THE FARMER'S ADVOCATE AND HOME MAGAZINE.

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THE FARMER'S ADVOCATE & HOME MAGAZINE

WILLIAM WELD, EDITOR AND PROPRIETOR.

THE LEADING AGRICULTURAL JOURNAL PUBLISHED IN THE DOMINION.

The FARMER'S ADVOCATE is published on or about the 1st of each month. Is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for farmers, dairymen, gardeners and stockmen, of any publication in Canada.

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360 Richmond Street,
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Our Monthly Prize Essays.

CONDITIONS OF COMPETITION.

1.—No award will be made unless one essay at least comes up to the standard for publication.

2.—The essays will be judged by the ideas, arguments, conciseness and conformity with the subject, and not by the grammar, punctuation or spelling, our object being to encourage farmers who have enjoyed few educational advantages.

3.—Should one or more essays, in addition to the one receiving the first prize, present a different view of the question, a second prize will be awarded, but the payment will be in agricultural books. First prize essayists may choose books or money, or part of both. Selections of books from our advertised list must be sent in not later than the 15th of the month in which the essays appear. Second prize essayists may order books for any amount not exceeding $3.00, but no balance will be remitted in cash. When first prize essayists mention nothing about books, we will remit the money.

A prize of $5 has been awarded to D. Leitch for the best original essay on *Is Hog Raising Profitable in Canada? What is the Most Economical System of Feeding and General Management? What is the Future Outlook.*

A prize of $5 will be given for the best original essay on *The Best, Simplest and Easiest Form of Book-keeping for Farmers?* Essays to be handed in not later than Sept. 15th.

A prize of $5 will be given for the best original essay on *The most Economical and Profitable Management of Fowl?* Essays to be handed in not later than October 15th.

☞ PRIZES, PRIZES!—Send for sample copies of the FARMER'S ADVOCATE and commence your canvassing for some of the Live Stock and Implement prizes. This is a great opportunity. All who work will be well paid.

Editorial.

Our Prize List.

We again call the attention of our readers to the very liberal prizes of live stock, farm implements, etc., which we give to those obtaining new subscribers. The animals which we have advertised are all first-class, and are bred by reliable breeders. We can heartily recommend them.

Besides those advertised we have made such arrangements that we can supply almost an unlimited number of pure-bred beasts as prizes. We have taken this step to encourage the general farmer to improve his native stock, as well as to open up new markets for the breeders. As our circulation is very large and we intend to push our prizes, we are sure our present action will have this effect. All those who have no pure-bred breeding stock at present, especially in regions where there are no breeders, and those who have pure-bred stock but desire to introduce new blood, will find in our prize list an excellent opportunity. The breeders of all the animals we offer guarantee that they will give satisfaction, and are, as they are represented to be, first-class. The additional animals which we offer will all be well bred, but will vary in quality and age according to the number of subscribers required to obtain them. Every farmer or any member of his family can obtain a prize, and all will be greatly benefitted by the introduction and use of pure-bred stock in their herds or flocks. We have received enquiries from those wishing to obtain prizes how to proceed. If you have no pure bred stock first determine from your surroundings and requirements which would be the most suitable breed for you to obtain. Then, if you desire a bull, canvass your neighbors for subscriptions to the FARMER'S ADVOCATE. Do not give the paper for less than $1 per year, but when the cash is given you, you may give the subscriber the remainder of this year and 1889 for $1. In canvassing we would think it advisable in some cases to allow some of those subscribing an advantage in the service of the bull. Give such favors especially to those who assist you in getting up clubs; for instance, if your neighbor assists you in getting ten names give him the use of your bull on two occasions free, or be more liberal if you so desire, or reduce the regular price of service to him. In some cases you may find it a wise policy to do this in order to get some men to subscribe. Two or more may unite in canvassing for any one prize, or agricultural or other societies may obtain any prize by sending in the required number of names. Any of our subscribers may have the prizes awarded them at any time by guaranteeing us the required number of names: in such cases we will allow them until the first of January to send in the names for the sheep, pig or poultry prizes, and until the first of March for the cattle prizes, but this shall in no way interfere with our regular prizes, for as soon as a prize is won or awarded, we will withdraw it from our prize list in all cases where we cannot satisfactory duplicate it from the same flock or herd.

We intend that no one shall work for nothing. In cases where they do not obtain a prize we will allow them a liberal cash commission. Farmers' sons and daughters can make more money in their spare time canvassing for us than in any other way, and at the same time benefit their neighbors. Read our prize list through; it will be found in our advertising columns. Additions and changes have been made since our last issue. See the conditions, etc.

Let Us Pull Together.

The ADVOCATE is essentially Canadian, and is, therefore, better suited to the wants of the Canadian farmer than a foreign paper. It has a very large circulation extending from Halifax on the Atlantic to Victoria on the Pacific Coast. It is independent in politics; its object in every case is to benefit the farmer and his family for this purpose; it has ever been on the alert since its first issue in 1866. Its editor and proprietor is a farmer of wide experience, who is ably assisted by talented and practical writers in all the various departments, viz., Agriculture, Dairying, Stock-raising, Poultry, Apiary, Veterinary and Horticulture in all its branches. Special attention is given to all market questions and financial matters affecting the farmer. During the past year, we have published articles written by the best American and European authorities—always rejecting those that were not of a thoroughly practical and useful nature. In this way we have heretofore made our paper of great value to our readers; but we are now completing arrangements whereby we will have direct communication with all the Canadian, American, and British Experimental Stations, whereby we can give the result of their labors whenever they are of value to Canadian farmers shortly after they have been concluded. This will be a great advantage to our readers, especially in regards to new varieties of grain, vegetables, etc.

The number of our special contributors will also be added to. Special contributions will be received from various parts of the United States, the Maritime Provinces, Manitoba, the Northwest, British Columbia and Great Britain. Many of these contributions will be monthly, and will

contain all the latest information of value to agriculturists, horticulturists, stockmen and dairymen. Special attention will be given to all these departments; also to any new device in agricultural implements. We will continue to give reviews of the various large flocks and herds of the Dominion. In this branch, we ask the hearty co-operation of all the breeders of live stock. Whenever you sell an animal to a Canadian or foreigner induce him to subscribe to the ADVOCATE; every number that goes into a new vicinity advertises your business and increases your trade; thus your act is mutually beneficial. We will always be ready to publish such articles as contain information regarding the doings of the various societies, or any just criticisms on the same which are given in a friendly spirit; also stock notes and gossip; in fact all matters which will cause our farmers to take more interest in the societies, and in the improvement of their stock.

Better stock and better farming must be the salvation of the older provinces, and together let us earnestly work to bring this end about.

Adulteration of Lard.

A gross and most injurious adulteration by which farmers suffer and the public health and life are endangered is the mixture of cotton-seed oil with lard, says Henry Stewart. The market value of lard is not only unduly reduced by the excessive product, but the character of the adulterant is dangerous in the extreme. The effects of cotton-seed meal upon cows in calf are well known, for numerous cases of abortion are produced by this food used only in moderate quantities. The medicinal character of the cotton plant, the root especially, is well known, and the use of the meal has been found to result in a similar way. If the manufacture of oleomargarine was put under a ban on account of its supposed unwholesome qualities, that of cotton-seed oil lard should be entirely forbidden, because of its known dangerous character.

Although the purity of lard can, to some degree, be judged by its appearance, yet a more efficient way to detect the adulteration is frequently desirable, and we, therefore, give the following simple method :—

The recent examination of lards made at the Agricultural Department has resulted in the discovery of a test by which the presence of cotton-seed oil may be detected instantly by any dealer or house-keeper. The experiment is as follows: As much lard as can be taken up on the point of a caseknife is placed in a teacup. About a quarter of an ounce of sulphuric acid is poured upon it and thoroughly mixed with it. If the lard is pure, it will coagulate, and there will be a little difficulty in the mixing. If it is adulterated with cotton-seed oil and stearine, the mixture will take place immediately and easily. After half a minute one-fourth of an ounce more of sulphuric acid should be poured upon and mixed with it. The whole process thus far should not occupy more than one minute.

The substance thus obtained is poured into a common test tube, such as may be bought at any chemist's shop for a few pennies. The acid, somewhat colored, will sink to the bottom, and the fatty substance will remain on top. If the lard thus tested was pure, the color of the latter will be that of a light colored sponge, changing in a minute or two to a dark cinnamon color. If it has been adulterated with cotton-seed oil, the color at first will be darker, changing immediately to a dark brown. These differences of color are so marked that no experience is required to detect them.

Cards might be printed upon which the colors produced by the sulphuric acid reaction for both pure and adulterated lards might be shown; and dealers, by using this test, may prove to their customers in a minute or two that the lard they are selling is an adulterated article. The experiment is simple, and the cost of it almost nothing. The novel thing about it is the placing of the mixture in a test tube, in which the acid may become separated from the fatty substance, thus making the test much more decisive and satisfactory. This was first suggested by Dr. Thomas Taylor, who has extended his experiments to a number of different animal and vegetable oils.

Maritime Correspondence.

New Brunswick farmers are waking up to the importance of keeping abreast of the times in relation to their calling. In Eastern New Brunswick the Sackville and Westmoreland Agricultural Society invited Dr. Twitchell, one of the editors of the Maine Farmer, to deliver a course of lectures on agricultural subjects. The Doctor came and gave seven or eight lectures on different subjects, giving a good deal of prominence to dairying, and impressing upon farmers generally the importance of keeping a strict account with the land and the stock. In the western part of the Province a farmers' convention was held in July, papers were read and discussed, and speeches were made, all urging upon farmers the importance of putting more thought and more method into their business, and now within the last few days the Secretary of Agriculture has written a letter to the press in which he speaks as if the New Brunswick Government thought of starting a Model Farm and Agricultural College, somewhat, I suppose, after the plan of the Guelph institution. If the government's finances are in a position to warrant such an outlay, all right; but it will probably be thought, by some of the papers at least, that it will be wise to wait and see some of the fruits of the expenditure now being made in Nappan, N. S., in the interests of the farmers by the Dominion Government. As Nova Scotia has had an Agricultural School for a couple of years, and has just now bought a farm to have in connection with it, New Brunswick, perhaps, does not want to be left behind in furnishing facilities for educating in their particular line those of her sons who wish to become scientific as well as practical farmers.

Col. Blair, who has charge of the Experimental Farm at Nappan, just established by the general government for the benefit of the Maritime Provinces, is hard at work making improvements and trying to get the farm into a state that it may be an educator to all who have an opportunity of visiting it. A twenty thousand dollar contract for buildings has just been given out, and the farm is being completely underdrained with tiles; the latter work is in charge of a practical underdrainer from Scotland.

The spring was late, but when farmers did get to work the weather was fine and a good breadth of crop was put in. The summer has been unusually cold, and a little too dry in the early part of it, but latterly there has been plenty of rain, and at present the crops are all looking well. It was thought at one time that hay would be very short, but it has improved so much latterly that it will probably be nearly an average crop in New Brunswick. In Nova Scotia it will be better than last year, but not up to an average in Prince Edward Island. All the crops look well but hay, which will be considerably under an average.

There have been no shipments of cattle from here to the English market this summer. There are two reasons for this; the first is, beef has been in good demand for the home market, and the second is, those who went into the business a few years ago lost money, and others are afraid to undertake it until the conditions are changed.

Better Accommodation for the Shipping of Fruit.

The Ontario Fruit Growers' Association, through their President Mr. Alex. McD. Allan, of Goderich, have for some two years been trying to obtain more perfect handling of fruits by our carrying companies. The matter has been freely discussed at their meetings, and the railway and steamship companies have been approached in the matter with more or less success from time to time. For the past two years a test has been carried on between the lines of steamships running from Montreal, and those from New York, and the railways to these respective points. The result of these tests has been upon the whole in favor of shippers dealing for foreign shipments by New York, on account of the better handling of fruits, and especially in that the steamships from New York paid more attention to keeping the fruit compartments cool on the voyage.

While in Montreal the Gazette interviewed Mr. Allan on the subject, when the matter was placed in all essential points before the public As might be expected, the commercial comunity of the city were anxious to have matters made right with western shippers, so that the trade in fruits should not be lost to the Montreal port. The Gazette interviewed the various steamship companies as well as the railways. Only one steamship company would answer the queries of the reporter, and then only in qualified terms. The general freight agents of the Canada Pacific and Grand Trunk contended that they believed their roads handled fruits as rapidly and carefully as the roads to New York, but they did not hold out any encouragement to the shippers that they would do better than they had done in years past. Mr. Allan replied, in a subsequent interview dwelling upon *facts* and not on the *belief* of any shipper. He stated that since the matter had been opened, he had a personal interview with the representatives of the Beaver Line of steamships, and had gone over one of their vessels in part, and made suggestions as to the requirements of shippers. The result of this is, that the Beaver Line will have ready for the early fall shippers of fruit, three of their best vessels fully equipped with the best modern fan system of atmospheric blast, as well as the latest known methods of port ventilation. This Company will also give through rates to all points in Britain and on the continent. They will give bills of lading from the point of shipping at the count of the Company, and not as formerly upon shippers count. Thus the fruit shippers have assured to them benefits that they have been fighting for, and which they will not be slow in taking advantage of. Should the trade demand it, the Beaver Line will also place in their other vessels the accommodation required by fruit shippers. The vessels that will have atmospheric blast and port ventilation ready in about a month are the Ontario, Huron and Superior; three of their finest ships.

Horticultural Convention.

We observe that there is a move on hand by some of the leading horticulturists of the Dominion, to hold a convention at Montreal on the second week of next January, for the purpose of discussing general horticulture, including fruit growing and forestry. As this convention will be composed only of practical men from all parts of Canada, it is to be hoped that they will get from the Dominion government the small grant of $1,000 which they have applied for. In return for this, they offer the government a stenographer's copy of their report of the meeting for publication and distribution. Such a report would indeed be of value for immigration purposes, and we hope nothing may occur to prevent such a convention convening. The small grant is needed for ordinary outlay, and the resulting benefits to Canada must be large.

The Pros and Cons of Ensilage.

In many of our American exchanges the benefits and defects of ensilage are very freely discussed by able men; some of whom are practical feeders, and some professional experimenters. Practical men seem to be pretty much of one opinion as to the value and economy of ensilage.

Mr. Hoard, the able editor of Hoard's Dairyman, speaks highly of its value. Professors A. J. Cook and J. W. Sanborn, writing in the N. Y. Tribune, shows us plainly that there is a decided difference of opinion among scientific men as to the value of ensilage. (Their articles will be found in other columns of this issue). We would advise our readers to move very carefully in this matter, and intelligently determine for themselves by actual investigation or experiment, whether ensilage or dry fodder will be the most profiable food for their stock. We would be glad to hear from any of our readers who have had experience in this matter. It has been gaining considerable favor in England, and in a future issue we will give their method of preparation.

The Industrial Exhibition.

The approaching Toronto Industrial Exhibition, which opens on the 10th Sept., promises to be a more complete exposition of the agriculture, manufactures and arts of the country than any of its predecessors. The entries in every department, but especially in live stock are more numerous than those of any previous year. In the herd competition alone, in the various classes of pure-bred cattle, over thirty herds have been entered. Specially full and interesting exhibits will be made by British Columbia, Manitoba and the Northwest Territories, and the Algoma District, of the products of these respective portions of the Dominion, and the Government Farm at Ottawa is sending a collection of over 200 varieties of cereals and 150 of potatoes. The management promise a highly entertaining programme of special attractions, the details of which can be learned by writing the secretary, Mr. H. J. Hill, Toronto, for a copy of the exhibition programme. The Governor-General, Lord Stanley, will open the Exhibition on the 11th September.

A poisonous solution applied to the leaves of a plant would doubtless kill a leaf-eating insect, but what effect would it have upon sap-sucking insects, like plant lice or the squash bug? Pyrethrum, or the kerosene emulsion, which affect the respiratory organs, would be far more effective with the latter insects.

The Farm.

Plowing.

Prof. J. W. Sanborn, of the Missouri State Agricultural College, has issued a bulletin giving the results of experiments made by him, in which he shows that as plowing is usually done there is a great loss of power, resulting in either inferior work or overtaxing the team, from the improper adjustment of plows with reference to depth and width of cut, improper adjustment of harness, the use of colter of any form, and the non-use of wheel or truck under the end of beam to regulate the depth of furrow. The tests of draughts were all made with the dynamometer, previously tested for its correctness, and its indications carefully noted, so that the results arrived at can be accepted as correct.

Most farm harnesses have an extention of the hip straps with a loop at the end, through which the traces pass to hold the latter in place when the team is unhitched. This loop is about on a direct line with trace when the horses are hitched to a farm wagon; but when taken from the wagon and hitched to the plow, the doubletrees are so much lower than when on the wagon as to cause an angle in the trace where it passes through the supporting loop to the whiffletree. Such conditions, he found, caused a serious increase on the draught. The least draught was found where the trace extends in a direct line from its attachment at the hame to the center of draught in the plow when adjusted to its best depth for working.

The use of a colter of any kind also added to the draught, while the use of wheel under the beam—now fallen into disuse—lessened materially the draught. Thus, as a result of several tests, with and without the truck or wheel, the following averages were obtained: Average draught per square inch of furrow turned with wheel on, 4.87 pounds; without wheel 5.56 pounds; per cent of draught saved by use of wheel, 14.1. In the test of colters, the old and new style knife and rolling colter were used, with the following results: Average draught with colter on, per square inch of furrow turned, 5.77 pounds; with colter off, 4.99 pounds; loss by use of colter in per cent., 15.6, or about the same as the gain by the use of the wheel.

