about seven minutes, then throw them into cold water, drain them, sprinkle a little flour over them and fry a light brown. Serve very hot.

ATLAS.—1st. Yes. 2nd. No; he should open the door and allow the lady to pass in. 3rd. The lady should precede the gentleman through gate-ways, doors or single pathways. 4th. The lady should always follow the gentleman upstairs and come down behind him.

We are in receipt of "Our Little Ones and the Nursery" for April, published by the Russell Publishing Co., of Boston. It is a most charming journal for little folks, with big type and pictures on every page, comprising amusement and instruction.



No. 8.—ILLUSTRATED REBUS, won by W. Hull, North Seneca, Ont.

sonalities, and hen, oh, how very interesting they are! After the particular "he" of this sort has left, you say to yourself as you sink back on the sofa he has just vacated, to indulge in a little reverie, "How nice he was this evening! I don't believe he talks in that way to Lou or Belle or Kate." So, you dear little, flattered, innocent soul, you begin to think he regards you with special favor, and your heart gives a little flutter, although you are not in the least in love with him—oh, no. Of course he will come again soon, for did he not say when he bade you that lingering "good-night"—"Well, Miss Jennie, I really do not know when I have passed so thoroughly enjoyable an evening. Somehow when I am with you (with glance and tone almost pathetic, so that for the moment you feel like blessing him with your perpetual presence from that time forth) I find myself drawn into confessions of weakness—indeed I reveal my inner self as I would not to my sister or mother. You will not repeat what I have said, remember it, is strictly *entre nous*; and we have not half finished our talk; I fear I shall inflict my presence upon you too often in future." But he does not come. You, dear soul, have been thinking over those serious subjects upon which you exchanged ideas that evening, and you are just "dying" to "exchange" again. Every ring at the door bell sets your heart bounding with hope, but week after week goes by and still he does not come. At first you make excuses for him, but eventually you become indignant, and you'll treat him very coolly if you chance to meet him. Finally, some evening, probably when you are not thinking much about him, he comes. He greets you as blandly

## Stock Notes.

Cards in the Breeders' Directory are now \$1.50 per line in advance, or \$2 per line per annum if not paid within three months from order. Breeders will please note this increase. The increasing demand upon our advertising space and upon our reading columns by these cards necessitate our increased rate.

A meeting of the breeders of Jersey Cattle, and those desirous of assisting in the more extensive introduction of this stock into Canada, will be held at the Walker House, Toronto, on Thursday, the 13th April, at 1 30 p. m., for the purpose of forming an association to take united action in all matters appertaining to the improvement of this breed. All friends of the "Jerseys," whether breeders or not, are cordially invited to be present.

Messrs. Jeffery Bros., of Whitby, have just imported four splendid Clydesdale mares, being part of the purchase made by Mr. H. Jeffery during his last visit to Scotland. They intend making further importations this coming summer. Such enterprise is, we hear, specially needed in their section on account of the extensive purchases made by our neighbors across the line.

Recent sales from the Moreton Lodge Herds, of F. W. Stone, Guelph, Ont., viz., Shorthorns—(bull) 3rd Duke of Kent 33445, to Mr. N. Macdonald, Blyth, Ont. (Cows)—Maude 5th and Rock Rose 5th, to Mr. John Dix, Little Britain, Ont. To Mr. J. J. Rust, East Saginaw, Michigan—(heifer) Cherry 10th; (heifer calf) Queen of Moreton; (bull calf) Baron Abraham 3rd. To Mr. W. Wilson, Fitzroy, Ont.—(bull) Lord Dufferin To Mr. W. Grant, Elderslie, Ont.—(bull) Manimus.

Herefords.—To Mr. J. J. Rust, East Saginaw, Mich.—(bull) Cupid; (heifer) Lady Moreton; (heifer) Beauty 11th. Mr. Rust also purchased from Mr. A. Stone, Guelph, Hereford heifer Hebe 8th.

Berkshires.—To R. J. Turner, Brucefield, Ont. boar pig; to J. Chapman, Teeswater, Ont., boar pig; to Messrs. Hay & Patton, New Lowell, Ont., boar (20 months old).

White Breed pigs.—To J. Cook, Lansdowne, Ont., boar pig; to G. A. Parrot, Napanee, Ont., (pair) boar and sow.

The attention of our readers is directed to the sale by Dawes & Co., Lachine, P. Q., on the 27th inst., of their entire herd of Ayrshires, and other well-bred stock. The reputation of the Messrs. Dawes is a sufficient guarantee both for quality of stock and fairness of sale.

The Queen's Plate for 1882 will be run for over the Newmarket Track near this city. As this is the racing event of the season, no doubt the sporting classes will hail this boon with great pleasure, and unusual efforts made to have a good meeting.