Strawson's Air-power Distributor.

The English Agricultural Gazette of recent date gives the following description of a new implement which promises to be of value to farmers and horticulturists. The above journal says:—After personally inspecting the machine at work, we are able to report that Mr. Strawson has brought out an efficient instrument, capable of performing what its inventor has striven to realize—a perfect distribution of various substances used in agricultural operations. It was first tried upon oats, and the trial was conducted upon the turnpike road, in order that the spectators might thoroughly inspect the result. The oats were placed in a hopper, which is to be enlarged so as to hold six to eight bushels. The oats are allowed to feed gradually downwards and are delivered over a wide nozzle, over which they pass in a continuous stream. From the nozzle issues a blast of air, produced by a fan moved by the travelling wheels of the instrument, and worked up to a velocity of 3,600 revolutions per minute. The direction of the blast and of the material (oats, or whatever else is being distributed) is further directed by a flanged plate, over which the oats are blown in a fan-like form, extending over a width of about 23 feet. The grains were completely separated and the ground was covered with extraordinary regularity. The machine was next filled with water, and a suitable nozzle was fitted on in place of that used for dry matter. Here the distribution of liquid was very perfect. The water was thrown out as an impalpable spray from which nothing could escape. The machine was next charged with paraffin oil, when the effect was still more marked, as the paraffin was rolled out in a cloud of vaporous-looking fine spray, which was calculated to envelop every blade of grass or leaf of turnip over which the machine passed. The effect when finely-slaked lime was used was, perhaps, the most striking, as the lime formed a dense white cloud, and was distributed with absolute uniformity. Every blade and culm of grass was coated as with hoar frost.

The significance of Mr. Strawson's invention is most evident in connection with insect attacks and blights. Broad-casters and manure-distributors we have already, although this instrument will, we think, prove a formidable rival to some of them; but an efficient means for completely coating or spraying growing vegetation we have not as yet had.

The instrument now for the first time brought forward is superior to Mr. Jephson Rowly's machine for dusting over young turnips affected with fly. The large breadth it takes alone places it in an unrivalled position, and the perfection of the distribution and the extreme state of division of the liquid applications, both give it a peculiar interest.

The machine, to be efficient, must travel at a brisk pace, and easily covers twenty-one feet or seven yards.

Improvements in Agricultural Exhibitions.

BY JOHN DRYDEN, M. P. P.

Having just returned from a short stay in England, where I had the privilege of attending some of the exhibitions then being held, it has occurred to me that it will not be improper to present a few suggestions showing how the managers of our Canadian exhibitions might profitably follow the example of the English shows. In some respects our exhibitions are equal if not superior to those held in England. Our exhibits are more varied and are calculated to interest all classes of the community.

The benefits reach the masses of our people, the entrance fee being placed at such a limit that everyone who has a desire may find admittance. In England the admittance fee to many of the shows is placed at such a high figure as to exclude altogether certain classes of the population.

The machinery halls at some of our exhibitions are far ahead of anything I have yet seen in England. The perambulating character of most of their exhibitions precludes the idea of any great expense in the erection of suitable buildings. The buildings are nearly always of a temporary character, but are built with considerable neatness, and adapted to the uses for which they are intended. Many of them are covered with stiff sail cloth instead of boards or shingles. Iron hurdles enclose the sheep and pig pens. These with the lumber are purchased new, and after the exhibition are sold at public auction. The manufacturers furnish them at a reduced price on account of the advertisement which they receive by their exhibition in use. I am told that at the sales they generally yield a profit.

The most striking advantage which the English exhibition has over the Canadian is the

system of thorough organization seen in its management. The most prominent point to which I wish to call attention in this article is the catalogue of exhibits which is always presented for sale to the visitor on entering the ground. This catalogue, unlike some which I have seen in this country, contains a *complete record* of the exhibits. It contains as well a *complete plan of the grounds*, so that on entering you can, by reference to the plan, direct your steps to any department which you may wish to examine without troubling every third person you meet asking where this or that department is to be found.

I have long been of the opinion that such a catalogue as is found at any of the English shows would be of great advantage if adopted in this country. When I have suggested this I have sometimes been met with the reply, "Oh, this has been tried in the past and has proved an utter failure." This statement, I am bound to say, is strictly correct. I think I have seen every catalogue which has been produced, and I am bold to say that I have never yet seen one that was of any service whatever. Complaint is made that visitors do not purchase the catalogues in sufficient numbers to warrant their production, to which I reply that any person who did purchase only threw away his money, and his neighbor standing by witnessing his folly would be very foolish to imitate his example. The reason of failure is that the record of exhibits was so incomplete, and there was such an utter lack of organization as to carrying out the details, that *no definite information* could be obtained from their use. The proper use of such a catalogue requires the adoption of a few *definite rules*. First, the reception of entries by the Secretary a suffcient length of time before the exhibition to afford an opportunity to prepare a catalogue. Second, that no entries shall be received beyond the date fixed. Third, that every exhibitor of animals shall receive two numbers corresponding to the number found in the catalogue; one of these to be placed conspicuously in the stall where the animal is stabled, the other to be worn around the neck or the head of the animal when on exhibition in the ring. The advantage will at once be apparent. Suppose me, a stranger, visiting your London exhibition for the first time. I am not personally acquainted with any of the exhibitors, but am anxious to inspect the animals and learn their owners. If such a catalogue be prepared my *first need* would be to possess one. From it I would learn where the department which I desired especially to examine is situated. On reaching that point I observe over the animal in the stall the number suggested previously. I at once open my catalogue and find opposite that number the name of the owner, his place of residence, also the name of the animal, date of birth, with sufficient of the breeding to give information as to its value. I need not spend time in a fruitless hunt for the herdsman; I need not tease him, as the public generally does, with silly questions; I can learn everything I need to know from the use of my catalogue.

The same thing is true when the animals are exhibited in the ring. I do not need to stand gazing with wonder, desiring to ascertain to what class these horses belong, or perhaps asking those who are standing near me a dozen questions, which only tend to make both them and me uncomfortable without the certainty of my getting any definite knowledge. Every animal in the ring carries a number which is sufficiently large to be easily seen from the outside. Again I use my catalogue. Turning up this number I easily see to what class it belongs, who is its owner, where his residence is, and so forth. Then, when the prizes are awarded, a very simple contrivance proclaims to the onlookers which animals are successful. It consists of an upright pole with three cross bars marked first, second and third, upon which are either hung or slidden in a groove the numbers of the animals taking the prizes respectively. A catalogue containing such information, with all the details thus carried out, will be found to be something which the majority of the visitors cannot afford to be without. Now, it may contain the entries with no means of connecting them with the animals on exhibition, and if so it is but a *delusion* and a *humbug*, and is not worth the paper on which it is printed No one will buy it, and no one ought to buy it. Such a catalogue as I have described will certainly be carried home by the visitor purchasing it, filled with his notes appended while examining the articles on exhibition. It will be retained for future reference, and because of this it affords an excellent medium for advertising. If properly undertaken, I am sure it would yield a profit to the Association. Those who take this advance step will find they have added *an attraction* to their exhibition which will be appreciated much more than a donkey race or even a skilled lady rider.

Take Care of the Tools.

It is not an uncommon spectacle when driving along the roads late in fall, or early in winter, to see some implements or machinery having that freedom which gladdens the hearts of young folks during the summer months, if allowed to enjoy the same privilege of "camping out." But its effect on the inanimate objects is quite different from those on the gay little company of human beings; while strengthening and brightening the latter it weakens and rusts the former.

All are aware that "camping out" is injurious to the tools; but, perhaps, few of those that follow this cheap way of storing their tools realize that by this method they lighten their pockets by one-third to two-thirds of the price of the goods they allow to shift for themselves. But the larger percent of the implements found scattered here and there through the fields have been left there by carelessness, and not from the want of a more appropriate place. This carelessness and want of energy and system are, however, in most cases, greater enemies to successful farming than the want of capital, which is so frequently given as an excuse for poor farming. What is the reason that many well-to-do farmers become poor, and others starting almost penniless take their place? "Luck of course," but this luck will be found to be in nine cases out of ten in direct relation to the ability and character of the men. Commence at once, put away your tools directly you are done using them, and before putting them away clean and oil them. This will save much annoyance and time spent in looking for things; save labor, for, as you know, it is much easier and pleasanter to work with a clean bright tool than with a rusty one; and will make the tools last two to three times as long. Do not spare the paint brush or the oil can; the more they serve you the better friends they become. A good plan when storing away tools is to paint the parts which are liable to rust, and the handles with hot linseed oil. A mixture of one part of resin to three of lard is also a very good application to prevent rusting.

Fertilizers.

NO. III.

SUPERPHOSPHATE.

Superphosphate, like bone dust, is of special value in the cultivation of root crops and cereals. It is a special fertilizer for turnips, beets, and mangels, and in all cases its effects are greatly increased by the addition of some nitrogenous fertilizers (except, of course, when the soil has already an excess of this constituent). Guano, Chili saltpetre, and sulphate of ammonia are specially adapted for this purpose. The relation of one part of nitrogen to two parts of soluble phosphoric acid has been found to be the best for ordinarily productive loams. The application of only phosphoric acid has been found remunerative only on soils which have previously received large dressings of farm yard manure, or on such soils which are naturally rich in nitrogen and on which the grain is inclined to lodge. On soils containing an abundance of humus some potash fertilizer, *e.g.*, sulphate of potash, muriate of potash, or kanit, should be applied in connection with the superphosphate. On light, sandy, vegetable, or calcareous soil, bone dust or apatite should be preferred to superphosphate, for if sown on soils containing a large percentage of lime, the superphosphate will become insoluble, and therefore the expense of making it soluble will be lost; while on the vegetable or light sandy soils its effects will be largely lost, owing to the lack of absorption these soils possess; but if from some cause or another it should be deemed advisable to apply superphosphate to these soils, it should be applied in small quantities and in a somewhat coarser form.

On all other soils a finely powdered sample should be sown; for, like all other fertilizers, the more intimately it is mixed with the soil the better the results. To accomplish this even distribution, it is advisable to mix earth or sawdust with it, sow it broadcast over the field, and then use the cultivator or harrow freely. Lime, ashes, or any other substance largely containing lime, in either its burnt or unburnt condition, should not be mixed with superphosphate, as it would cause it to become insoluble. Small dressings of superphosphate do not give proportionally as good results as larger ones. From 30 to 50 lbs. of soluble phosphoric acid per acre is an average dressing, but more than twice this amount has been profitably used on root crops.

The essential difference between superphosphate and other phosphate fertilizers is that the former acts much more rapidly, and that its effects are not noticed so long, having usually disappeared in one or two years. It is frequently applied immediately before the crop is sown, but better results are generally realized if applied a few weeks previous to this time. Sowing it the previous fall answers very well on heavy soils; but on lighter soils, especially with an open winter, not as good results have been obtained by this method.

The profit realized by an application of this manure is not confined to the larger crops that are obtained, but is also extended to a better quality of the produce. It causes a better development of the grain; improves the barley for malting purposes; often increases the quality of the coarse fodders by causing them to contain a greater percentage of albumen; diminishes the quantity of water in all crops, but especially in the roots; tends to prevent the

lodging of grain, and causes the crops to mature faster—a very desirable tendency on heavy soils in this climate. It is claimed that these secondary advantages are very frequently sufficient to pay for the outlay, even if no increase in the crop had taken place. These secondary advantages are a good guide in determining where the superphosphate is likely to give good result. It is evident that on a soil which produces short, stiff straw, which would not lodge on any consideration, and which matured its crops rather too rapidly, superphosphate is not the fertilizer most required. A nitrogenous fertilizer would be more in place on such soils.

There are two kinds of superphosphate in general use in Canada. The one is made of bone and the other from apatite—a rock found in various portions of the earth's crust. The composition of the various brands is very varied, and the purchaser should, therefore, insist upon a guaranteed analysis accompanying all the fertilizers he purchases. In these analyses he will, or at least should find the amount of insoluble and soluble, or available, phosphoric acid given. The market price of the former is at present from 1½c. to 2c. per lb., and that of the latter 5c. to 7½c. per lb. The bone superphosphate contains also more or less nitrogen, which at present market prices is worth from 13c. to 16c. per lb. Some manufacturers do not give the actual amounts of soluble phosphoric acid, but the percentage of the insoluble phosphoric acid made soluble. If, therefore, a manufacturer stated that 15 per cent. of his fertilizer has been made soluble, and that the original contained 70 per cent. of phosphate of lime, or, what is the same thing, 29 per cent. of insoluble phosphoric acid, it would not contain 15 per cent. of soluble phosphoric acid, as the inexperienced purchaser might believe, but only 15 per cent. of 29=4.3 per cent. of soluble acid. This complicates matters very much, and gives fraudulent manufacturers an opportunity of leading their customers astray, and the latter should, therefore, carefully investigate the matter and see that the actual amount of both soluble and insoluble phosphoric acid is mentioned in the analysis. Another point on which the inexperienced purchaser is liable to make a mistake, is to confound phosphoric acid and phosphate of lime. The latter compound (a chemical union of three parts of lime and two parts of phosphoric acid), is the form in which it is usually found in nature. It is an insoluble compound containing nearly 46 per cent. of phosphoric acid ($P_2 O_5$). The phosphoric acid is the compound upon which the fertilizing value of all fertilizers belonging to this class depends, and it, therefore, forms the basis of all calculations in this class of fertilizers.

The insoluble phosphate of lime is made soluble by treating it with dilute sulphuric acid. In this process some of the lime in the phosphate is replaced by water, the sulphuric acid gives off the required amount of water and unites with the lime replaced in the phosphate. By this union of sulphuric acid and lime, the compound, commonly known as land plaster, is formed. If two parts of the lime in the phosphate have been replaced by water, the compound will be soluble in water, and will then be called *soluble phosphoric acid*. If only one part of lime has been replaced, it is soluble in citric acid, and is called *available* or *reverted phosphoric acid;* and if no lime has been replaced it is termed *insoluble phosphoric acid*. Since it has been discovered that the reverted phosphoric acid generally gives as good returns as the soluble acid, both these forms have been classed together and spoken of as soluble, or available.

(TO BE CONTINUED.)

Ensilage and Pasturage Compared.

W. D. Hoard, writing on ensilage, says:—"Let me say at the outset, that the question is hardly one of latitude or climate. It is a question of storing and feeding. Here, in Wisconsin, we are fast coming to the conclusion that the most costly of our feeds is pasturage. The economy of practice must be measured by results obtained, and wisdom of expenditure. Measured by these considerations, pasturage milk costs us more than any other taking into consideration the fact, that the average acre of the best pasture will not produce more than 1,300 to 2,000 pounds of milk, while an acre of corn fodder put in a silo, will easily produce 8,000 to 10,000 pounds. We find that corn fodder is the most easily, cheaply and safely handled in the silo. The damage from the elements in dry curing is very great, and there is added the loss or waste in feeding. The silo, practically, is a substitute for pasturage so far as the succulence of the food and quick digestibility is concerned, without its expense. Every year in Wisconsin witnesses the increase of those who believe and practice a partial soiling at least, and they do it through the silo. Now, if it is of the highest economy for us to own no waste land, or land which yields a low return; if it is of the highest economy for us to get the largest return possible for the value of the food consumed; if it is of the highest economy for us to put our land in the most effective shape possible for the use of our animals, does not the same economy appeal to you as powerfully as it does to us?"

Silage and the Silo.

BY PROF. A. J. COOK.

Before building a silo I visited silos in four different States, and from conversation with intelligent farmers became convinced that silage takes the place in winter of the succulent feed of summer pastures and is just what our live stock need. While the chemist finds no more nutritious matter in silage than in dried food, our cattle, horses and sheep do. The silage tastes good, and this indicates its superior value as food. Its digestibility and suitability surpasses that of dried food. Silage can be grown and preserved cheaper than the same quantity of corn can be harvested and cared for in any other way. Especially is this true now that we have learned that a silo may be built right in the barn and at small expense. We got from eight to twenty five tons of silage to the acre; and from two to three tons of silage equals in value one ton of the best hay. Thus we can double our stock by use of the silo, and thus double the barnyard manure secured and so add materially to the fertility of the farm. Convinced of these points, I built a silo, and it has disappointed me only in being too small. I raised no more acres, nor were my crops any better last year than previously. Yet with five acres of my corn crop in silage, I was able to winter more stock than ever before, and my stock never before did so well. For three successive years I had to buy feed to come through the winter; last winter I had some to spare, though the season was so severe and long continued that several neighbors, some who never before had a like experience, paid out considerable sums for feed. My silo is 14 ft. square, inside measure, and 20 ft. high. It cost less than $30, and paid for itself in one season. This season I shall build another for less than half the money, which I hope will be just as good. I shall build 25 ft. high, from bottom of my basement; shall use uprights 2x8 in., which will be firmly secured at the bottom, and above every 10 ft., so they cannot be displaced; I shall seal this inside with boards and coat these inside with hot pitch.

Unless this troubles by permitting the silage to freeze, it will be as good as my old silo, which has three thicknesses of boards, one layer of tarred paper and is plastered inside with cement. We need only an air-tight box for a silo, unless we need to make it double-walled to protect against the cold. If I find the latter desirable I can add the outer wall next year. The door of the silo should extend from bottom to top, and as the silo is filled should be closed by use of tarred paper and 8-in. boards, so as to exclude air. Then in feeding we constantly remove from the top, which is easily done, and prevents all molding. Corn is the best crop for silage. It should be grown so as to raise the best crop, if field corn to be harvested the old way were the object. I plant in drills, about ten quarts to the acre, and then use the fine tooth harrow freely till the corn is too large to safely use it longer. The corn should not be cut till the ears are glazed—just when we should cut for husking. It may be allowed to wilt one day, or more, or drawn at once to the silo, as is most convenient. In filling the silo it is doubtless best to fill one day; then wait a day, as the heating interferes with the fermentation. However, last year I filled my silo as rapidly as possible and the silage was excellent; so sweet, indeed, that no one would think of it upon entering the barn; so sweet that our stock would eat it in preference to good corn and oat meal. We cut our corn, ears and all, and by use of a carrier it goes at once high up into the silo. Care should be taken that the silage is well packed about the walls of the silo. The weighting of the silage is not necessary; we need only to cover with tarred paper, then add two feet or so of cut hay or straw, and throw on this a few boards.

A Cheap Silo.

Messrs. Cook, of Denmark, N. Y., in giving their experience, say concerning a plan which they are reported to have tested for five years:—

We did not wish to spend a large amount in an experiment, hence we concluded to build as cheaply as possible. We procured the necessary rough hemlock, half of it one inch and half two inches thick. One bent in our barn was set apart and girts put in about four feet apart. The boards were first nailed on perpendicularly, after which it was planked over, breaking joints to make it as tight as possible. The bottom was two-inch planks laid in sand. This is, in few words, a description of our silo; very simply and easily constructed; the work can be done by ordinary farm-hands. Now as to the result: We never have lost or thrown away any of the fodder; the top, the sides, the bottom, all has been eagerly devoured by our cattle. As a guarantee of our faith in corn silage and this manner of constructing a silo, would say that we shall erect new buildings this season, and increase the capacity of our silo to 250 tons. What was to us an experiment has now come to be accepted as the most improved method of constructing a silo. In fact many, if they choose to build of concrete, should board up the inside, as the corn will be much better preserved. The fodder is put in whole, instead of being cut in small pieces; this reduces expense very much and, moreover, insures sweeter ensilage and no trouble with mold. Our corn is cut and bound in bundles of convenient size to handle without forks. When ready

to unload, we place the fodder perfectly straight in tiers across the silo, and for the purpose of pressing closely, we arrange to place every other tier with its tops on the butts of the preceding tier. We generally have a man tread it down when put into the silo. As to the possible disadvantage of being heavy to handle, we reply that our experience has shown us no difficulty in handling it in this manner. The heat, to which it is exposed in the silo, makes the corn very much more pliable than when entirely green, or when it is first placed in the silo. For the same reason there is seldom any stalk so large that cattle will not eat it after its exposure to the heat of the silo. We weighted very little—just enough to protect the top.

As a further step towards simplification the Mirror mentions an instance of stacking very green cornstalks in open air; all kept in good condition except the outer foot of exposed surface. Whether or not the whole silage system is, by successive easy stages to be finally crowded out, remains to be seen.

Sober Data about Silage.

BY PROF J. W. SANBORN, COLUMBIA, MO., U.S.

It is flood tide of interest in ensilage in many parts of the West. Is anything like foam raised as it beats upon the shores of our bad practice; or is there only displayed the steady pressure of abiding forces? Millions of our farmers await sober data, and fear that there is still an effervescence of enthusiasm in the reports coming to them from those whose personal observations, loose though they be, are loudly proclaimed conclusive and final. Unfortunately, I have been regarded as an opponent of the silo, when in truth my only effort has been to hold it to the hard facts and confine its growth to its merits. Many of its swaddling claims have passed or are passing into an oblivion from which I do not care to raise them again into view. Entering upon the now of the question I will take two equal sections of land respectively in corn, either for fodder or for the ripened ear—one for ensilage and the other for the air-dried product. If conditions of fertility and culture are the same, evidently the yield by either system will be the same. More, it will be similar even though one be drilled for fodder for the silo and the other grown by the field system for corn. This, Prof. Geo. H. Cook, of New Jersey, who has done the most creditable work on the subject extant, showed in a conclusive field trial.

But it is said that the dry fodder of corn cannot be well preserved with the silo. An empty claim. Professor Cook found that his ensilage lost 18 lb dry matter of its food materials in the silo for every 17¼ lbs. lost by curing in stacks in the field, notwithstanding the field cured fodder stood nearly three months in the field—an unnecessary exposure. I allow mine in favorable weather to stand only a week, and can preserve it in unlimited quantities by stacking or houseing as I have done for years. Thus the claim that the silo enables us to grow and preserve an amount of food that we otherwise could not, thereby vastly increasing our available food, is absolutely groundless Here in the West, where we waste all or nearly all of our corn fodder, it has taken occasional root—because it is found that the silo adds the food thus preserved to the total food of the farm. This fact is due to the absolute ignorance of the ease with which the fodder can be preserved in the dry condition, or and so long as our farmers refuse to learn to save their fodder in the dry state, just so long will the silo be a great aid. Having now concluded that we can grow and preserve each of our two sections of corn or corn fodder in equal amounts, our next step is to ascertain the most economical system of gathering and preserving it. Professor Geo. H. Cook kept the account and found the field system cost $22.71 where the silo system cost $26 41. But had he not husked the corn, etc., the amount would have been much more favorable for the air-drying method. I calculate as follows for one acre of dried fodder corn yielding twenty tons green food: Cutting up and binding, $2.50; drawing, $3.50; total, $6. Professor Cook's cost of $26 for labor of harvesting a smaller crop may be and is too large, but it will not cost far below $1 a ton, or $20, to put an acre of green cut fodder corn under weights in a silo. The difference in the cost of the two systems in harvesting will buy in half of the West in hay, at $5 per ton, two-thirds the nutrition found in the ensilage.

We now come in our course of care of our two lots of corn fodder to the cost of protecting each. I saw in Kansas an iron roof, said to have cost $150, and stated to cover 100 tons of hay. The protection was perfect, save a slight loss on the sides. A separate building for ensilage, although made of wood, cannot be made for less than $900 to $1,000 on the cheap plan, that will cover an equal quantity of nutrition. The wooden silo is called cheap. At our Western prices for lumber of $18 per M, it will cost not less than $2.33 per ton of silo capacity, for it must be remembered that we must measure the space before settling if we are to get the cost of ensilage room per ton. This its friends forget to do, and make 40 lbs, instead of 30 lbs per cubic foot of space. On this basis we get the startling cost of silo room for an acre of fodder weighing twenty tons of $46.60. Land costing $25 requires $46 of silo room per acre. The interest and wear of such a silo will be at least 15 per cent, or $6 99 yearly, which will purchase here nearly 1½ tons of hay having as much nutrition as 6½ tons of ensilage. "Build them in one corner of the barn," says some one. This does not alter the proposition if you utilize a building that also cost. We rob Peter in Paul's interest. Besides, we are without the barns. Perhaps we would better build a barn in order to build a silo in one corner of it. No, a skeleton barn intended only for hay, as a silo is intended only for ensilage, will cost much less per pound of nutrition covered.

Our fodder being now housed by the two systems, which feeds out the cheaper in labor? By ensilage we handle 400 odd pounds to secure the same amount of nutrition found in 100 pounds of hay, or some 300 pounds for the amount found in 100 pounds of dry corn fodder. The one is handled as spoon material, the other on the fork. Which is the cheaper? But, surely, now we have reached the tidal point favoring ensilage—its feeding value. Our acre in dry fodder corn is to fall far in the rear of the acre of ensilaged fodder corn. Professor Geo. H. Cook made a brilliant, practical, theoretical test of just this question, half of fodder corn was put in the silo and half was dried in the air, and for three years his cows failed to discover this "new truth"—that the value of a fodder is governed by the amount of water in it—likewise failed his chemistry. Professor Henry pursued the same plan with identical results. Professor Woll has just published a critical trial of the same order with the same result. Sir John B. Lawes's German experimenters fail to find green food more effective than the same food carefully dried. Three years with green food versus dried foods forced the same view upon me. Dr. E. Lewis Sturtevant shewed nothing better. There is no appeal from these critical experimenters, at least not from them to the careless guesses of the fresh enthusiasm of stock feeders. It would please me to marshal the figures of the above experimenters before the reader, but they are too many for any inclosure that the editor will be likely to assign me. I have not spoken for or against ensilage. It has its fair pros and cons, doubtless. I merely state what I believe to be the sober truth or data, and say: "Choose ye." But strip ensilage of its pretentiousness before choosing.

Time to Fell Trees.

The Hon. John D. Lyman, for many years an earnest student of woodland facts and phenomena, made, in a notable address reported by the Massachusetts Ploughman, the following statement of general value:—

"If you cut down a tree in the month of its growth, if you cut it right off at the butt and do not trim it, that tree will be seasoned in a few days. If you don't believe it go right home from this meeting and cut down a tree and if in two or three weeks you don't have seasoned wood my statement may be doubted. I do this when we cut oak timber, and leave the limbs on. When it is cut in June, we find it seasoned in December, when we go to take up the winter's firewood. We find that if it is cut when the sap is out of the wood it soon becomes sap rotten. If you cut beech, poplar or birch for rails or posts cut them in June or July and let them lie with their limbs on. You will have wood then that is not rotten. You will have fine poles out of the birches or poplars, for they will be seasoned."

A civil engineer writes to the Farmers' Review that he has verified the truth of the appended statement by thirty years of observation:—

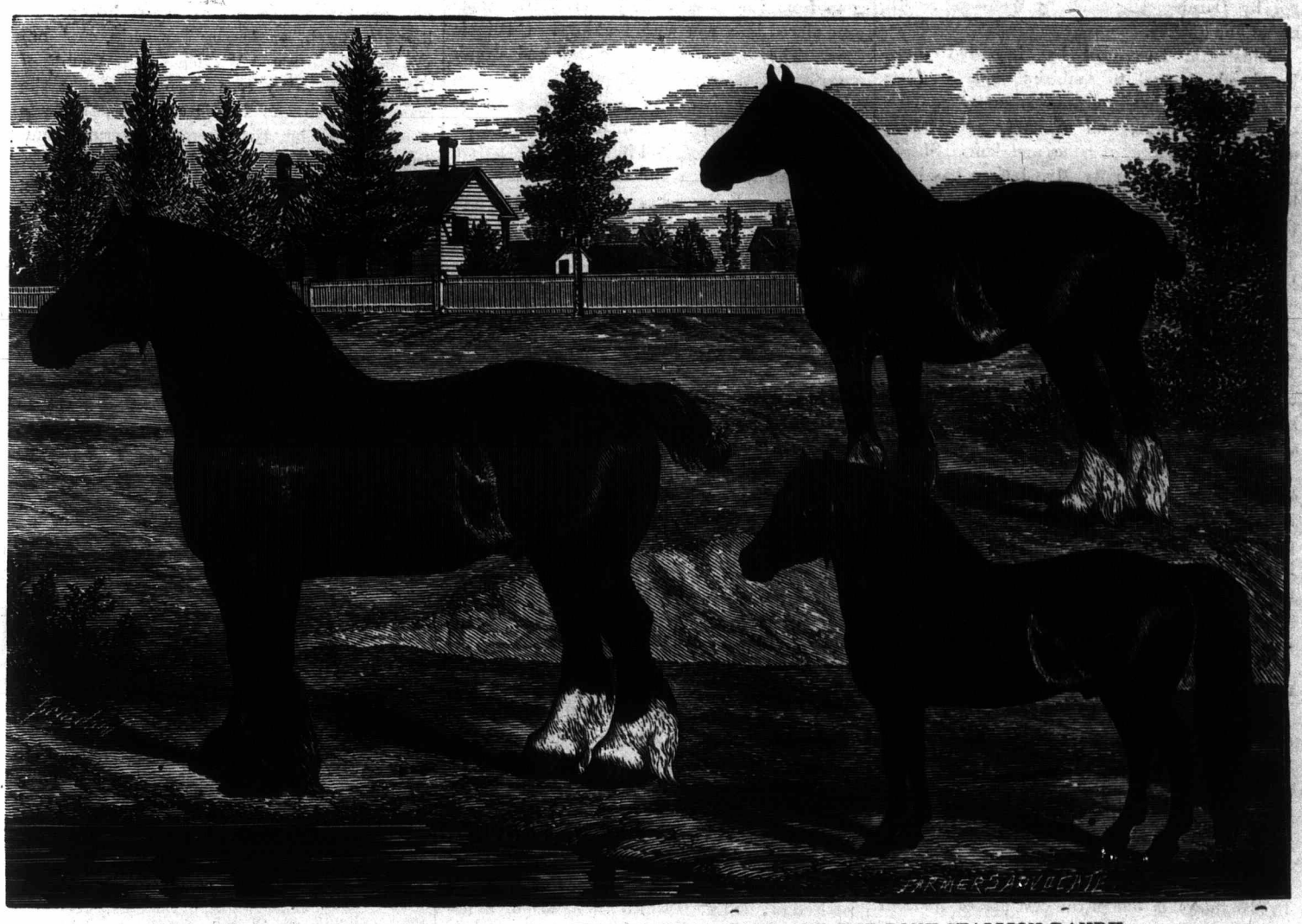
"When the growth commenced in spring is completed there is a period of rest before the storage of nutrition in the roots begins. Between these two periods the timber of any deciduous tree cut off the stump, the sap will not ferment and worms will never get in the wood. It will season hard and the wood if oak will have a horny toughness and great durability. Wood cut during that period is mature, having completed its growth for the year. This period varies in length, being short in the North and longer in the South, and is varied again by the character of the season, if wet it is shorter and longer if dry. In the north it may be four to six weeks; in Southern Illinois from six to ten weeks, and one season of prolonged drouth I have known it to be twelve weeks.

"Timber cut from the stump in this period need not be worked up for a year and will take no harm lying in the woods. If railroad ties were cut from the stump at this time and worked out during the remainder of the year they would last from three to five times as long as those cut in winter, and yet I have seen specifications requiring them to be cut in winter, from a mistaken idea of improving their durability. A bent felloe manufacturer in New Jersey called my attention to this fact, and said that for sixteen years he had thus followed the practice of requiring in his contracts for timber that it be felled during a period of six weeks, from the 1st of August to the middle of September. Any time of the year they might cut up the logs."

Professor J. L. Budd says that the above is worthy to be printed in big gilt letters and hung up in the office of every think-

ing man who has occasion to handle timber for posts, sills, implements, bridges, and hundreds of other uses where strength and durability are required. He adds:—

"I make this positive statement as so few Americans seem to realize the immense loss in time, money, and even of life, in public structures and machinery that results directly from the almost universal cutting of timber in winter when the cell structure is stored with the elements of decay. In some of the countries of Europe—including even Russia—the time for cutting timber is regulated by law, while here railway specifications often require trees to be cut at the season when they are most perishable. My attention was first directed to the superiority of summer-cut timber by observing the extreme durability of poles cut in summer and used by the early settlers of the prairies in making straw sheds and stables."



MESSRS. JEFFERY'S PRIZE WINNERS, AMBITION, MARTHA JANE AND THE PONY STALLION DANDY.

Rust.

This enemy of the wheat, oats and sometimes barley crops, is of so common occurence that all farmers are acquainted with its ravages, and the appearence it presents to the naked eye; but not so many will know that these reddish spots are due to minute plants, the seeds of which are invisible to the naked eye, and are, therefore, easily conveyed by the wind to places far from those in which they were produced. But, notwithstanding their minuteness, they have great tenacity of life, and grow with marvelous rapidity when conditions favorable to their germination present themselves. Inside of fourteen hours they will produce a growth fifty to seventy times as long as the diameter of the seed. The rust plant, known to scientists by the name of *Puccinia graminis*, differs considerably in habits and form of growth from those objects we generally call plants. The latter grow, produce seed, and from those seeds plants are again produced, which are almost identically the same as their parents. But the rust plant has to pass through various stages—each producing seeds, or *spores*, as scientists call them, before the stage is again produced which we commonly call rust.

All will have observed, that when the rust first "strikes" the wheat, oats, or barley, it has a reddish appearance, which changes to a dark brown or black before the fall. This black, or *teleuto* stage, is the one in which it passes the winter—generally remaining on the plant it occupies. In spring, when the weather gets warm, the seeds of this stage *(teleutospores)* germinate and produce other much smaller seeds *(sporidia)*. These are carried away by the wind in all directions; those not lighting on a barberry leaf perishing, while those that do, if the other conditions are favorable, will germinate and produce a plant bearing yellowish seeds *(æcidiospores)*; these, when lighting upon one of the varieties of grain affected by rust, will produce the red rust *(uredospores)*. These red rust seeds will for a time reproduce the parent plants; but, about the time when the grain is ripe, they change to the black form in which they again pass the winter.

Preventatives:—The most important of these are the removal of the barberry and the drainage of the land. If the barberry could be entirely exterminated, it is probable that the rust would disappear with it. Grain grown on low, moist soils, especially if rich in humus, is much more liable to become affected than when grown on dry land, and, therefore, drainage acts as a preventative. An overplus of nitrogen, even if the soil is dry, favors the production of rust; and, therefore, heavy dressings of farm-yard manure, or the plowing under of heavy crops of clover should be avoided on soils suffering much from rust. Sowing the seed early is undoubtedly a great preventative of rust; and where rust is prevalent only early ripening varieties of grain having good, clean, stiff straw should be used. Sowing lime or salt has been recommended as a preventative of rust.

Stock.