Messrs. H. & R. Beith, Bowmanville, have sold to Mr. Geo. Cockburn, Baltimore, Ont., that celebrated Clydesdale stallion, "Black Knight," recently imported by them for \$3000.

Hon. M. H. Cochrane, of Hillhurst, Compton, P. Q., will hold an important sale of Shorthorn Cattle at Dexter Park, Chicago, Ill., on the 18th inst.

The Canada West Farm Stock Association, of Bow Park, Brantford, Ont., will have a large sale of stock at Glen Flora, Waukegan, Ill., on the 20th inst.

The Messrs. Gibson, of Ilderton, Ont., will sell 50 females and a number of young bulls, being almost the entire Belvoir and Manor herds, and other high bred Bates cattle, at the same place on the 21st inst.; also

Messrs. Hugh Love, of Hills Green, and James Cooper, of Kippen, Ont., have imported from England a fold of Shropshire Down Sheep. The ewes were purchased from Mr. Grasseck, Whetmore, Salop Persie, Nottinghamshire, England, and the rams were bred by Mr. Richard Bach, Elsieh, Herefordshire, England, and from the very best stock in England.

George Hill, Delaware, Ont., has sold his pure bred Bates Bull to A. McPherson, Camphelton, Ont.

Mr. James Phillips, Maidstone Cross, Essex Co., Ont., has purchased from Mr. John Oke, Darlington, Durham County, that thorough-bred Clydesdale Stallion "Young Victor" (imported), who was awarded 3rd prize at Toronto Industrial Exhibition last fall.

At the next Chicago fat stock show prizes are to be offered as follows:—Early maturity; animal showing the greatest average gain per day since birth, entries to be accompanied by affidavit, giving exact age. Cost of production; entries to be accompanied with a verified statement, giving itemized cost of production, the exact age, breeding of the animal, the weight, as well as the market value of the several kinds of food consumed year by year from date of birth until the animal is exhibited.

The Shorthorn cow, 5th Duchess of Hillhurst, purchased by the Earl of Bevefe for 4,300 guineas, has calved a roan heifer by Grand Duke 31st, 38374.

Mr. Wilkin, Waterside of Forbes, Aberdeenshire, has purchased from the Earl of Southesk the Polled cow Vine 2nd of Skene, 3329; her bull calf by Kingmaker, 1794; her last year's heifer calf Valentina, 4587, by His Grace, 1721. These are for exportation to America. Mr. Wilkin has likewise purchased for use in his own herd Lord Southesk's fine bull Octavius Eric, 1797, got by Editor out of Erica 8th, 3850.

Sir Henry Allsopp's pure-bred Shorthorn cow Grand Duchess 21st has been sent to the butcher. She was within a month of fifteen years old, had ceased to breed, and become rheumatic.

H. Sorby, of Gourck, Ont., has sold to Joseph T. Sifton, Wallacetown, Ont., two Southdown ewes and an Essex sow; to James Anderson, Springfield, one Essex sow; to James Stirton, Manitoba, two Berkshire sows; to W. Sharman, Manitoba, one sow; to F. Kieffer, Mildmay, Ont., one pair; to A. B. Parker, South Farmington, Nova Scotia, one pair. There is a good demand for young stock.

E. Dillon & Co., Bloomington, Ill., write:—We have closed out all of our last importation of Norman French horses, and all the stock of our own breeding old enough for the market. There has been an unusual demand for Norman stock this season. Two of the members of our firm are now on their way to France to purchase stock, and expect to return in August with one hundred head of the finest stallions and mares that they can find in France.

The 10th Duchess of Onedia (1873), by 2d Duke of Onedia (9936), purchased by Mr. A. J. Alexander, at the celebrated New York Mills sale, Sept. 10, 1873, for \$27,000, died on the 2d inst., on the Alexander Farm. Her late owner has raised some valuable stock from her.

Nothing like advertising in the ADVOCATE. I have more orders for stock and seed grain than I am able to fill. RICHARD RIVERS, Springhill, Walkerton, Ont.

The north riding of Oxford and Blandford Agricultural Society will hold a stallion fair at Woodstock, Ont., on the 19th April.

John Snell's Sons, Edmonton, Ont., report sales of two Shorthorn heifers, Olga and Claribel, to C. G. Keyes, Palmyra, Ont.; one Shorthorn bull, Royal Prince, to John B. Smith, Angus, Ont.; also one pair of Berkshires To Dugald Campbell, St. Thomas, one pair of Berkshires; to S. R. Stouffer, Stouffville, one pair; to George Green, Stratford, one trio; to R. Wright, Burbrook, one boar; to James Bloomfield, Jarratts, one boar; to Jas. T. Sifton, Wallacetown, four Southdown ewes and seven lambs. To Prof. Brown, for the Agricultural College Farm, Guelph, the imported Berkshire sow, Lady Derby—1st prize sow at the Royal Show, at Derby, 1881.