At Coldstream Stock Farm,

Situated one mile west of Whitby, in the County of Ontario, the Jeffery Bros. have for nearly half a century conducted their breeding and importing establishment, and by their frank, unassuming manner, and down-right honesty, have won for themselves a very enviable reputation throughout Canada and the United States of America. Animals of their importation and breeding may be found widely scattered throughout America. At present their stables contain imported Lochwinnoch, a magnificent Clydesdale stallion, bred by B. McCarruth, Lawmarnoch, Scotland. This horse, better known as "Jumbo," is very showy; has splendid action, and is a grand walker. He has a finely developed head and neck, with a wonderfully thick and long mane; good shoulders; short, stout back and loins; good quarters, and exceptionally good feet and legs, with an abundance of bone and hair of the right kind.

The noted imported horse Ambition is still in their stables. He has been a successful prize winner at the Toronto Industrial and Ontario Provincial. He is a finely proportioned horse of hardy appearance, weighing 2,150 lbs., and has proved himself an excellent sire.

Merriment, two years old, is their latest importation, having recently landed; he was bred

by Mr. Peter Furguson, Glasgow, Scotland. He is a bay with white hind feet and a little white on the face. His sire was Belted Knight; the sire of his dam was Druid. This is one of the most stylish and promising colts these gentlemen have ever imported.

Among their breeding mares is Martha Jane, bred by J. Pollock, Renfrewshire, Scotland, imported by owners in 1884. The same year she was first in Scotland, first at Toronto Industrial, the Ontario Provincial and other leading fairs. She has been the sweepstake mare on several occasions, and has never been beaten. She is a dark bay, and in foal to Lochwinnoch; a large boned and well proportioned beast, on short legs, and is the dam of two colts, one got by Darnley, the other by Wellwood; both are of fine quality.

Coldstream Lass, got by imported Bold Buccleuch, in foal to Ambition, bred by her owners, is now head of another family; a dark brown, very large, and of hardy appearance, with an abundance of bone and hair. She is descended from a family Mr. Jeffery has been breeding for upwards of twenty years, and in that time they have won numerous prizes at all our leading shows. This family has added as much to Messrs. Jeffery's reputation as breeders as anything they have ever imported. She is the dam of two colts, one of which is now sold; the other, about nineteen months old, by imported Wellwood, is very large and growthy; a dark bay, with but little white, and an abundance of hair and bone, possessing the hardy appearance and great substance of his dam.

The next shown us was the brown mare Maggie, an imported English Shire, weighing 2,000 lbs. Before leaving England she won thirteen first prizes, which is a guarantee of her excellence. Her last colt, by Ambition, now about sixteen months old, is a bright bay, very handsome and of good quality, possessing excellent feet and legs.

Their herd of Shorthorns are of the Scotch type and breeding, and are a good useful lot.

But to all who visit them their Shetland ponies are a great attraction. They certainly are the nicest lot we have ever seen, being short and glossy in the hair, and of a very neat and trim appearance, seldom possessed by any imported to this country. Their stallion, Dandy, now four years old, has been a winner wherever shown. His sire, Mars, winner of twenty first prizes at British shows, is one of the best horses in their native land, and was sold for $1,050 recently. We think their mares are as good as their horses. All are splendid travellers. We were so struck with their beauty, speed and endurance that we determined to give our readers an illustration of them. All their horses and cattle are recorded.

For upwards of twenty years these gentlemen have been successful breeders and importers of Leicester sheep. At the present time they have a fine flock, which, with a number of good Clydesdales, Shorthorns and ponies, are to be found at Mr. Alexander Jeffery's farm, about one mile west of the homestead.

Malinda 4th gave over 15,000 lbs. of milk in a year, an official test of 21 lbs. 8 oz. of butter in seven days, and an estimated yield of more than 909 lbs. within the year, going her own gait without forcing, and yet when she was a heifer she was condemned on account of having a poor escutcheon. So much for that theory.—Jersey Bulletin,

A Chatty Letter from the States.

From our Chicago Correspondent.

There is to be another large dressed meat refrigerator concern started in Chicago. If there is as much profit in the dressed meat business as is talked about, there is no good reason why these establishments should not be multiplied; they could certainly be started as easily as new railroad projects. A new concern of this kind has to fight hard and have plenty of money to get established, as the old concerns are prepared on the shortest notice to send any quantity of dressed meat to any place where it is necessary to crowd out a competitor.

Some Texas fever tests have lately been made at the Chicago Stock Yards. Ten head of Texas cows from the coast country covered with ticks were placed in a pen with ten head of Illinois cows. They were fed hay together and drank water out of the same trough without any effect on the healthy cows. As soon as the grass lot test was arranged, however, it was seen that there was a difference, and in a week the native cows began to sicken and die. It seems that the disease only flourishes when the cattle are on green feed.

The registry of grade Clydesdale horses in Canada does not meet with approval here, and, perhaps, not among a majority of Canadian breeders. In these days of rapid improvement we should keep the standard high. It costs no more now to raise thoroughbreds than it used to cost to raise grades.

The Montana and North-west range cattle are beginning to move, and they are good. The Columbia Cattle Company received $4.95 per cwt. for a train load of 1,400 lb. natives; the Berry Cattle Company received $4.95 for a train of 1,268 lb. Montana beeves; a car load of 1,392 lb. Montana steers, extras, belonging to P. Wibaux and W. Evans, sold at $5; Smith & Niles got $4 55 for 210 head of their C. O. D. cattle, averaging 1,297 lbs.; Toniers & Gudgell, Montana cattle, 283 head, averaging 1,282 lbs., sold at $4.95. This is a fine price even for the best western range cattle, and will help to make good the low prices of last year. Choice 1,300 to 1,600 lb. beeves sold during August at $6.25 @ $6.35. There has been a scarcity of good ripe cattle since early summer. Feeders who were so crazy to get rid of their cattle in April and May might have done better if they had not listened to the chronic croakers who declared that the cattle trade had gotten into the hands of a few "merciless robbers" who would never permit prices to advance again no matter how small the supply. Other men who take the bitter with the sweet came out with very different results, making money where others lost. Late in the winter a discouraged cattle feeder sent in some half fat cattle which sold at $3.75. They sold to an Illinois man who believed that the tide had never gone out so far not to return. This man took the cattle, fed them plenty of corn, and marketed them recently when fat, heavy and sleek, obtaining over $6 gross for them. This circumstance caused an old cattle dealer to remark that not one cattle man in a hundred knows how to manage his business to the best advantage. Every year there are thousands of men who try to do too much, and are unable to do anything well. They begin feeding two car loads of cattle when they only have feed for one car, or start with four and feed for two. Then they are compelled to market too soon or buy high priced corn, and so they go on from one mistake to another.

James Graham, the Owner of Springwater Farm.

Mr. Graham is one of that grand sturdy class of pioneers who are now passing away from our midst, but leaving to their posterity that best of all heritages, an honorable and respected name, as well as fine estates and herds. Mr. G. was born in Saintfield, County Down, Ireland, March 21st, 1826. He came to Canada in 1846, and lived in Scarborough, York County, Ont., until 1852, when he moved to the old homestead in the Township of Reach, Ontario County, which is now occupied by his son, James. When he first came to Reach his nearest post office was Epsom, but shortly after his arrival, by his efforts, a post office was located at Saintfield. For upwards of twenty-five years he was the Reeve of Reach, or Scugog Township, and has also been the honored Warden of the County of Ontario. In every case the office sought the man, never the man the office. His public acts were marked by the energy, enterprise and economy which have made his career notable. By his energy the fine roadway across Scugog Lake was built in place of the old floating bridge which formerly existed there.

He resided on the old homestead until twelve years ago, when he moved to his present home, Springwater Farm, which is situated three and a-half miles from Port Perry, on Scugog Island, in Ontario County. This farm contains 800 acres, 600 of which are cleared; 300 acres are yearly sown to spring grain, about 30 acres to turnips and other roots, 100 acres are devoted to hay, and the remainder is pasture land. About twenty years ago he commenced breeding pure-bred Shorthorns and Cotswolds. Among the first animals bought was Rowena Fairfax, by Lothair 10392, from Mr. Arthur Johnston. From Mr. Jno. Miller, Flirt, by Fawsley Chief (2614). From Robert Miller, Miss Elgins, by Fairfax (6730), also Kate Henry, bred by Leslie Combs, Ky., got by Robert Napier 8975; Napier was imported by H. M. Cochrane and sold to Mr. Combs for $1,200. From Mr. W. Raikes, Oro, Simcoe County, he bought the cow Blossom, by Royal Prince [646]; from Geo. Brabazon, Queen of Brock, by Remus [2121], and from Chas. Marsh the cow Blossom 2nd, by Fred [1420]. This may be said to be the foundation from which the herd started; and from time to time since valuable additions have been made. The first few bulls used were of mixed pedigree, chiefly of Scotch origin; some were bred by Campbell and some by Cruickshank, but those used in later years were such bulls as Minnie Duke, dam Rose of Racine, and got by Duke of Airdrie 20th. Rose of Racine was sold at Miller & Beattie's sale at Markham for $4,320. Col. Meredith, of Kentucky, bought Duke of Airdrie 20th for $10,000, and again sold him when aged at public auction for $6,975, his purchasers being the Hamiltons, of Kentucky. The next bull used was Prince Victor 5th, a pure Bates, bred at Bow Park, got by the Fourth Duke of Clarence 33594; his dam, Victoria 20th, was also got by the same bull; she was sold to Mr. Winn, of Missouri, for $1,000, who claims her to be the best cow in the State. The bull now in use in the herd is Mazurka Duke 5th, got by Duke of Oxford 54th 55733, dam Moselle 5th; this bull was also bred at Bow Park; he is a red, very showy yet smooth and good in all points, a credit to the great establishment from which he

comes; he was three years old in August, and though in rather thin flesh, he will weigh upwards of 2,000 lbs. The herd at present numbers upwards of 100 head of pure Shorthorns, 50 of which are cows and heifers in milk; these are a good lot. Conspicuous among them are two cows recently bought from Mr. Richard Gibson, of Delaware, viz., Hermosa, got by Prince—3344—; she is of the Wildame tribe, and is a very handsome red cow; the other is Countess of Darlington 11th, got by imported Wild Prince 14th, and is a very massive and good cow of the famous Darlington tribe. In addition to the above, the herd contains a number of very desirable young bulls and heifers and an extra good lot of sucking calves. Mr. G.'s cattle are a good lot throughout, but are seen at a disadvantage. Their owner is not a heavy feeder, not so heavy as would be profitable to himself, for after all nothing sells an animal like beef; yet beasts bought from this herd invariably give good satisfaction as breeders, and as individual animals. As milkers his herd excels.

The Ayrshires of Sydenham Farm.

Mr. Thomas Guy laid the foundation of his present herd of Ayrshires in 1863, when he purchased the prize-winning heifers, Lady Morton and Gurta, from Geo. Morton. Two years after this he bought a prize heifer and young bull at the Montreal show from Messrs. Holdsworth, of Petite Cote, and Davies, of Lachine. These were supplemented in 1871-72 by the purchase of the cows Cherry [386], Scotch Lassie [401], Perfection [381], and others from the late Mr. Keough, of Brockville, and the bull Bismarck [500] from Dr. Bridges, of New York.

From the commencement Mr. Guy took his place in the show rings with these animals and won several prizes at Provincial and other leading fairs, steadily gaining ground from year to year on the old and most prominent breeders of this breed until 1880, when he took first place, being awarded the herd prize at the Provincial, Toronto Industrial and other shows. Since that date he has exhibited every year at all the leading shows, Provincial and others, wherever he could manage to attend, and has held the first place, carrying off the herd prize on every occasion.

Besides this, his herd has won a great many silver medals and diplomas; also the two gold medals, the only ones ever offered for Ayrshires in Canada. He has also on two occasions carried off the first prize for the best milch cow of any breed, milk tested as to quantity and quality; and the FARMER'S ADVOCATE prize of $100, given at the Provincial Show held in Kingston, in 1882, *for the best five cows of any breed for general purpose and profit;* these cows were all of his own breeding.

The bulls used in the herd from time to time speak for themselves; one or the other has stood at the head of the prize list in their classes for the last fifteen years. Their names and numbers are: Bismarck [500], Indian Chief [1174], Prince Charlie [12737], Wallace [1247], and later Stonealsay 4th [1456], and Satellite [1443]. The bulls now in use in the herd are: Butterfly Prince [1442], sire William Wallace [1247], dam Butterfly 2nd [390]—this bull has not been shown since he was a yearling, when he was a prize-taker—and General Grant, got by Arthur Mars; his dam was got by Mars; she was a celebrated cow winning many prizes, among which was first as best dairy cow, under test at the Provincial Fair held at London, 1885. General Grant has been shown at as many of our great fairs as his proprietor could attend, and has always been a winner; he has three times won the silver medal as best bull of any age.

Among the cows are the celebrated cow Oshawa Lass, which has won 16 first prizes, besides a number of silver medals and diplomas as best female of any age, and Violet, now four years old, which has won three first prizes at the Provincial fair, also Model which has won two firsts at the same place.

The young cow Gurta 12th, now two years and eight months old, is a granddaughter of Mr. Guy's Gurta 4th, a very noted cow having won 16 first prizes and several silver medals in Ontario as best female, and since being sold to Mr. Coldren, of Iowa, she has won a great many prizes; her daughter, the dam of Gurta 12th, also won many prizes. The young cow herself is good and will yet be a prize winner; the young bull given by the FARMER'S ADVOCATE is out of this heifer, (Gurta 12th), and is a very promising calf. Descending from such ancestry, he will be an impressive sire.

Mr. Guy's herd now numbers forty head, twenty of which are cows and heifers in calf. Their achievements in the show rings proclaim their superiority.

What Shall We Feed Our Stock?

The unusually dry weather in some parts of the Dominion during the past two seasons has had a very depressing influence upon the fodder supply of the pastures, so that, no doubt, many will have to ask themselves the above question before they once more take in their stock for winter feeding. We were glad to see that many have taken our advice of sowing a plot of green fodder to help their pasture during the most trying time. But even this will, in the majority of cases, not be able to keep up a full flow of milk; and even if it were, corn, the fodder mostly sown, will not form a profitable ration by itself, especially if fed to dairy stock. It is comparatively poor in albumenoids and phosphates, both of which are very largely present in the milk the cow should produce.

Those who have carefully read the articles we published in our last December and January issues will have noticed that oilcake, peas, and bran, in their order named, are the foods which possess those substances in the largest relative quantities. The first two of these are, however, better adapted for the production of beef than for milk, but bran is a most excellent milk producing food; and, what is better still, it is the cheapest food which can be bought at the present time. If oats are selling for $1.00 per cwt. (32 cents per bushel), peas, according to their feeding value, ought to sell for $1.30, and bran for 93c. per cwt. or $18.60 per ton. But, although oats generally keep their price during the summer months, and frequently sell much higher, bran drops to $10 or $12 per ton, and sometimes even down below $9.

Besides being an excellent food for the summer months, it is one of great value for winter's use. Young stock, especially, should not be without it if it can be procured at or below a price equal to its feeding value, for besides its value as a food it possesses a manurial value, which in itself is equal to the price it is frequently sold at; in fact if it is fed to animals which do not give milk or increase in weight (such as working horses), the manure obtained from it, if it be properly preserved, will be worth about $12, depending upon the quality of the bran (but by the manner in which the manure is frequently treated over one-half of its value is lost). Bran can be profitably fed to all farm stock, and as a change of food is necessary for the best and most economic feeding, the granary should never be without it. Horses that do not work hard are not as liable to become diseased when fed on bran as when fed on a grain ration the year round; and when working, a mixture of bran and oats in equal proportions has been found by practical feeders, such as T. B. Power, of Power, Dak., and scientific men, for example, Prof. Henry, of Madison, Wis., to give very favorable results.

But, no doubt, some will reply to this: "Bless me! how can I buy bran in these hard times when I can hardly make both ends of the year meet, notwithstanding the great economy which I practice?" This is just the question which we would like all our readers who are feeding stock to ask themselves and then go to work and think about it and figure on it. All business men keep close account of all their dealings and figure closely, to find out on what they can make the most profit, and the farmer, in order to keep up with the rapidly progressing and "hard" times, will have to use his brains and pencil more freely than he has done in the past. Suppose that a farmer has or expects to have in the fall 500 bushels of oats, which he intends to feed, and which would bring say 35c. per bushel when they are threshed, say in November, and that in the summer he can buy bran for $10 per ton. This quantity of bran will have about the same feeding value as 58 bushels of oats, which would be worth a little more than $20. (The figures required for this and other estimates can be found in our last year's December issue, page 363). The above farmer could therefore save on every ton of bran he feeds $10, less the interest on $10 (the price of bran) for three months, and the trouble of drawing his oats to market and the bran to his barn. And supposing that he, notwithstanding this gain, wanted to keep half of his feeding oats, he would gain by the exchange of the remainder (250 bushels) $40, allowing $5 for the hauling. This should clearly show every farmer that the time spent in reading, thinking, and discussing about and figuring on agricultural problems is by no means spent in vain, for $40, which he may save by half an hour's figuring, is more than he can make in a month's hard work.

As bran can be kept for a long time when stored in a dry and airy place, it should be bought in the summer months, even if it is intended for winter feeding, for at this time it is much cheaper than in the fall and winter.

Some may say, "Well, I'll sell my oats and cut the rations of my stock a little shorter," but every experienced feeder knows that if it is worth feeding at all it is worth feeding well; for a portion of each day's food is expended in simply sustaining the life of the stock, and, therefore, the nearer the ration approaches this quantity the less of the food, in proportion to the whole food fed, will go to perform the work for which the stock is kept. Therefore, feed well and think before you feed.

Bare and thin spots in meadows can be remedied by sowing on grass or clover seed and sprinkling it over with a light coat of fine manure, and if well scratched with a fine toothed implement the process will be aided very materially. Rolling such spots is generally found beneficial after harrowing.

FIRST PRIZE ESSAY.

Is Hog Raising Profitable in Canada?

BY D. LEITCH.

The profitableness of hog raising depends upon a variety of circumstances: (1) Upon the man who engages in it, his intelligence and skill as a feeder; (2) on the command of cheap food; (3) the season of the year in which most of the work is done; (4) the class or breed of hogs. In Canada there are a number of farmers who can raise hogs profitably, and among them are the dairymen. To them the hog is indispensable; no other animal on the farm can utilize the by-product of the dairy, such as whey, buttermilk, skim-milk, and slops from the kitchen as well as it.

The most important question is what to feed; how to get it, and how to feed it, is the next point to be determined. In my experience the summer season is by all odds the best time of the year to make cheap pork. The farmer should not winter more hogs than will use his refuse, such as milk or waste material about the farm. His aim should be to keep one or more sows to breed from, and time them to farrow about the 1st of April, and to push the small pigs along as rapidly as possible until the 1st of December, when they should be slaughtered and marketed. They should then weigh, if properly fed, between 200 to 300 lbs. each. Pasture should be provided for them. The orchard is a good place, as they will manure the ground and eat all the fallen fruit which is stung by the coddling moth. They should be kept there until they can be turned into the wheat stubble. This, together with the grass they will eat, helps to keep them thrifty and healthy, and produces a very desirable gain in their lean meat on account of the exercise they receive.

To describe the feeding I cannot do better than to give my own experience. During the past winter my brood sows became so fat that they would not breed, so I fattened them, together with a number of shoats, as rapidly as possible. Their food was skim-milk and whey mixed with meal, consisting of peas, oats and barley all ground together. Of this they were fed, three times a day, all they would eat up clean. On the 10th of June I sold eight hogs, weighing 1,600 lbs., for $5.10 per cwt., and bought another lot of eight, weighing 800 lbs., at 5c. per lb. I fed these for fifty days on whey and corn in the ear, on which they gained 78 lbs. each, and sold them on the 1st of August for 5½c. per lb. They gained 1½ lbs. per day. I then bought another lot, consisting of nine shoats, averaging 80 lbs. each, on the same day the last sale was made. These I intend to keep until the 1st of December, when I expect they will weigh 300 lbs. live weight. They are fed on whey and about two lbs. of meal each a day, besides what they pick up on the stubble. I never pen my hogs, and always let them have plenty of pasture. We find they grow faster and keep healthier, and their meat is far superior, being more lean mixed with the fat. The future outlook for this season and part of next is good; prices are high, and will continue to be so until another crop of hogs is raised, for they are very scarce at present, and it will take a year or two to produce a surplus.

Prof. Sanborn, of the State Agricultural College, Kansas, after long experiments in fattening hogs, laid down the following points:

1. Maintenance ration is a variable amount, determined by age of animals and surrounding conditions, and ranges above and below two per cent. live weight daily; but under favorable conditions may be materially under two per cent. of the live weight for a 120 lb. shoat.

2 The food of growth is less than maintenance and varies from 1½ to over 2 lbs. This fact requires that the number of days maintenance food is given should be made as short as good feeding will allow. If we double the time needed to grow a shoat we use about three-quarters of the food given for maintenance, while on the other hand but little over one-half of the food goes for growth. With shorts at $15 a ton, seven months lost in marketing costs in maintenance 39 per cent. of the sale value of the shoat.

3. The more food given up to a little over a pound of growth per day the more economical the growth.

4. The growth per day increases with age up to at least 150 to 200 lbs. weight.

5. The cheapest growth is made in young animals up to 200 lbs.

6. Skim-milk and meals are the most effective rations fed.

7. Middlings are the best single food, and peas in Canada are equal to it. For a bushel of corn (56 lbs.), 14 lbs. of growth were obtained up to 200 lbs. live weight; middlings made 27 lbs. of pork for each 100 lbs. of food; skim-milk is worth 22½ cents per cwt. when pork is selling at four cents per lb., and whey is worth 10 cents per cwt. if sweet.

My choice hog is the Berkshire, when I can get it. I prefer No. 1 grades to pure-breds for feeding purposes on the farm.

Loridge Farm.

Loridge Farm is one mile south of Richmond Hill, on Yonge street; it has been the home of the Marsh family since 1797. Its present owner, Mr Robert Marsh, has been a breeder of Southdowns since 1850. The flock was first founded on importations made from the Duke of Richmond's flock, which were imported by Mr. Jennings, of Lloydsville, Ont. From time to time since, fresh importations have been added, principally from the flocks of Lord Walsingham, Jonas Webb, J. C. Colman, H.R.H. the Prince of Wales, and Mr. Ellice.

Many of those imported were prize winners at the Royal Agricultural Society's Show.

Mr. Marsh has been an almost constant exhibitor for the last 22 years at all of the largest Canadian shows. He won 18 prizes on his sheep at the American Centennial in 1876, and 27 at the recent New Orleans Exposition, and over 1,300 prizes at fairs held in this province. His flock at the present time numbers over 80 head, composed of 11 rams, one and two years old, and 12 yearling ewes, the remainder are breeding ewes and lambs. The stock rams now in use are Hero, bred by Mr. Webb, of Cambridgeshire, Eng., and Victor, bred by Mr. Ellis, of Norfolk, Eng., both of which have been successful prize winners; so have also a large number of the breeding ewes now in the flock. Mr. Marsh thinks his present flock of lambs better than usual, particularly in quality and wool.

The belief that something can be had for nothing is the food that swindlers live on.

Mr. Hugh Thompson and His Shorthorns.

Who among our Canadian readers have not heard of the Thompsons? Hugh is the seventh son of the late John Thompson, of Whitby, Ontario County, Ont., who was one of the first in Canada to import Scotch Shorthorns. He was for many years famous as a breeder, importer, and exhibitor. He was a brother to the late James Thompson, who owned and cultivated up to the time of his death, and for many years previous, the best tilled and best kept farm in Ontario County. On all practical agricultural questions be was one of *the best* Canadian authorities.

Mr. Hugh Thompson has been engaged in farming and breeding from his boyhood, and is widely and favorably known as a breeder and importer of Clydesdales and Shorthorns. He is also a first-class farmer. On his farm near St. Mary's in Perth County, we saw the finest field to turnips, we have seen this year. His Shorthorns, which are in good breeding condition (not over fat), are a nice useful lot. The first we would mention is imp. Wimple, bred by Mr. Campbell. This is a typical Scotch cow. She has great depth of body, is of good substance, and smooth throughout; a splendid milker; in color, a red roan. She is seven years old, and has raised six calves, the one now sucking her is a heifer, and very good, especially at throat and brisket. Her first daughter when three years old was sold to Geo. B. Bristowe, for $500.00. Wimple's Pride, another daughter, a fine grey cow, the dam of two calves. She was sired by Baron Brawith, bred by A. Cruickshank. Her calf, Lady Wimple, now a yearling, got by Royal Victor (53611), is a red roan, a very desirable beast, one o the *best* yearlings we have seen this year, and destined to hold a good place in the show rings.

The last calf dropped by Wimple's Pride is a bull now sucking. He was sired by Victor Hugo Ingram. This is also a good one; at the present time he is one of the best young bulls Mr. Thompson has.

Another very desirable cow is imported Clementina, bred by Mr. Campbell. She is seven years old, and has reared five calves, four of which have been sold at prices ranging from $195 to $270 Her present calf is an extra good, red roan heifer.

Isabella 10th, bred by John Miller, Brougham, Ont., is a red, and is one of Mr. Miller's famous Isabella family. She is one of the most striking cows we have seen, her head is very handsome; she is good all over, but especially so in the fore end, and is an honor to the fine family to which she belongs.

Eda, got by the show bull imported Cremorne, and descended from imported Eva, bred by Lord Polworth; she is a nice smooth cow in thin flesh, is a regular breeder and a fine milker, but is not as massive as some of the others; her last calf, now sucking her, is about four months and is a desirable youngster; he was got by Victor Hugo Ingram, bred by Geo. B. Bristowe, of Rob Roy, Ontario.

Rose Leaf, got by that famous sire Baron Linton (particulars of which will appear in our next issue); her dam, imported Rose of Aberdeen, was sold at Mr. J. C. Snell's last sale for $450; she is one of Mr. Campbell's Rose Buds. Rose Leaf is a very pretty grey cow, and an extra handler.

Bessy 7th, bred by Mr. Campbell, is a very

pretty, stylish, massive, red roan heifer, now suckling her first calf; she has been a successful prize winner. Mr. T. thinks her one of his best.

Minnie Bloom, rising three years, is a red and white; she is a *very large massive* heifer of good quality, and is descended from Minnie, of Annandale, bred by Mr. Currie, of Edinburgh, Scotland; imported by Jos. S. Thompson, who sold her to Col. King, of Minnesota, for $1,000, and her daughter to Mr. Lang, of Downey, Ont., for $805.

Matchless of Elmhurst 9th, is descended from the imported cow Matchless 16th, bred by A. Cruickshank; this heifer is now two years old; she is also a roan, and is a very smooth and handsome beast; she is very straight above and below, and full back of the shoulder. This is perhaps the best beast in the herd; her dam Matchless of Elmhurst 6th, is said to be one of the best cows in the Dominion; she is owned by W. J. Biggins, of Clinton, Ont.

Besides the above mentioned, there are five young bulls (seven in all), all good; four of high merit, all are out of good cows; there are also several other fine cows and heifers, some of which are as good and as finely bred as any we have mentioned.

The bull now at the head of this herd is Sir Charles, got by imported Prince of Northumberland (46911), bred by Mr. Cruichshank. The dam of Sir Charles is Buchan Lassie, bred by Mr. Cruichshanks; he is a red roan, a good animal, and an extra sire—many of his get being red; he was the sire of Mr. J. C. Snell's Ury, which was sold at his last sale to Mr. Jas. I. Davidson for $395. Mr. Dodge, of Cobourg, owns a full sister to Ury, for which he has refused $500.

Champion of England (17526), the grandsire of Sir Charles, is said to be the best bull Mr. Cruickshank ever used.

Mr. Thompson intends holding an auction sale October 17th, which will afford an excellent opportunity to those who desire to purchase Shorthorns.

The Royal Show.

This year at the Royal Show of England, held at Nottingham, five hundred and forty-eight horses were entered. The agricultural class was particularly good.

The Clydesdales were not so numerous but there were many noted horses present. The Duke of Portland gained the first prize in the old stallion class with Macaulay, a son of the noted MacGregor. The Suffolks were fairly represented, although doubtless the numbers were less than they would have been but for the foreign demand. In the light horse division there was a good display.

There were 644 cattle entered. The show of Shorthorns was considered a most satisfactory sign of the times. The key-note was practical usefulness; we have nothing to fear so long as that is the main object of breeders. Another most encouraging evidence of the vigor and energy which are being given to breeding was the large numbers in many of the classes. It must have done good to the heart of many a man to see the class of cows walking round the ring. They were large of frame, feminine in character, and, as a whole, showed good milking capacity. In the younger cow and heifer classes there was high promise, and it must have been evident to all that more attention is being paid to points and qualities which count as the more directly useful ones than has been common of late years. Nor can it be said that this has led to any carelessness in those characteristics which are most highly valued by breeders as evidence of purity of blood and fixity of type. The four daughters and granddaughters of Beau Benedict 42,769, which competed for the female championship, were worthy of the highest praise from every point of view. If the reaction from high prices and paper pedigrees is going to result in such a display as this one, it can only be an advantage to everyone.

Herefords were also out in considerable numbers and were of choice quality; Devons, Sussex and Welsh showed up well, and the Jerseys and Guernseys as well as the Red Polls formed very fine collections.

The dairy cows were more largely represented than usual.

The entries of sheep numbered 537. There was not much competition in Leicesters, and a rather short display of Cotswolds, but the quality of the latter was very good. The Lincolns formed a capital section of the sheep department. All the downs were excellent.

The exhibit of pigs was good, but small, the entries numbering only 145.

In the poultry department there were 343 entries, which were divided into 49 classes.

The attendance, notwithstanding the unfavorable state of the weather, was one of the best on record. The total admissions during the week are given as 167,947, which number has only been exceeded on two previous occasions, namely, at Manchester in 1869 and Kilburn in 1879. The sum realised by the admissions alone was £10,243. The attendance of the public on Thursday, July 19th, was quite unprecedented in the annals of the society, some 88,450 persons having passed the turnstiles.

The Highland Society's Show.

The annual show of the Highland and Agricultural Society was held on Glasgow Green, beginning Tuesday, July 24th. The entries manifest a considerable reduction from last Glasgow show, especially in implements; manufacturers declaring that so little business is done that they find it unprofitable to exhibit.

Writing of the exhibit of stock at this show, the English Agricultural Gazette says:—Of Shorthorns, we have seen a larger and more representative turn-out, still the quality of the winners at any rate was quite up to an average of recent years.

In Ayrshires a drop from 109 to 58 entries in the stronghold of the Ayrshires would, at first sight, give cause for anxiety as to the state of the great Scottish dairy variety. We believe, however, that the falling off is largely due to the the fact that the restrictions imposed have told somewhat severely upon owners of Ayrshire herds, while the spring shows at Ayr and Kilmarnock, being held at a more convenient time for breeders, are obtaining increased support and are being recognized as the leading exhibitions of the breed. The supporters of the Ayrshires must not, however, forget that if they wish to extend their colonial and foreign connection they must support the national show, and the day may not be far distant when some effort will be made to judge milk cows upon a more intelligible principle than by appearance.

The polled Aberdeen-Angus breed was exceedingly well represented, and was undoubtedly, after the Clydesdales, the outstanding feature of the show. Aged bulls were perhaps the weakest class, but they were headed by what is perhaps the best male specimen of the black skins, Lord Tweedmouth's Cash, wonderfully fresh for his age, and well covered.

Galloways were a very good show, nearly every animal exhibited being of high merit. If it be true that Galloways are hard to finish, the quality and size of the younger animals here do not bear out that opinion. In the aged bull class, the Duke of Buccleuch was first with Kinsman II., a bull of great symmetry, wealth, and evenness of flesh, while Mr. Cunningham's bull, though near the ground, has massive proportions.

Highland cattle were very well represented.

More interest seems to be taken year by year in the sheep department. They are the stock which are surest in their returns to the breeder.

Of blackfaced there was a magnificent display.

Cheviots—There was a very fair show of this hardy breed.

The popular rentpayers, the Border Leicesters, made a good turn out.

The Shropshires, as a popular breed, seems firmly rooted in Scotland, most of the honors were carried off by native-bred animals.

Of pigs there was a small but select show.

It was natural that visitors to the Scottish national show should expect to find a good turnout of Clydesdales in the centre of their native district, and they were not disappointed for, with the exception of the Centenary at Edinburgh, we do not remember seeing a more representative or better display of this popular breed. The judges had a task of no little difficulty to decide the aged stallion class. All the most prominent horses in the country were in the ring. First prize went to Cairnbrogie Stamp, a horse of much substance, but he does not move as well as we would like. Sirdar, the second winner, although in other respects a very fine animal, stands too straight behind, and his head is rather clumsy. Our favorite was Mr. Sterling's horse, Knight Errant. He has beautiful legs, grand pasterns, wide feet. He would have made a most popular first, and is the most likely sire for getting useful lasting horses. Three-year-olds were a good class, and were easily headed by the Duke of Portland's well-known MacGregor colt Macaulay. He has grand legs and feet, but he is, we thought, rather undersize for his age. Mr. Galbraith's Lord Ailsa is a little weak in his middle, but is a stylish moving horse. Two-year-olds were the class of all the classes, thirty grand animals being exhibited. The winner was Mr. Kilpatrick's Prince of Albion, sire Prince of Wales, out of a Darnley mare. He is far and away the best Clydesdale of his age in the country, being well balanced, with grand legs and feather, moving almost as freely as a blood horse. Mr. Riddell's black colt, by Prince of Avondale, was placed second. Yearlings made a large turnout. Lord Erskine is credited with being the sire of most of the winners in this class. The first-prize colt was by him, and has great bone and sub stance, but is rather long in his waist. Mr Kilpatrick's second-prize colt is by Knight of Ellerslie, his third prize aged horse. Brood mares were a very fine class. The first was clearly Sunray, a bay, get of Prince of Avondale, owned by Mr. Johnston. She has grand bone and much substance, but is just a trifle weak above knee. Mr. Hood's Ethel is no mean opponent, being a clean-boned mare of good character. Yeld mares were an excellent class, and there was not much to choose between the three first. Laura Lee, owned by Mr. Paterson, was first, an active, clean-limbed mare. Another Darnley mare was second, bred at Urie, Bonnie Mary; she has firm clean legs, and much style. Three-year-olds were a good class, and were

headed by Mr. Lumsden's Mermaid, an upstanding filly of good substance and style. Montrave Lady, belonging to Mr. Gilmour, comes next. Two-year-olds were also a good class. The awards were made noteworthy by the success of Darnley gets, and the reversal of former decisions; Mr. Gilmour's Primrose, second at Ayr and first at Royal, was preferred to Mr. Alston's hitherto unbeaten filly Vanora, first at Ayr. Yearling fillies were a good class, and all the winners were sired by MacGregor. Mr. A. Montgomery's Luxury, which is first, is not so good behind as could be wished, but is a very sweet-looking filly. Mr. Cross was second with Sunshine, an improving filly of good character and style.