Mr. Benjamin Watson, of Edmonton, Ont., has six Cotswold ewes, which have produced nineteen lambs this spring, viz., five triplets and one quartette, and he wants to know if any of the Downs can beat this record.

Mr. H. Beadle, of Auburn, Huron County, has sold one of his imported heavy draught stallions, "Honest Tom," 1 year and 8 months old, weighing 1,570 lbs., to Messrs. Down and Colquhoun, of Hibbert, Perth Co., for the sum of \$1,500. He is a very fine animal, and reflects great credit on Mr. Beadle's judgment as an importer of heavy draught horses.

Mr. W. H. Maroon, seedsman, Guelph, offers decosticated cotton seed meal at \$2 per 100 lbs.—price, per ton, on application. He informs us that the Model Farm are now making some experiments as to its feeding qualities. Send to him for a circular. —Advt.

We would call the attention of our readers this month to the advertisement of Oliver & Carter, plow manufacturers, Palmerston, who are turning out plows at the rate of 10 and 12 per day; and which plow and its history has been the means of changing the whole system of plowing, and the plow trade of both the United States and Canada. Mr. James Oliver, the original inventor of chilled iron mould boards, commenced the manufacture of them at the Oliver Plow Works, South Bend, Ind., U. S., in the year 1870. The first year he made 700 plows, and increased year by year until his works now cover 26 acres, and have a capacity for 700 plows per day. The first plow of that make that came to Canada was sent by him to Mr. John Oliver, of St. Mary's, who used it for some years on his farm, and was so convinced of its value and superiority over the long-handled Scotch plows then in use that he imported several car loads to St. Mary's and Stratford, and in the meantime learned the process of chilling the mould-boards, which so many have tried and failed at, and now, in company with Mr. Carter, a live business man, they are making a speciality of plows in Palmerston, Ont., and state they are prepared to supply the trade with a plow equal if not superior to the original Oliver.

## Commercial.

THE FARMER'S ADVOCATE OFFICE, }  
London, Ont., Apl. 1, 1882. }

Another month of rough, stormy weather. The country roads are said to be about impassable, which has had the effect of making trade very quiet.

## WHEAT

Has ruled very quiet, and little or nothing doing except in a local way. Markets in the west are higher and very steady, owing chiefly to the very light deliveries and the operations of the "bulls," who seem to be masters of the situation, at all events for April delivery. The prospects for the coming crop—both in England and on this continent—are, on the whole, good. Stocks are light throughout the country, and in Great Britain as well, and any weather scare would put prices up, for a time, at least. Stocks in New York are somewhat heavier than this time last year, while Toledo and Milwaukee show a decrease of over three millions of bushels in both ports.

## CORN

Is attracting a good deal of attention in the west, and the stocks are not heavy, and the amount in western cribs is said to be only half that of one year ago. Should the planting season be late or unfavorable, we may look for still higher prices. Corn has become a very important factor in the commerce of the Western States. It is not very many years ago since corn, in many localities, would not pay for shipment. Ten years ago the cost of sail shipment from the west to the east was an embargo on its movement. Now this is all changed. Corn goes from the remotest points to Europe, or is fed to stock which goes there. The limit of the demand has never been reached, while prices remained anywhere near the medium.

## CATTLE

Good fat cattle are in good demand, and prices are good. There are a good many being shipped to Great Britain via Boston, freights from that port being much cheaper than by way of Halifax. Sheep are scarce and high.

## HORSES

The trade in horse flesh is very brisk and the demand unusually good. Montreal quotations are about 35 per cent. higher than at this time last year. The average price paid in Montreal last week was \$121.16, against \$124.13 the week previous, and \$89.61 for the corresponding week last year. Prices are good, and farmers will do well to avail themselves of the same.

## POTATOES

Boston advices report the price of potatoes to be declining. All kinds of white potatoes have fallen to 80 cents, owing to the heavy shipments from Great Britain.

## CHEESE

Has, no doubt, been somewhat disappointing to a good many, still it is no doubt better for the coming spring trade that prices are settling down. The effect of this will be to clean out all the old stocks before the new begins to move. American agricultural papers are strongly advising factory-men to put off opening their factories till as late as possible, in order to get stocks of old cheese well

out of the way before new begins to move. This, with the high price of butter all through the States, will have the effect of making the early make light. All kinds of coarse grains are high, so that farmers are not feeding much but hay. Cows are also said to be coming in rather late.

There is plenty of poor, but a scarcity of good is about all that can be said about butter.

FARMERS' MARKETS.

Table of market prices for various goods in London, Ont., 1st April, 1882. Includes items like Wheat, Oats, Peas, Corn, Hay, Lard, Eggs, etc.

GRAIN AND PROVISIONS.

Table of market prices for grain and provisions in Montreal, P.Q., 1st April. Includes items like Wheat, Cornmeal, Butter, etc.