The muster of light horses was much better than usual, the quality showing considerable improvement.

SECOND PRIZE ESSAY.

Is Sheep Raising Profitable?

BY JOHN ADAMS, AMBLESIDE.

The question is asked, Is sheep raising profitable in the Dominion? One of the first questions to be asked is, what does it cost to keep sheep, and what can be shown in profit at the end of the year? In order to do so, please allow me to submit the following memorandum, and I should like to hear from other farmers and ask them to criticise my figures freely:—

First, then, there is the cost of five butchers' ewes at, say, when yearlings, $7 per head	$35 00
Rent of one acre good grass land for summer run	5 00
Rent and expenses in procuring one acre of good oats and peas, cut into chaff for winter feed, all fed together, with, perhaps, the addition of a little straw once a day, say	14 00
Interest on outlay	2 25
	$56 25
By a fair average of seven lambs from five ewes (butchers' prices) at $3	$21 00
Wool from same	7 00
	$28 00
Less depreciation in value, &c., &c	3 00
Leaving profits of	$25 00

This shows a very handsome profit on the outlay, which some may say needs a little clipping down. To those I will say come on "mae freen's," it will do us all good to have a friendly bit of good natured banter on this question which I enjoy sometimes more than my dinner, but don't hit below the belt.

I am quite satisfied that there is a large quantity of land in Ontario and Quebec nearly worn out by constant grain growing and a poor system of farming, which could raise sheep nearly as profitably as my memorandum shows. Any land which will grow grass, peas or oats will raise sheep and fatten them also.

If I am not drifting away from my subject allow me to say to anyone having poor or worn out lands try sheep farming. Plow the land deep in fall once, then give it a sort of an early summer fallow in the spring, and if a little manure can be added all the better. Then sow the field with white or yellow Aberdeen turnips, and then fold sheep on the turnips after they get a reasonable size. Have the sheep folded in a small enclosure easily made of wire netting, and made moveable. Have the sheep folded over the entire field, unless there are hollows which don't require manuring. Should you not have sheep enough purchase a lot of lambs; they will pay handsomely, and will be ready and fat in the fall to sell. Then after a light plowing in the fall, sow the land with barley, or peas and oats the following spring and seed down with clover. It is really surprising what can be accomplished on a poor worn out farm after five years proper sheep farming.

In order to make sheep farming more profitable, cheap land is wanted, so that you can get a large run with large flocks, the labor and the interest on capital would be less.

The exports of the Dominion could be largely increased in a very short time by changing the system of farming in many portions of our country. I am satisfied that at least $5,000,000 annually would soon be added to our exports by sheep farming on some worn out lands that I have seen in Ontario and Quebec; and light sandy loams, and thin, stony gravelly, rocky sections of the country which will produce grass and coarse grains will be cleared and reclaimed.

The large ranges of land north of this place, Muskoka, Haliburton, Kinmount and Bobcaygeon districts, are admirably adapted for sheep raising, and those lands can be procured very cheaply. A young man with pluck and energy could soon make money, and if of good business habits, with a good head, could in time become rich by raising Down sheep, which breed is the best adapted for such a country. There is also a large acreage of lands on the shores of Lake Erie and in other parts of the Dominion, that could be made profitable by a proper system of sheep farming, which now produce very little to add to our exports.

Now, what are our future prospects for profitable sheep raising? I say excellent, if we can only get a free market for our wool, lambs and mutton at our American neighbors south of us. The people of American cities and manufacturing centres are largely increasing their consumption of lambs and mutton. It is really surprising to see the vast numbers slaughtered and consumed in those populous centres, and Canadian lambs from three months to nine months old have almost an unlimited demand in their markets if we could only get into them free of duty. In December, January and February nine month lambs when fat readily find customers at from $6 to $7 each. What can a farmer raise to pay so well at so small a cost of labor and first outlay in so short a time, and at the same time increase the fertility of lands which has produced too much wheat in the past, and which, in the near future, will be grown for our own use in the far west?

And now, without offending anyone, I suppose it is right for me to say which breeds of sheep I should recommend. My answer is, study the American requirements, indeed, we have already anticipated their wants and tastes, and there is no breed which we have to excell the various breeds of the Downs. They are hardy, plump, lean meat producing sheep. Their carcass is the best selling meat in any market, and their wool is so well adapted for the use of the inhabitants of this hemisphere where so much flannel is used all the year round.

There is another favorable consideration which should be taken into account, viz., that this Province in particular is the best sheep breeding ground on this continent, so that in the future as in the past we can derive a greater profit than I have shown in supplying pure bred, healthy breeding sheep to our own kinsmen to the east and west of us, and also to our gallant cousins residing south of latitude 45°.

For plant lice, a mixture of equal parts of buhach (Pyrethrum or insect powder) and hellebore has been found effective.

The Dairy.

Marketing Dairy Produce.

BY DAIRYMAN.

The Hon. Chas. Drury, in one of his addresses made the remark, "The question of marketing is as important as the question of production."

This question of marketing is evidently one of great importance to our dairy business, and though it has been occassionally referred to by some of our leading men at farmers' meetings, I don't think it has received the due consideration it ought to have from our farmers and dairymen.

It is to be regretted that our dairy business has suffered very considerably for two seasons, by our factory men holding their summer cheese too long, and not meeting the market when their goods were ready for sale.

Our dairy business has been a profitable branch of industry to our farmers and dairymen in the past, and has been successfully conducted till our Canadian cheese has gained the foremost place in the English markets, but as with men, so it is with produce. Many a man has reached the top that could not stay there, and so with cheese; it takes care and watchfulness to keep at the top and retain the position against other competitors. A number of English and Scotch cheese merchants are puzzled to know the reason why our factory men will not sell their summer cheese when they are ready for the market, and think it would be better for us if they were sold when ready at the best market price. This holding of cheese brings two evils against them, first the cheese begin to go out of condition and lose their flavor, which tells very much against their good name and value, and instead of getting a first place on the market they only get a third or fourth place, with their reputation and character lowered on the market; and second, the farmer is deprived of the use of his money and the factory gets filled up, which gives more work to the maker, and considerable loss in shrinkage of weight. Our friends in the business in the States have gone ahead of us in marketing their goods, by selling their summer cheese regularly as they are ready. Their cheese are in better condition, more uniform in age and quality, and for these reasons are now preferred by many merchants to our summer Canadian cheese. Perhaps our factorymen have not studied this question as carefully as they might have done, but it is now well known the consumers of provisions in England and Scotland now want their food supplies all as fresh as possible, clean and sweet in flavor; stale cheese and butter is not wanted, and when forced on the market it must be at a great sacrifice in price.

There has been very little Canadian butter shipped this season. English merchants say they can't sell it, it is not fresh and sweet, and the people won't have it. Our dairymen must look out to meet the wants of consumers, or other countries will do it, and are now doing it to a considerable extent. Denmark, Holland and France are shipping butter to England at good prices, and they are now manufacturing a large quantity of margarine for their own use. New Zealand has entered competition with us in the cheese trade, and our dairymen must keep a sharp look over the situation of our dairy produce and markets if they mean to retain their good name for cheese on the English and Scotch markets.

Our four inspectors, appointed by the Dairy-

men's Convention to inspect the factories, test the milk, and assist the cheesemakers in their work, have all been doing good work in their respective districts, becoming a terror to evil doers and a protection to those who do well. And it is to be hoped this good work will be continued and our salesmen will see it to be for the interest of the business to study this question of marketing their goods when they are in the best condition, and for the best interests of the business for the future.

The Factory System.

The annual loss occasioned by the manufacture of inferior butter in the farm dairies is really amazing, it amounts to about forty cents for each and every inhabitant of the nation, city as well as county, and infant as well as adult. The difference between the price realized for factory butter and the uneven conglomerate lot sold by the grocer is from six to eight cents per lb., and frequently more than this, and as last year's product of dairy butter (that made in the farm dairies) is estimated to be over 25,000,000 lbs., the loss is about $20,000,000. Canada has been undoubtedly successful in her dairy industry, but this success is due to her good cheese, and this again has become such through the factory system. Why can butter not be made as great a uccess? How much do we hear about our cheese? and how little about our butter? The milk from approximately the same number of cows is devoted to both these branches of dairying.

Cheese versus Butter.

As advertised in our August issue the Creamery Association will have an open meeting at Kingston during the time of the Provincial Exhibition. A number of valuable and interesting papers will be read there. Such meetings are doubtless of great advantage to those interested in the dairy business, and will cause not a few to more critically examine the difference between the two great branches of dairying.

As the small amount of fertility removed from the farm is one of the foremost arguments urged by the promoters of this interest, we will investigate which of the two branches has the greater claim to economy in this respect. The fertilizing material in 100 lbs. of cheese, which contains 5.2 per cent. of nitrogen, .94 per cent. of phosphoric acid and .33 per cent. of potash, will, at the market price, realize 8.2 cents. The same quantity of butter, containing .13 lbs. of nitrogen, .08 lbs. of phosphoric acid and .2 lbs. of potash, will remove soil fertility costing 2.6 cents. In order to arrive at a correct base for calculation, we must not, however, compare these two substances pound for pound, but must estimate the fertility removed from the same quantity of milk, say 1,000 lbs. This quantity of milk will, on an average, produce 100 lbs. of cheese or 35 lbs. of butter; therefore, the amount of fertilizing material removed by the cheese would be 82 cents, while the butter would only carry away 9½ cents for each 1,000 lbs. of milk, a difference of nearly ⅞ of a cent for each gallon of milk. These figures apply for home production, where the whey and buttermilk remain on the farm. If both these substances are also removed, as will be the case when manufactured in factories, the difference will be still greater, amounting to .8 cent for each gallon of milk; therefore, the cream from one gallon of milk could be sold for .8 cent less than the whole milk, if the skim milk had no feeding value at all; but, as every dairyman knows, this feeding value is of no little consequence when calves are raised on the farm; for, with the addition of a little linseed meal it will answer nearly as good service as the whole milk would have done.

Butter Kept in Brine.

Year after year a California dairyman keeps "the best and richest butter—that made in May, June and July"—by a simple process which he describes in the Shasta Courier:—

"Thoroughly wash before it is taken out of the churn. Salt to suit the taste—half an ounce to the pound is about right. Do up in neat, round balls of two or three pounds each, just what you have to put down; cover each roll with a clean muslin cloth, large enough to go round it twice or more, that it will be completely enveloped, and sink it in a strong brine, as strong as the best salt will make it. Stone vessels are the best. When the rolls are in they may be kept down by means of clean, flat stones. When the vessel is full enough and the butter completely covered with the brine, add more salt to insure the strength of the brine. Keep it in cellar or springhouse, and see if it is not worth in winter and spring 100 per cent. more than any winter-made butter."

He emphasizes what he deems indispensable requisites: That the butter be good to begin with, have all the buttermilk worked out, and be wrapped and put into the brine the same day it is taken from the churn.

Dairy Farming.

(Discussed at an English Dairy Conference.)

In the mother country the various kinds of stock raising have gradually driven grain growing to closer and closer quarters. Years ago the luxuriantly growing grain waving in the wind was the admiration of the agriculturist, but now well fed, sleek looking herds and flocks pasturing on fields and hillsides are raised to the pinnacle of his ambition. Canada is rapidly following in the same direction, but instead of raising the rounded form of a beefer as her ideal, she more equally divides her favor among the beef and dairy stock, giving, if any, the latter the preference.

In both countries the permanent pastures on arable lands, and the herds pasturing on them, will soon have to give place to soiling crops and a largely stall fed herd; for, although the latter involves more labor, it gives better returns on less land, which, especially in the older settled districts, where land is selling at $100 per acre, is a point carrying great weight.

At the meeting of the above orginization, Mr. Howman read a very interesting paper on "Dairy Farming in Arable Districts," from which we glean some very good and practical ideas.

SOILING.

Dairy farming does not require any special climate; it will do equally well in the dry climate of the eastern counties as in the moist, humid one of the west of England. It does not depend upon a large area of the farm being in grass, because a larger bulk of suitable food can be grown under the plough than upon permanent pasture, with this immense advantage in favor of the plowed land, that you can provide a succession of crops to follow each other, which enables you to carry out the essential point in the feeding of all stock—namely, variety. There is nothing that conduces so much to the health and well doing of stock as the constant change in their diet. A few years ago a large area of grass land was necessary to carrying on dairying; because if the season was favorable, and a larger bulk of grass was grown than the cows could consume, the area over which they fed was restricted, and more hay was made as a store against the winter wants. But if, on the other hand, a dry season set in, the cows required the run of the whole of the grass. The winter supply of food ran short, with the result that at the time of the year when milk sells at its highest price there was no milk to sell; because, the supply of winter food being limited, the cows were dried and turned into a straw-yard. Under the old system of cheese-making the cows were timed to calve all together, just before the cheese-making commenced; and when the season was over, the cows were dried and rested till the commencement of the next cheese-making season, thus losing several months' returns, which should bring in a substantial profit. It is true that the labor bill would be less, but a system that enables the employer to keep his men at work profitably all the year round must always be preferred to the one that only employs men during the summer, and turns them off during the winter to get their living as best they may. Under the system of arable dairy culture, you are able not only to provide for the due carrying on of the cheese-making during the summer, but you are able when the cheese-making season has ended to commence with your winter dairy, by selling milk at a remunerative price, bearing in mind that the milk seller to whom you sell your milk will always give you a higher price if you only sell him your winter's milk than if you contract to supply milk all the year round.

Fall rye or wheat will form a very good, early, bite for all kinds of stock, and is the most suitable soiling crop for early spring. It is closely followed by lucerne, a variety of clover which has gained great notoriety for its early growth, power to withstand drought, and its large returns. This spring we saw Lucerne 15 inches to 18 inches high, flourishing on a high knoll, while bordering it on much better soil, the timothy was not more than three inches high, the top inch of which was withered away from the effects of the drought.

Orchard grass and red clover will come in next, closely followed by Timothy and Alsike, after which patches of spring grains, *e. g*, tares and oats, sown in successive patches, will fill the bill till late in the fall, when the ordinary winter rations of either hay or ensilage, combined with suitable grains and roots, will take the place of the regular soiling crops.

The saving of fences, manure, land, food, animal exertion, and the various other advantages described in the Prize Essay on page 45 of our last February issue, should not be forgotten. If no pastures are needed, no fences, or at least comparatively few, will be required, and therefore the land on which they stood can be more economically employed. On pastures there is always more or less waste caused by the cattle trampling over their food, which, would not occur if they were tied and fed in the stall. But this waste is not the only cause of a depressed yield of fodder; the compacting of the soil by the stock roaming over it (especially on heavy soils, which are a little damp), and the greater exposure to the sun's heat, (especially noticed on lighter soils), cause a very marked decrease in the production of the pastures.

There is, of course, much extra labor connected with a soiling system, but this is more than counterbalanced by the increased production of milk, caused by the cow receiving her food more regularly and being protected from the inclement weather and the summer's heat.

The silo, continues Mr. H., plays an important

part in the system of arable farming, because it is only by its help that we are able to preserve for future use the surplus that there may be of any of the green crops after we have taken the best of them for consumption, It is impossible to so arrange the cropping that each crop shall last just so long till the next is ready. They must always overlap each other, so that in case of accidents of weather or other contingencies we are not left without food. Any surplus, therefore, when it gets unfit to be eaten by the cows by reason of age, is at once put in a silo, and it comes out again later on equally good for food as it was in its green state.

FEEDING.

In the summer the cows are tied up in the stable during the day time, and turned out at night when it is cool; in the autumn this is reversed until they come into the sheds for the winter. All the green crops are brought into the shed and passed through the cutting box, and are mixed with silage and any purchased food it may be thought necessary to give them. The silage forms the backbone of the mixture, and, if possible, I try to have silage all the year round. The grass grounds are mown, and the grass either given green to the cows, or cut up and made into silage. No hay is made, as both cows and cart-horses do equally well without it. It is necessary that the cows should be kept up to their maximum yield, on the same principle that we must grow the maxium crops, because the expenses remain the same whether cows milk well or badly. The constant daily carting of the green food to the cows in the sheds is, of course, a source of expense, but the advantage of keeping them tied up during the hot summer days, in the economy of food, and in the steady supply of the milk, more than pays for this outlay.

(TO BE CONTINUED.)

General Purpose Cow.

Our readers are aware that we have always guarded them against judging dairy stock through the spectacles of a Shorthorn man, and that we have denounced the theory of a general purpose cow, claiming that a good milker could not be expected to lay on flesh; for the temperaments of a milker and beefer, being directly opposed to each other, cannot be blended together to exist in their most perfect form in one animal. We might as well talk of breeding sheep and wolves in one pen, and yet we have been termed "the organ of scrub stock" for objecting to judge all breeds by the Shorthorn standard.

The following extract from Hoard's Dairyman, will show some of the injuries that have arisen from this mistaken practice, and show that we are not standing alone when denouncing it:—

"It is very evident that the cows of England under the domination of the beef and milk or 'general purpose' idea have greatly retrograded as dairy animals from what they were eighty-five years ago. In an address before the British Dairy Conference held at Ipswich last month, Mr. J. A. Smith, a noted dairy authority, of England, quoted Arthur Young, who said 'that in 1803 there were few Suffolk dairies without cows giving eight gallons of milk per day, a quantity now unheard of.' It seems strange that men of ordinary breeding sense could not have foreseen that their 'general purpose' would finally bring their cows to a low degree of dairy usefulness. But with this experience clearly before our eyes it seems stranger still that we should have men in this country who recommend to American dairymen that they pursue the same destructive course towards the cow of our future that the Englishman pursued toward his. Another strange thing is that a certain class of breeders are so fond of quoting English ideas of what constitutes a dairy cow, when from one end of the island to the other they cannot begin to show cows of any breed that will compare with those bred in America. Give an Englishman a Jersey, Guernsey or Ayrshire, and he will at once proceed to make a smooth, round, beefy looking animal of her. They are so prevaded with beef notions that they have scarcely any conception of the true dairy form, and everything must come to the Shorthorn standard of shape. No wonder their cows are retrograding."

Garden and Orchard.

The Farmer's Fruit Garden.

BY L. WOOLVERTON, M. A., SECRETARY OF THE FRUIT GROWERS' ASSOCIATION OF ONTARIO.

(Read before their last meeting.)

Every farmer does not want to engage in fruit culture for profit. Tastes differ. Some prefer stock breeding, some grain growing, some dairying, while still another class are enamoured with fruit growing, and prefer it to any other occupation. It is wisely so arranged, else if all chose to grow one thing all would be in poverty.

But every farmer needs to have a well-stocked fruit garden for home use, and this is what I want to impress upon all present. Evidences do not appear to favor my statement. It is the exception to meet with a well-stocked garden in country places, except for market purposes. Its importance is not appreciated. The farmer's table is often more scant in its supply of fruit in variety than is the table of the citizen who depends upon the market, and must pay cash for it. Now, I maintain that this is a great mistake.

I am aware that the idea is gaining ground that, in this age of specialties, it does not pay to attempt anything out of one's line; that the farmer should devote his whole time and thought to grain or cattle, and the fruit grower to his fruit, that the farmer would make a mistake in growing strawberries, because the time and labor spent on them would, if devoted to his potato patch, produce more than would purchase all the strawberries, and *vice versa*. Now, I believe this principle is a sensible one, and I advocate it heartily; but we are not ripe for it yet The fact is the farmer will not buy fruit for his table to any extent; he can live without it, and unless he grows it on his own farm he goes without it, and his family must do the same. It reminds me of a story I read of a farmer who was at a hotel for dinner. There was some excellent cheese upon the table, and he helped himself several times, evidently enjoying it very much. A gentleman observing him said, "You do not get good cheese down your way." "Yes," he replied, "they keep it at the groceries, but as we do not make cheese, we do not have it on the table one week out of the fifty-two." And yet this man lived in a $5,000 house and had plenty of means. So then the surest way to ensure the abundant supply of the tables of our farmers with the various fruits of the season is to encourage them in its cultivation.

If merely as a luxury it would be worth all the trouble and expense it costs to grow the various kinds of fruit that are most desirable for home use. Not to speak of apples, raw or roasted, in sauce or in pies or in dumplings; how delicious are cherry, blackberry and gooseberry pies, raspberry jams, or plum preserves! And what is more palatable for desert than a well-ripened, luscious Bartlett or Duchess pear? And why should not the most delicious pears be found upon the farmer's table from August to April of every year, when varieties may be planted whose fruit will ripen for use in each of those months as in each intervening one?

But I urge the claims of the fruit garden for *health's sake* also. It is well known that that most dread disease among sailors, the hateful scurvy, is induced by feeding upon salt meat for a length of time without the counteracting influences of fruit or vegetables. Dr. Allinson, of London, Eng., says that fruit carries away injurious mineral matters which tend to accumulate in the system, and that a mixture of fruit and grain is the best possible diet.

A writer in the Nebraska Horticulturist speaks in the following sensible terms concerning the use of currants for health:—"I shall not lay stress on the old, well-known uses to which this fruit is put, but I do think its value is but half appreciated. People rush around in July in search of health; let me recommend the currant cure. If anyone is languid, depressed in spirits, inclined to headaches and generally out of sorts, let him finish his breakfast daily for a month with a dish of freshly picked currants. He will soon almost doubt his own identity, and may even think that he is becoming a good man. He will be more gallant to his wife, kinder to his children, friendlier to his neighbors, and more open-handed to every good cause."

Miss J. Power, in the English Horticultural Times, is well supported by the best authorities in saying that grape juice is the finest medicine for correcting a feverish, bilious state ever known. It has the hypophosphites which doctors prescribe for wastes of tissue, and taken freely will arrest even critical stages of disease. People, she adds, fed on pure food with abundance of fruit need never dread cancer, Bright's disease, gout, neuralgia, dropsy or a dozen other of the worst scourges of our race.

I think I am making a strong point in favor of the farmer's fruit garden in thus emphasizing what is an acknowledged principle among medical men, that the acids of fruits are of the utmost importance for the medicinal virtues to the human system. Dr. Allinson even admitted that a diet of fruit and vegetables would go far toward dispensing with the services of the physician. If then the fruit garden may be the means of preventing much of the sickness in our homes, how soon will it pay financially even in the saving of doctors' bills.

The experience of a great many stockbreeders goes to show that it pays to grow apples for stock as well as to grow roots.

Prof. L. B. Arnold writes the following to the New York Tribune:—"The feeding value of apples is not large; they rank with mangels, turnips, cabbage, and the like. Their food properties are mostly carbo-hydrates, or heat producing, their protein being only about one-half of one per cent., and their nutritive ratio about one to thirty, and hence are most effective when fed in connection with more nitrogenous food, like clover, but may be fed sparingly with grass. They have a higher value than the weight of their food constituents indicates, on account of condimental qualities, and from having a large per cent. of those constituents in a condition to be at once absorbed and appropriated without waiting for any special action of the stomach. Using hay as the unit of measure, apples compare with it and other common feeding stuffs as follows, per 100 pounds of each:—

Hay	$ 50	Cabbage	$ 17
Cornmeal	1 12	Apples, ripe	16
Oatmeal, bran and middlings	1 00	Turnips	16
Potatoes	29	Rutabagas	15
Sugar beets	19	Mangels	14
Parsnips and carrots	18	Pears	13

"Good ripe apples have a feeding value of not less than eight cents per bushel of 50 lbs., and are as good for other stock as for milch cows. For anyone who has stock to consume them, it

is as much of a loss to waste good apples as to waste good roots. When fed with reason and appropriate food they are health-inspiring as well as nutritious, and are only injurious when fed immoderately. An experiment in feeding three cows with moderately sour apples, ripe and mellow, for several weeks, at the rate of 12 to 20 lbs. to each cow daily, gave me a finer flavored butter than I ever saw from grain or grass. I have known others to feed them in larger quantity and for a longer time with satisfactory results, and their butter to be not only fine flavored, but to have remarkable keeping quality, and the stock to remain perfectly healthy. I have also proved them to make excellent milk for cheese. The managers of cheese factories have noticed an improvement and increase of milk when their patrons' cows have been fed moderately with apples."

Prof. L. B. Arnold, whose decease at Rochester was announced the 9th March, 1888, was one of the best American authorities on dairying, and his work on American Dairying, published in the year 1876, is a standing proof of the assertion.

Do I need to emphasize the importance of the farmer's garden any further? Need I refer to its proceeds in dollars and cents? Will anyone dispute the statement that, aside from considerations thus far presented, the highly cultivated acre of garden pays better, financially, than any other acre of ground upon the place, even if no part of the crop ever goes to the market?

My next purpose is to show how to make such a garden yield the best possible returns. I will speak first of the small fruit garden, and secondly of the large fruit garden or orchard.

[TO BE CONTINUED.]

Canning Tomatoes.

Probably nearly all housekeepers have experienced more or less failure in keeping canned tomatoes sweet, and with their natural, fresh flavor retained. During the antiseptine fever, I tried the preserving qualities of the article, both with tomatoes cooked and uncooked, and yet there was no satisfactory result. Last fall I selected fair, nicely ripened tomatoes, removed the skins, and all hard or defective places, with a sharp fruit knife, cut the tomatoes in pieces of sufficient size to slip readily in a fruit jar and then cooked, or rather heated them thoroughly in their own juices. In the meantime cans were carefully tested to see if they were strictly air tight, and then placed in a pan of scalding hot water in the stove's reservoir.

After the tomatoes became thoroughly cooked the pan was pushed closely to the other pan containing the hot cans. The water was drained from each can as wanted, and the can filled to overflowing with the tomatoes—the pieces being put in with a silver tablespoon—then the handle of a silver fork was pushed up and down the sides of the can to start up all the little air bubbles, the rubber ring slipped on, one more spoonful of the tomato added to make it right plump, and the top was then screwed down tightly.

I always let my cans of fruit remain on the kitchen table until the following morning in order to screw down the tops from time to time as the fruit cools, as otherwise the contraction of the glass will prevent them from being air tight.

After the cans had become cold they were wrapped securely in several thicknesses of paper and tied with a cord, and taken to the fruit closet, or cellar, if it is cold and dry. The result was one that gave perfect satisfaction.

It seems quite necessary that all canned fruit, and especially tomatoes, should be kept in a dark, cool place; for "Light injures all fruit, but especially tomatoes, in which it causes the formation of citric acid, which no amount of sugar will sweeten."

In canning always use a porcelain-lined kettle or bright tin, and for pairing and preserving the fruit let the knife, fork and spoon be of silver, as steel discolors the fruit and that gives one a suspicion of disagreeable flavor.

New Strawberries.

BY W. W. HILBORN, EXPERIMENTAL FARM, OTTAWA.

The season has been very dry, following a severe drought last year, which makes it a very severe test of varieties, especially those ripening late.

Monmouth.—Blossoms perfect; fruit large, conical, very uniform in shape; bright, glossy scarlet; colors on all sides at once; good quality; very early; quite productive; foliage healthy; well worthy of trial for early market; the most promising for that purpose of any new variety I have seen.

Bubach.—Blossoms pistillate; ripens quite early; fruit very large, fully as large as Sharpless and about the same form, but ripens up fully at the tips; very productive and fair quality; foliage healthy; a strong grower and withstands the dry, hot weather remarkably well; the most promising new variety, all things taken into consideration, I have seen in full bearing; should be thoroughly tested for market purposes.

Jessie.—Blossoms perfect; not quite as early or large as Bubach nor quite as productive; foliage injured somewhat by the hot, dry weather; good, but not best quality; worthy of further trial.

Ontario.—Blossoms perfect. This variety so nearly resembles Sharpless that I cannot distinguish any difference except that it may be more productive.

Sunapee.—Blossoms perfect; foliage nearly identical with Wilson, fruit also resembles that sort. It has been described by many as nothing but that old standard variety re-named, while it closely resembles its habit of growth, appearance, etc., the flavor is quite distinct. It is less acid and better in quality so far as can be judged by one season's fruiting.

Lida.—Blossoms pistillate; medium to large in size; of regular form; bright, glossy red and wonderfully productive. No other variety on our grounds produced such a quantity of fruit as this sort. Promising for market.

Jewell.—Blossoms pistillate. This variety makes so few runners that it is difficult getting a stock of plants; will therefore never be popular with nurserymen. It requires high culture on strong soil, where it will produce a very large crop of very large fruit; beautiful bright scarlet in color; firm enough for near market.

Belmont.—Blossoms staminate. Much was expected from this variety, it was so highly spoken of by many noted fruit growers. It has been very disappointing this season, unproductive and of little value.

Anna Forest.—Blossoms staminate; fruit large; conical; bright scarlet; colors on all sides at once; quite firm; fair quality; productive; worthy of trial for market. Said by some growers to be the old Monarch revived. Our plants are quite distinct from that old variety, both in foliage and fruit. It is more firm and productive, ripens well at the point, while Monarch usually has green or unripened tips.

Pearl.—Blossoms staminate; medium to large; conical; good form; bright scarlet; quite firm; flesh dark red; fair quality; productive; a strong grower; foliage healthy; worthy of trial for market.

Gandy.—Blossoms perfect; quite large; firm enough for market; medium quality; color red; ripens quite late. If it should prove to be more productive on further trial it will be valuable for late market. This season it did not come up to expectations in that respect.

Covell.—Blossoms perfect; one of the earliest to ripen; first picking of the fruit resembles Crescent, but earlier and of better quality; did not hold out in size later in the season.

Summit.—Blossoms pistillate; fruit of the largest size; color bright red; good form and quality; very productive; plant not as strong a grower as desired; requires high culture.

(TO BE CONTINUED.)

Peach Borers.

Prof. Cook says this pest may be destroyed by digging out the borers late in September and early in May. This is not a hard task, as the oozing gum tells quickly where the offender is. The September digging is wise, as some of the borers will be so large that to leave them will permit much damage; the May digging removes those too small to be seen in September. On the Michigan shore, where fortunes have been made in raising this delicious fruit, universal and concerted action has almost banished this enemy from the peach orchards. This shows what effort may do in the extermination of even our most dreaded insect foes.

A New Enterprise in Horticulture.

From eastern advices we hear there is a movement on foot to establish a house on a large scale in Liverpool, England, for the receiving and distributing of Canadian apples. This certainly would be a move in the right direction; by this means our fruit could be placed on the markets to better advantage, and in better shape. Our apples by this means would be more readily distinguished from American goods. Americans know our fruit to be superior to theirs, and much of their goods are palmed off on the English markets as Canadian, to the injury of our fruit. Mr. Alex. McD. Allan, the popular and talented President of the Ontario Fruit Growers' Association, is spoken of as the manager. We would think his appointment to such a position most suitable, and we know of no one as capable to manage such an enterprise as he is.

A veteran fruit grower says the remedies for the rot of plums and peaches are: To select and plant those varieties least liable to rot; to plant where the winds may reach the trees; to thin the fruit; and to adopt the usual methods for destroying the curculio or preventing its punctures.

Dissolve one tablespoonful of saltpetre in a pail of water. A pint poured around each hill of cucumbers or squashes is very good for the plants and very bad for the bugs, both striped and black, which burrow at night in the earth about the plants. Cut worms are also said to dislike earth treated with saltpetre. This is a remedy which would certainly be very useful to the plants, and if, as is claimed, it destroys or keeps away insect marauders it will prove most valuable. This saltpetre solution is useful to any plant which is attacked by insects which at any time burrow in the ground. It does not appear to be wholly certain, however, that it is as efficacious an insecticide as could be wished.—[Prof. W. W. Cooke.

Growing and Drying Corn.

BY W. R. DEMPSEY.

One of the most encouraging crops in our country to-day is corn, and yet, heretofore, but little attention has been given to its cultivation. Formerly it was grown for feed exclusively, but the springing up of our drying and canning industries has created a demand for its cultivation, and it stands to-day one of the most remunerative crops grown upon the farm in this country, creating labor and providing food for man and beast.

Some of the best results in growing have been found by plowing in clover at the time required for planting, care being taken to pulverize the newly turned up earth thoroughly, for which the disk harrow seems to be particularly adapted. Mark three feet ten inches each way. Seed does not cost much, use plenty. As soon as the corn has reached the height of three inches, or is fairly up, use a light cultivator each way, then hoe, being careful in weeding, not leaving more than four plants in a hill. In hoeing remove everything that may hinder the young plant from standing erect. Put very little earth around the plants, as too much of the soil against the plant will cause it to push out roots near the surface, that is followed every time with branches from the plant near the surface of the ground, spoken of by us as suckers. Cultivate each way every week until the corn begins to tassel out. Good results have been found by plowing in barn-yard manure with clover. The corn feeds upon the vegetable mould turned in, and, if the crop has been grown for drying or canning, it will be harvested in time to give you one of the best seed beds you can get for fall wheat.

Drying corn took its place with the drying of fruit. Upon the introduction of the evaporator for drying fruit, corn soon became an article in trade with fruit. It had scarcely reached its place in trade when the manufacturers discovered that the riper the corn the more pounds it made, forgetting that he had a reputation to sustain for his goods, hence its neglect in trade. Some manufacturers have been more discreet, and their brands are looked for in trade. When the grain has reached a size desired for table use it is ready for drying; but as soon as it has passed from its milk to its pulp state it is unfit.

The idea has been entertained that no sweet corn grown in Canada could be relied upon for seed. This idea is being disputed. The corn at the dryer that is found to have passed from its milk to its pulp state is passed over to the seed drying room, where an even temperature is maintained until the grain and cob has become thorougly dried. In this way seed has been produced as reliable as any American seed can be. By the selection of the earliest and best ears, under this process of curing for seed, I believe the corn will be improved in earliness and size of ear.

The direction, so often given, to remove the protecting litter from strawberry beds in spring, and then hoe them over, is wrong. Hoeing should not be necessary then—September and October are the months in which to hoe strawberry beds, for their yield depends upon the good culture given to them then—in that, their growing season. The frost will have mellowed and opened the soil far better than any hoeing can do; and the mulch of litter if it remains in place will serve four important purposes—keep the roots cool and moist, as those of the strawberry especially require to be; tend to suppress weeds if no seeds have been brought in with it; prevent sanding of the ripe fruit; and keep the surface open for the ready infiltration of air and moisture.

Veterinary.

Tuberculosis in Cattle.

BY C. H. SWEETAPPLE, V. S.

An article on the prevalence, insidious nature and dangerous character of *tubercle* in cattle has recently appeared in the English Agricultural Gazette. The disease also being quite prevalent on this side of the Atlantic, a short description of it may probably be of interest to your readers.