Table of market prices in Toronto, Ont., 1st April. Includes items like Wheat, Oats, Peas, Corn, Hay, Lard, Eggs, etc.

WHOLESALE PRODUCE MARKETS.

Table of wholesale market prices in New York, 1st April. Includes items like Flour, Wheat, Corn, etc.

BOSTON, MASS., 1st April.

Table of market prices in Boston, Mass., 1st April. Includes items like Flour, Butter, Eggs, etc.

HALIFAX, 1st April.

Table of market prices in Halifax, 1st April. Includes items like Flour, Butter, Eggs, etc.

Table of market prices in Liverpool, Eng., 1 April. Includes items like Flour, Spring wheat, Red Winter, etc.

DAIRY MARKETS.

Liverpool, Eng., 1st April. Per cable, 61s 6d.

LITTLE FALLS CHEESE MARKET.

The sales of factory cheese to-day were 425 boxes, at 12c. to 12 1/2c. There were 400 packages of butter. Sales at 34c. to 40c.

LIVE STOCK MARKETS.

Boston, Mass., March 31.—The cattle market is active and strong at 1/2c advance on last week's prices, exports being quotable at \$6 75 to \$7 50. For the week, exports have been 600 cattle, and beef quarters 750. Receipts of sheep for the week 11,000 head. Market strong at \$6 50 to \$7 25.

BRITISH LIVE STOCK MARKETS BY CABLE.

Liverpool, Eng., 31st March. CATTLE. The brisk, active movement which has characterized the trade for some time, was conspicuous during the past week, and with small offerings values were firm at the following rates.

NEW ADVERTISEMENTS.

RUSSIAN MULBERRY PLANTS.

A small stock of the above desirable plants from 6 to 12 inches, for sale. Single plants, 40c. each per mail; three plants, \$1 per mail, postage paid. Address, ALEX. PONTEY, 196-b St. James' Park Nurseries, near LONDON, Ont., Canada.

ZIMMERMAN Fruit and Vegetable Dryer!

MANUFACTURED BY RICHARDS BROS., 404 & 406 Yonge St., Toronto, Ont. Highest Awards at the Provincial Exhibitions at Hamilton, 1880, and London, 1881. Dries all kinds of Fruit and Vegetables better than any other apparatus, and adds 50 per cent. to market value.

Advertisement for Lovett's Manchester Strawberry Catalogue, 104-F&A.

TO JERSEY BREEDERS

Mr. PHILIP DeGROUCHY, of the State of New York (a native of and formerly a breeder of the Island of Jersey), is now purchasing JERSEY STOCK for use on the Island, and will accompany them out in May. Any person desiring his services to purchase Jerseys for them on the Island can obtain information by applying to me. VALANCEY E. FULLER, 194 tf "Oakland" Farm, HAMILTON P. O.

GREAT WESTERN RAILWAY!

MANITOBA!

The Sixth Special Colonist Train will leave the line of this Railway for Winnipeg and the North-West WEDNESDAY, APRIL 5, 1882

These Special Colonist Trains have been arranged for the convenience of intending settlers, and will run weekly until the end of April. Passengers are carried through in first-class cars and on fast express time. No freight cars are attached to these trains. A reliable agent of the Company will accompany these special parties through to Winnipeg. For further particulars see small bills, or apply to any of the Company's Stationmasters or Agents WM. EDGAR, F. BROUGHTON, General Pass'r Agent. General Manager.

AMBER CANE SEED.

I will send to any one free, on receipt of one dollar, sufficient seed to plant two acres of choice Amber Cane; best paying crop in Canada. Send for circular and price list. 196-c WM. NEWTON, Oshawa, Ont.

FARMER AND IMMIGRANTS

coming to Manitoba can be supplied by us with Horses, Oxen, Cows and General Outfits. Farms fully stocked, with breaking done ready for crop, always on hand for sale. Lots in Brandon and other places. JOHNSON, STARR & Co.; Station, on 6th Street, BRANDON, MANITOBA.

MANITOBA!

J. GURD & SON, 185 DUNDAS ST.-P. O. BOX 146, LONDON, ONTARIO. Parties going to the North-west should equip themselves with Shot Guns, Rifles, Revolvers, Cartridges, Fishing Tackle, and all kinds of Sporting Goods at our establishment, as we keep the largest and best in the west, and our prices are as low as the lowest. Illustrated Price List free by mail, 196-tf

CLYDESDALES!

10 superior, recently imported and Canadian bred mares for sale, all of which are recorded in stud book. Also a Shetland Stallion—a beauty. Apply to JEFFERY BROS., 196-a WHITBY, ONT.

BEEF AND PORK



Never brought a better price than during the present season. The prices of all kinds of grain feed, however, are correspondingly dear. By feeding Thorley's Improved HORSE AND CATTLE FOOD!

ONE-THIRD, at least, of the usual grain feed can be dispensed with, while the fattening period will also be materially shortened. Parties feeding for the butcher or for exportation should not fail to use it. Be sure you get the food from bags with our stamp on them.

For Sale Everywhere. Manufacture, 48 John-St. South, Hamilton, Ont.

PEARCE, WELD & Co., 300 RICHMOND STREET, AGENTS for LONDON.

1882 NORTH AMERICAN POULTRY YARDS.

EGGS FOR HATCHING from pure bred B.B.R. Games, W.F.B. Spanish, Plymouth Rocks, Light Brahmas, White Dorkins, and Partridge Cochins. Fair hatch and satisfaction guaranteed. Exhibition stock for sale after Sept. 1st. Eggs \$2.00 per setting of 13, or five settings for \$7.00. Send for descriptive circular. Address CRISPIN BROS., Churchill P. O., Ontario.

A Young Jersey Bull for Sale. Address SAM. SMOKE, Canning P. O., Ont. 196-b

GLOBE LIGHTNING ROD COMPANY,

94 King St., LONDON, ONTARIO. A FULL STOCK ON HAND. Orders from Dealers Solicited. Samples and Price List Sent on application. T. C. HEWITT, 198-tf MANAGER.

IMPORTANT TO BREEDERS OF AYRSHIRE CATTLE

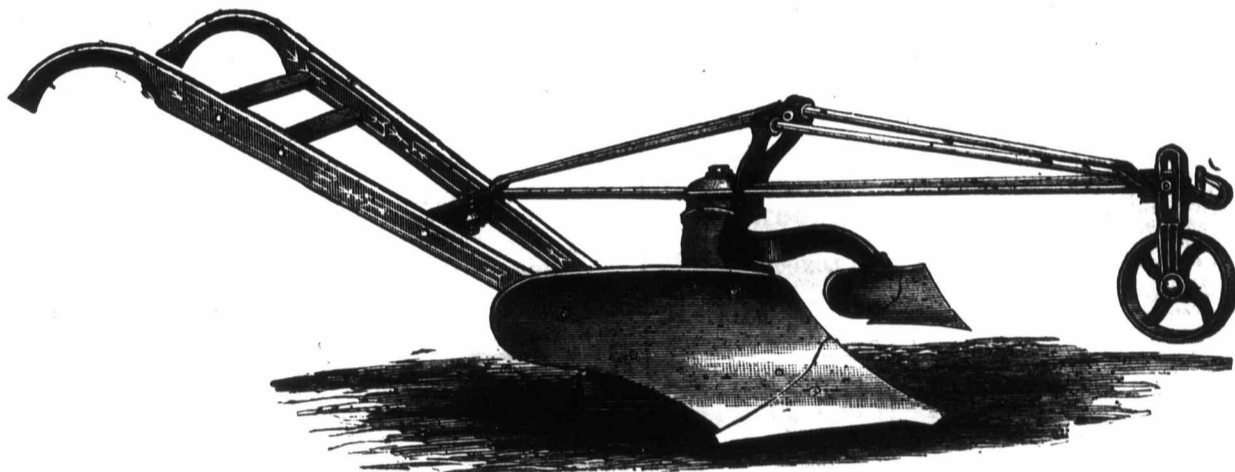
—ON— THURSDAY, APRIL 27, 1882 the Subscriber is instructed by MESSRS. DAWES & CO., to sell at the WILLOWS STOCK FARM, Lachine, six miles from Montreal, their entire herd of PURE-BRED AYRSHIRE CATTLE (about 40 head), all imported or from imported stock, and registered in Canadian and U. S. Herd Books; also Two Imported Hereford Bulls and a lot of choice bred Berkshire Pigs, bred from imported stock. Sale of every lot without reserve, with exception of Hereford Bulls. Catalogues by applying to C. F. ELWES, Auctioneer, 295 Notre Dame St., Montreal.

LAND PLASTER

From Paris and Cayuga, in bulk, barrels or bags. Brockville superphosphate of lime in 250-lb. barrels; and Chloratum, the new top-dressing and insect destroyer, in 250-lb. barrels, from Paris. Car lots of above in any proportion. GILL, ALLAN & Co., Paris, Ont. 195-b

# THE "SEEGMILLER" TRUSS BEAM PLOW!

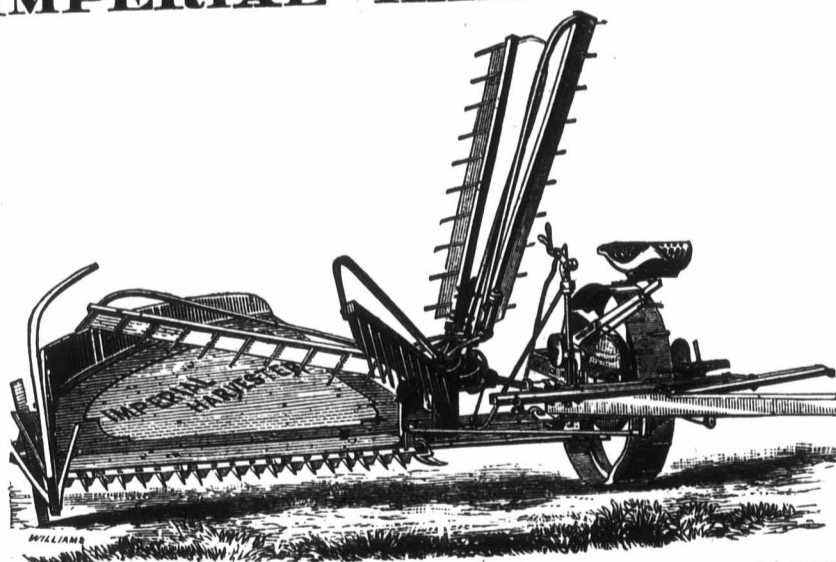
Flexible Wheel, Universal Standard Jointer Attachment.



This Celebrated Plow is made in Canada. It combines all the advantages of the best American chilled plows, with additional improvements. The material used in their construction is the best made; they are constructed by the most skilled mechanics; their durability and efficiency are unsurpassed. The thousands of testimonials from those using them are such as to satisfy all that this is the plow for the million.

Plows sent, freight prepaid, to any firm in Ontario, Quebec, the Maritime Provinces and Manitoba. Address—  
**SAMUEL SEEGMILLER, Agricultural Foundry, GODERICH, ONT.**

## IMPERIAL HARVESTER!



The most perfect and complete Reaper in the world. Contains more practical patented improvements than any other Harvester in the market. It is the only machine made with platform and raking apparatus tilting independently of truck. In simplicity and durability it excels all others. It can not get out of order, and is guaranteed to work in any kind of grain. It is the cheapest machine ever offered to the farmer. It has no equal, and every farmer wants one. For particulars send to

**GLOBE WORKS CO., London Ontario.**

N. B. — AGENTS, if you want to sell the BEST machine made, see the IMPERIAL HARVESTER.

## SAWYER'S Grain Saver THRESHER



READ WHAT THE FARMERS SAY OF IT:

John Burkell, Rosemeath, Ont. — "Runs easy, light and very steady."  
John Beemer, St. George, Ont. — "No time lost, runs all day without stops."  
Pulifer & Charters, Brampton P. O., Ont. — "Works well in all kinds of grain, wet or dry."  
C. Nelson, Burn-Brae. — "Second to none; stands at the top over all threshers."  
Jesse E. Furry, Lowbanks, Ont. — "No dust; no breaks; no stoppages."  
John Sigsworth, Harrowsmith. — "Threshes clean without wasting grain."  
Alcock & Fleming, Ravenna. — "Beards barley, wet or dry, perfectly."  
C. B. Taylor, Trenton. — "Works splendid; gives universal satisfaction."  
Anglin Bros., Brewers Mills. — "Runs and feeds easy; is superior to all others."

Address us for Illustrated Catalogue of  
**Threshers, Clover Mills, Horse Powers, Reapers and Mowers.**

**L. D. SAWYER & CO., HAMILTON, ONT., CANADA.**

40 CARDS all Chromo, Glass and Motto, in case, name in gold and jet, 10c.; 10 Lily and Imported Glass, 10c. Transparent, 20c. Motto, Scroll and Engraved, in colors in case, and 1 Love Letter, name on all, 15c. West & Co., Westville, Ct. 194-

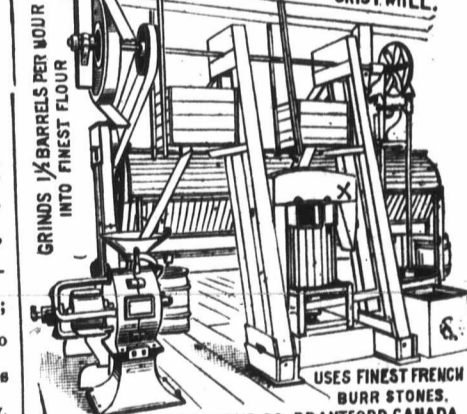
## ESTABLISHED 1840. PETER R. LAMB & Co., Toronto, Ont.,

MANUFACTURERS OF	
Superphosphate of Lime, . . .	\$30 per Ton
Fine Bone Dust, . . .	20 "
1/2 inch " . . .	25 "
3/4 inch " . . .	20 "

Diploma was awarded to us at the Provincial Exhibition, Sept. 23, 1862, for the first Bone Mill established in Upper Canada. 194-d

### AGENTS WANTED

NO. 15 ESTABLISHMENT COMPLETE PORTABLE GRIST MILL.



USES FINEST FRENCH BURR STONES. WATEROUS ENGINE WORKS CO. BRANTFORD, CANADA 193-4f

## BEST WHEAT

AND GRAZING LANDS ARE FOUND ON THE Northern Pacific R. R. IN MINNESOTA, DAKOTA, AND MONTANA.

### BIG CROP AGAIN IN 1881

LOW PRICES; LONG TIME; REBATE FOR IMPROVEMENT; REDUCED FARE AND FREIGHT TO SETTLERS FOR FULL INFORMATION, ADDRESS  
**R. M. NEWPORT, GEN. LAND AGT. ST. PAUL, MINN.**



## Cook's Friend Baking Powder

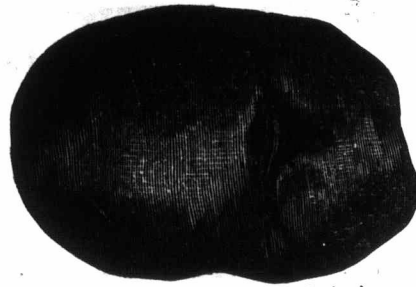
shows that the WANTS of the CONSUMER have been WELL STUDIED.  
**THE COOK'S FRIEND**  
is PURE, HEALTHY and RELIABLE. It will always be found equal to any duty claimed for it. Retailled everywhere.  
ASK FOR McLAREN'S COOK'S FRIEND

## FARMS FOR SALE

In Western Ontario a number of choice Farms. Full descriptive list sent on application. Correspondence invited, full information given, and on personal application at my office plans of the townships shown, enabling strangers to see the position of properties and their proximity to towns, railway stations, &c. Farms with acreage to suit every one. Send to  
**CHARLES E. BRYDGES, Real Estate Agent, London, opposite to the City Hotel, for list of farms for sale. 176-4f**

40 CARDS all Chromo, Glass and Motto, in case, name in gold and jet, 10c.; 10 Lily and Imported Glass, 10c. Transparent, 20c. Motto, Scroll and Engraved, in colors in case, and 1 Love Letter, name on all, 15c. West & Co., Westville, Ct. 194-

# SEEDS!



CLARK'S No. 1. POTATO. (1/2 size.)

## SELECTED SEED POTATOES

**Clark's No. 1**—The seedling originated in New Hampshire; it is said to be earlier than the Rose, and will yield from a quarter to a third more crop. It cooks mealy, is of excellent flavor, and is in every way a capital variety for either the farmer or market gardener. 450 bushels is said to have been raised on one acre, and 22 bushels from one peck of seed. Per lb. 50c., postpaid.

**The Busy**—This new and handsome variety is somewhat different in color to any other, being of a beautiful dark pink; eyes near the surface, rather long in shape; of good size and of excellent quality. This Potato has been grown alongside of most of the newer sorts, and is said by the grower to have excelled them all; they come in about a week later than the Early Rose. (Stock very limited.) Per lb. 50c.

**St. Patrick**—\$1 per peck; \$3 per bushel.  
**Beauty of Hebron**—50c. per peck; \$1.50 per bushel.  
**Early Ohio**—75c. per peck; \$2 per bushel.  
**Burbank's Seedling**—75c. per peck; \$2 per bushel.  
**Extra Early Vermont** } Prices on application.  
**Early Rose** }  
**Late Rose** }  
**Snowflake** }

## SPRING WHEAT.

**Defiance**—It displays great productiveness, vigor and hardiness, is a beardless white chaff wheat, with heads frequently five to six inches long, very closely set with large white kernels, frequently numbering 75 to 80 to the single head. Its white, stiff, erect straw, exempt from the attack of rust, its earliness, combined with great vigor and superior qualities, claim for it universal trial. Price, \$1.25 per peck; \$1 per bushel. Trial packages, by mail, post paid, one pound, 25c. Special quotations for larger quantities.

**Champlain**—A bearded wheat. Per lb., 25c., post paid.  
**Lost Nation, White Russian**, and other varieties—Prices on application.

## OATS.

**Black Tartar**—Grown from imported stock, first year; very scarce. \$1 per bushel.  
**Black Tartar**—Common Canadian grown; extra selected stock. 50c. per bushel.  
**Swiss**—40c. per peck; \$1 per bushel.  
**Australian**—1st quality \$1 per bushel; 2nd quality 60c. per bushel.  
**White Russian**—An extremely handsome, hardy and wonderfully prolific variety, with strong, white straw, which so far has been entirely free from rust. The heads are of enormous length, well filled with plump, heavy grain of great nutritive qualities, which renders it very valuable for feeding purposes, and is claimed to be 10 or 12 days' earlier than that favorite variety the Australian. 1 lb. by mail, post paid, 20c.; per peck, 60c.; per bushel, \$1.50.

## PEAS.

**Golden Vine**—Long strawed pea. \$1.25 per single bushel; ten bushels and upwards \$1 per bushel. Seed very choice.  
**Strawberry Vine**—Excellent cropper, and a fine pea for shipping; they are a little smaller than the Golden Vine, but yield more peas per acre. \$1.10 per bushel.  
**Daniel O'Rourke**—One of the earliest peas in cultivation, and as a field pea they command nearly double the price of common peas for the southern markets. 75c. per peck.  
**Dwarf Blue Imperial**—A great bearer and good flavor. \$ per peck.  
**Black-eyed Marrowfat**—\$1.50 per bushel.  
**White Marrowfat**—\$2 per bushel.

## CORN.

**Longfellow Field**—Per qt. 50c., post paid.  
**Compton's Early Field**—Per qt., post paid, 25c.

Everything for the Vegetable Garden, for the Flower Garden, and for the Farm in seeds. Send for Price List. 1,000 varieties for sale, all sent, post paid, at list price. 25 packets vegetable seeds for \$1; 25 packets flower seeds for \$1.  
Address—

**PEARCE WELD & CO.,**  
SEED MERCHANTS,  
LONDON, ONT.

# PRIZE MEDAL SEEDS!

My handsomely illustrated Seed Catalogue, containing a large amount of valuable information and a list of 1000 Varieties of Vegetable, Flower and Field Seeds, is now ready and will be mailed FREE to all applicants. Intending purchasers will please bear in mind that, with few exceptions, I send SEEDS by mail, postage prepaid, to any part of the Dominion. This enables those living in the remotest parts of Canada to get a supply for the same money as those who purchase personally in my establishment.

**The New White Russian Oats**, which has yielded the past season 70 to 100 bushels to the acre, at \$1.50 per bush; 50 cents for 3 lbs., by mail, postage prepaid.

For other novelties see my Catalogue. Send your address on a postal card for a copy.

Address,  
**GEO. MCBROOM,**  
Prize Medal Seedsman,  
194-4 LONDON,

## TREES. THE TREES.

# ARKONA NURSERIES

Is the best place to secure good Fruit and Ornamental Trees, Grape Vines, Roses, etc., etc.

The stock is large and fine, and is uninjured by the winter. Warranted true to name. Prices low. Send for Catalogue.

A Fine Assortment of popular Green House Plants cheap by the dozen or hundred.

Address all orders to the proprietor,  
**B. GOTT,**  
Arkona, Ont.

195-c ACTIVE AGENTS WANTED.



Thirty-Six Varieties of Cabbage; 26 of Corn; 28 of Cucumber; 41 of Melon; 33 of Peas; 25 of Beans; 17 of Squash; 23 of Beet and 40 of Tomato, with other varieties in proportion, a large portion of which were grown on my five acre farms; will be found in my Vegetable and Flower Seed Catalogue for 1882. Sent FREE to all who apply. Customers of last Season need not write for it. All Seed sold from my establishment warranted to be both fresh and true to name, so far, that should it prove otherwise, I will refund the order gratis. The original introducer of Early Ohio and Burbank Potatoes, Marblehead Early Corn, the Hubbard Squash, Marblehead Cabbage, Phinney's Melon, and a score of other new Vegetables. I invite the patronage of the public New Vegetables a specialty.  
**James J. H. Gregory, Marblehead, Mass.** 193-c

## Best Seeds & Reasonable Prices

# SEED CATALOGUE NOW READY.

**JAMES RENNIE,**  
196-a Toronto, Ontario.

## Early Amber Sugar Cane Seed

1 pound, post paid..... 25c.  
4 pounds, post paid..... 80c.  
By the bushel or 100 lbs..... 10c. per lb.  
Address—  
**JOHN BARTLETT,**  
196-a P. O. Box 26, Oshawa, Ont.



## ORDER EARLY and SATISFACTION GUARANTEED.

SPECIALTIES:—Lee's Black Currants; Burnet Grape; Moore's Arctic, Goderich and other new Plums; Berberry, for hedges; 200,000 Apple Trees, &c.

We pack stock to carry safely anywhere. Letter orders have our personal attention. Send for our Illustrated and Descriptive Catalogue with Prices.

**GEORGE LESLIE & SON,**  
Toronto Nurseries,  
196-a LESLIE P. O., CANADA.

## SMALL FRUITS

PLANTS for the million, at prices to suit the million. A superbly illustrated book, "Success with Small Fruits," with a very liberal offer. Catalogue sent free.  
**Cornwall-on-Hudson, E. P. ROE**  
196-a New York.

## OATS RUSSIAN WHITE PURE SEED

Best in cultivation. 100 bush. an acre. Rust-proof and hardy.  
One peck, 50c.; 1 bush., 75c.; 1 bush., \$1.25; 3 bush., \$3.25; 10 bush., \$10.00; 22 bush., \$20.00; 100 bush., \$90.00. Address  
**C. G. DORMAN,**  
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