Tuberculosis in cattle is a constitutional disease which, if not identical, has certainly a very close affinity to that scourge of the human race, commonly called "consumption." It consists in the development of "*tubercles*" often in the lungs, but they may be developed in any part or in any organ of the body. These tubercles vary in size from that of a small shot to the size of a hen's egg, are somewhat spherical or egg-shaped in form, and if cut into a recently developed tubercle is semi-transparent, or greyish in appearance, and is composed of albumen, fibrin and fat, with a small proportion of earthy salts.

Tubercle of long standing becomes yellowish, or cheesy in appearance, or may sometimes soften and become converted into a curd-like fluid, and if these softened tubercles are situated on a mucous membrane, such as the lining of the bronchial tubes, the fluid escapes to be coughed up. It being the property of tubercle to destroy and take up the place of the tissues in which it is deposited, it is not unusual in making *post mortem* examinations to find masses of tubercular matter of many pounds in weight in the thoracic cavity, without any trace of lung tissue amongst it. Tubercular deposits may take place on "*the pleuro*" (the serous membrane lining the thoracic cavity and covering the lungs), on the serous membrane of the abdominal cavity, in the stomach, liver, intestines, or in the generative organs. If in the stomach, there may be frequent bloating and indigestion, if in the liver the usual symptoms of liver disease, if in the intestines probably diarrhœa, if in the generative organs it may cause leucorrhœa of an intractable character, and it is a frequent cause of barrenness in the cow. Tubercle may also be developed on the membrane covering the brain, producing symptoms of brain affection. Tubercular disease of the joints, more particularly of the extremities, is also not uncommon. "Tubercular arthritis" differs from "rheumatic arthritis" in being less acute and making its appearance gradually. The tubercular deposit is apt to take on the softening changes, abscesses form and the joint becomes much enlarged. Tubercular deposits have been found in the fœtus at birth, and these may remain in a dormant state until surrounding conditions, or perhaps something of a debilitating nature, may excite the activity of the disease. Also, many animals butchered in the primest condition are frequently found to have tubercular deposits in a dormant state in different parts of the body.

The symptoms of tubercular disease, of course, vary according to the part in which it is developed, and the earlier symptoms, in whatever part the deposits may occur, are easily overlooked in consequence of its usually coming on so gradually. And in many cases of disease it would be a rash assertion to say decisively that it is, or is not, produced by tubercular deposit, unless we are satisfied that the animal has a constitutional tendency to the disease, the (*tubercular diathesis*) —or that it comes from a known tuberculous family.

With regard to the contagious nature of tuberculosis, it certainly cannot be said to have the excessively contagious characteristics of contagious pleuro-pneumonia, foot and mouth disease, and some others; but that it is capable of being communicated from one animal to another by inoculation, by the swallowing of tubercular matter, etc., numerous experiments have conclusively proved. Therefore there cannot be a doubt that the milk or meat of tuberculous cattle that contains any portion of the infective principle, is not a safe article of food.

Tubercle.

The recent meetings in England of a Parliamentary Committee to take evidence respecting pleuro-pneumonia and tubercle in that country are bringing once more prominently before the public the prevalence and deadliness of these diseases, the latter especially. Allied to, if not identical with, the consumption of mankind, it has, perhaps, been fatal to more cattle and a greater source of loss to stock owners than almost any other trouble. In the face of this statement, it may be asked how it is that we do not hear more about it, and why it has not been so much looked after as pleuro-pneumonia, foot and mouth, anthrax, and other diseases? The answer to this is that it is one of the most insidious of all diseases, and that its deadly work is often done long before the owner notices anything amiss, and that even when an animal dies or is sold to the cattle-jobbers on account of some failure in its powers, the owner is never aware that the tubercle germ is at the root of the matter. It is only when the animal is cut open after death that the tuberculosis deposits (or "grapes") show the cause, and many animals which appeared healthy during life and were killed for beef in the ordinary *bona-fide* manner are found to be affected. So much is this the case that we are justified from our own experience and from the evidence of others in saying that from 20 to 30 per cent. of the cattle stock of Britain are affected. This is, perhaps, a rather sweeping assertion, but it is borne out by facts.

The experiments in Germany, reported by Prof Samuel Johnson, of the Michigan Agricultural College, on the feeding of sheep, to determine the effects of keeping on the amount of wool produced, are quite a surprise to Michigan farmers, and do not tally with the conclusions arrived at from general observation and experience. According to M. Glidden, in the Albany Cultivator, the experiments (the Professor says) show: 1. That the most wool seems to be produced when the animals are thoroughly well fed, but not fattened; 2. Increase of daily ration beyond this produces no effect upon the wool; 3. If the ration falls much below this minimum (maintenance ration) the amount of wool falls to a certain extent; 4. The growth of wool is not directly dependent on the food, and will continue even in the absence of it, or when it is small in amount, and is only affected by it within the limits mentioned. As a summing up of some further experiments, he says: "To keep sheep fat when wool is the principal product desired is, then, an unnecessary expense or outlay for all the extra fodder, over and above a good maintenance ration, which will give the full product. A ration less than this will affect the fleece somewhat, but the animal will suffer much more in flesh than in wool.

The Apiary.

Seasonable Hints.

STORES.

As the honey flow has been so very short this season, bee-keepers will be inclined to take away more honey from their bees than good judgment should allow, and as a natural result they will starve before spring. If an upper story is put upon a hive and this is called the surplus arrangement, it does not mean that the bees can spare all they put in a jar from it; of extracted honey, especially, the bees rarely have enough in the lower combs for winter. So many bees are lost by starvation, and so much has been said upon this subject, it would seem almost as if there were no use in writing upon this subject. Get your bees ready for winter early, in fact, in summer it should commence, and as the brood will often not permit the storing of sufficient honey below, reserve two or three combs of good honey well capped, and have these to fall back on in every hive if they do not have the requisite quantity of honey Oct. 1st. Take out combs free from brood and with the least honey, and put in the combs of sealed honey.

It is a very bad plan to feed—time is taken up. The bees rob if they get the least chance; it wears the bees of the hive out as a honey flow does, and leaves them aged for winter; then there is a great actual waste by the bees in placing their stores in the hive, to say nothing of the bad impression your neighbors get to see you drive home sugar and feed it to the bees, they of course at once say you are "making honey." See then that your bees have 30 lbs of feed, an average hive with combs and bees weighs 20 lbs. Have this feeding done before October 1st.

WINTER PASSAGES.

The above passages are to enable bees to pass from comb to comb without having to pass under them or around the sides, and the desirability of such a passage will be better understood when it is remembered that the lower part of the hive is colder than the upper. That the bees cluster on the combs in a ball shape for instance, the center combs have the largest number of bees, and the outside combs the least of any. The size of this cluster depends upon the temperature of the hive, and the higher the temperature the more the bees spread over the frames; the colder, the more compactly they cluster. Then as they cluster in a ball shape, when the cluster contracts they can contract on each comb, but not towards the centre of the cluster unless they go down or sideways and pass around the comb, which is a movement just opposite to the natural, and those on outside combs become isolated and perish. If there were a passage through each comb, where the center of the cluster on the comb would be, the bees could pass through and join the cluster on the other side. The best position for the passage would be in the centre of the upper two-thirds of the comb above rather than below. There are many contrivances for cutting or punching these holes. Perhaps the best is a cone shaped piece of tin, growing in diameter, as it recedes from the cutting end. This can cut a round hole through the comb, allowing the piece of comb removed to slide out on the wide end of the cone. Another plan resorted to is to lay a bridge over the top boxes. This bridge is constructed simply of sticks, so made as to allow the bees to pass from comb to comb over the top boxes. If you winter outside it is particularly desirable to make these passages for the bees. In a warm cellar it is less necessary.

Old Queens.

Many colonies perish in winter or early spring because their queens are old and worn out, and perish at this season of the year. A queen will sometimes be vigorous and prolific when five years old, but much oftener a queen will be in that condition in which she should be replaced by a young and vigorous queen at three years of age. The question naturally follows, how shall we know the age of a queen? This is a somewhat difficult matter, and a careful record of each hive, which should be numbered, is a good way. Bear in mind the old queen issues with the swarm, and you must transfer the record with the swarm. If queens' wings are clipped, the front right wing may be clipped the first year, the rear right the second year and the left next in order. If you have only a few colonies you should have no trouble to tell the age, and should know all your queens by sight. If you have old queens replace them before fall, this may be done by taking out the queen and placing a cell in the hive which you know is about ready to hatch. Use good stock, and now and then purchase a dollar queen from someone who you know has blood different from your own. In bees, as in other stock, new blood of the right kind gives vigor and energy—very desirable qualities in bees.

Exhibitions.

During the month of September exhibitions and fairs will be the centres of attraction for the agriculturists. Bee-keepers should take an interest in these. To show honey and foods prepared with honey is very desirable, it attracts attention to the article, helps to develop a market for it and frees the public from the erroneous idea that bee-keeping is an insignificant industry, and that bee-keepers lack enterprise. To take a comb with bees, and sealed and unsealed honey nicely glassed on both sides, will attract much attention and be a good advertisement. If you can get a comb with drone and worker cells, and perhaps a queen cell or two, it gives ample room for conversation, and you will interest intelligent people. The plan of taking queens to exhibitions is bad, unless the queen be a poor one. You have to deprive your colony of a queen when they sorely need it to keep them tranquil and in a normal condition. You run the risk of having her destroyed when exhibiting, and there is a great risk in re-introducing her to the colony afterwards. You may in consequence lose your colony. If such a risk is compensated for by the paltry prize, you cannot value your bees very highly. Dr. A. B. Mason says, in Gleanings of Agricultural Fairs:—

These exhibits aid us in our efforts to popularize the use of honey as food and medicine. They will also help to raise the standard of excellence, both as to quality and attractiveness of the honey put upon the market. New ideas will be disseminated, new methods will be learned, and old ones discarded.

For five or six years past the Michigan bee-keepers have made a large and attractive display at their State Fair, and have a separate building for their exhibit, and the premium-list was gradually worked up by Mr. Cutting, Prof. Cook, and others, from next to nothing to over $300. At Toronto, Canada, have been made some of the largest (if not *the* largest) and most attractive exhibitions of honey and apiarian appliances ever made on this continent.

I believe honey should be made the main attraction. A display of bees and queens is always "in order," and calls forth more quaint and original expressions from the crowd of sight-seers than even the extractor does, which has frequently been mistaken for a washing machine or ice-cream freezer. Many an old "residenter" has taken pains to put on the second pair of eyes to see "the king-bee who bosses all the other bees, and tells them what to do," and then, after being told it is a queen, and the mother of the bees, hurries off to hunt up some friend or member of the family to show them "the mother of all the bees."

Supplies are viewed with curiosity; but honey, that "sweetest of sweets, excepting the lasses we all love to greet," is the great attraction, and creates a desire to *taste* that which to many is so irresistible that a purchase has to be made before the visitor is satisfied, and then, when leaving, frequently turns and casts longing glances at the tempting display of luscious sweetness.

BUYING BEES.—Do not purchase bees in the fall if you do not understand bee-keeping thoroughly.

Poultry.

Successful Poultry Raising.

Mr. Charles Lyman, a successful raiser of poultry, writes as follows: "In raising poultry or stock of any kind, it should be the aim of every one to keep it healthy and improve it. You can do it very easily by adopting some systematic rule." These may be summoned up in brief, as follows:—

1. Construct your house good and warm, so as to avoid damp floors, and afford a flood of sunlight. Sunshine is better than medicine.
2. Provide a dusting and scratching place where you can bury wheat and corn and thus induce the fowls to take the needful exercise.
3. Provide yourself with some good, healthy chickens, none to be over 1 to 2 years old, giving one cock to every twelve hens in the Asiatics, and one to every thirty or forty in the smaller kinds.
4. Give plenty of fresh air at all times, especially in summer.
5. Give plenty of fresh water daily, and never allow the fowls to go thirsty.
6. Feed them systematically two or three times a day; scatter the food so that they can't eat too fast, or without proper exercise. Do not feed them more than they will eat up clean, or they will get tired of that kind of feed.
7. Give them a variety of both dry and cooked feed; a mixture of cooked meat and vegetables is an excellent thing for their morning meal.
8. Give soft feed in the morning, and the whole grain at night, except a little wheat or cracked corn placed in the scratching places to give them exercise during the day.
9. Above all things keep the hen house clean and well ventilated.
10. Do not crowd too many in one house. If you do, look out for disease.
11. Use carbolic powder occasionally in the dusting bins to destroy lice.
12. Wash your roosts and bottom of laying nests, and whitewash once a week in summer, and once a month in winter.
13. Let the old and young have as large a range as possible—the larger the better.
14. Don't breed too many kinds of fowls at the

same time, unless you are going into business. Three or four will give you your hands full.

15. Introduce new blood into your stock every year or so, by either buying a cockerel or setting of eggs from some reliable breeder.

16. In buying birds or eggs, go to some reliable breeder who has his reputation at stake. You may have to pay a little more for birds, but you can depend on what you get. Culls are not cheap at any price.

17. Save the best birds for next year's breeding, and send the others to market. In shipping fancy poultry to market send it dressed.

Preserving Eggs.

The following recipe comes from England, and is said to be very good. We give it for the benefit of those who have not been successful with salt :—

Procure a large earthenware jar which has a lid, in this put a pound of lime and one gallon of cold water, stir the contents well together, and repeat the stirring several times each day for several days, until the lime is settled and cold. The eggs may then be placed in, gently, day by day, until a hundred are in. Then take them out carefully, and give the mixture a good stirring, and when settled replace the eggs, placing those previously at the bottom now on the top. After this only take out those you require to use and cook them at once. The great precaution, says the writer, is in preserving only those eggs that are fresh. It is no use to put thin shelled eggs in lime, or it will penetrate the shells and spoil the contents for eating. Ordinary good sized ones, which are sound in every respect, and put in the pickle at once, not left lying about for hours, are suitable.

Give the Boys a Chance.

The human mind is naturally drawn out towards an animate more than an inanimate object. Place a fowl, dog, rabbit, or even a cat on the express trucks at a depot where there is a large crowd, and it will be examined by almost every one passing, while on the other hand an inanimate package of merchandise would be passed by without note or comment. This love of animated nature is the primary reason of men becoming fanciers of stock, and none but a fancier is at all likely to become a successful breeder, and it is very seldom that others are successful with stock in any line. Now is it not wisdom in the farmer to let the boys have a few choice fowls of the variety they fancy, and allow them to be sole proprietors and managers of their flock. That it will develop an ordinary thoughtful boy and help to attach him to the farm, can not be denied—that it will prove beneficial as a business educator, is more than probable as well as in most cases proving profitable.

Having a yoke of steers to break and work exclusively, and later on a colt of his own, did more to endear the old farm to the affections of the writer (when a boy), and to draw out his thoughts on agriculture, than was ever realized by his father or any one else except himself.

The cost of a pair of choice fowls of the best variety is very low at present, or in fact can be had by getting up a small club for this paper, and the possession of them often leads to a greater interest in and consequently better care of the ordinary fowl stock of the farm, with greater profits as the result. Try it. Give the boys a chance. If entire loss of the investment follows it will not amount to much, and in most cases it will prove as good an investment as is often made.

Commercial.

FARMER'S ADVOCATE OFFICE,
Sept. 1st, 1888.

The first half of the month of August was somewhat wet and showery, but not enough to do any serious damage. Harvest is now over and farmers are threshing. From what we can learn they are not disappointed, but in many cases are agreeably surprised at the yield of their crops.

WHEAT.

The yield per acre of fall wheat in Ontario, is much better than many farmers anticipate. Spring wheat is poor in some sections; but the reports from Manitoba are very flattering, and if they have escaped the late frosts, no doubt they will have a heavy crop of spring wheat.

The Cincinnati Price Current in reviewing the situation says: The outlook for wheat is everywhere conceded to be such, in contrast with the situation in past years, as to occasion less anxiety on the part of producers and holders to dispose of supplies, and increased concern as to anticipating future requirements—for the indications are, that while the year began with moderate supplies of previous production, the aggregate of the year's wheat harvest is below the average in quantity, and deficient in quality. The latter feature in the case is measurably an element adverse to as full prices as if the quality were better. But with all the surroundings conceded to be so strongly favoring an outlook for materially higher prices of wheat, there is little yet but speculation to anticipate the effect of expected future stringency, and this element of speculation is offset by the feature previously alluded to, the power to sell promises without obligation to deliver, limited in volume only by the contingency of expediency on the part of such operators.

Taking into account the rye and potatoes of the old world, the estimate that importing countries will want 150,000,000 bushels more than the exporting ones have to spare, must be regarded as a very moderate one. Cut this down by one-third, and we still have a deficiency the significance of which can not be understood by those who think wheat at 90 cents in this market is a high price. The reduced figure would mean a 5 per cent. deficiency from actual wants. Without such reduction the shortage would be one bushel in fourteen. Either of these is nothing short of a food calamity, and high prices would make it a still greater one, but they appear to be inevitable. The bear element may scalp the market down a little more than once, encouraged by moderately free deliveries from farmers who are obliged to sell in order to meet the fall indebtedness, but we can not conceive it possible that the speculative part of the community will permit any more than a small portion of our surplus to go abroad at present figures or below then.

The information in regard to the English wheat crop is such as to justify calculations on considerably less than the average production, a corresponding enlargement in requirements from surplus countries, so that the total will likely reach 140,000,000 bushels or more needed to be imported into the United Kingdom during the coming year, of wheat and flour. The indicated needs of France and the United Kingdom for the coming year appear likely to reach 220,000,000 bushels.

The latest official reports from Austro-Hungary show some improvement in crop prospects, in which wheat has participated, but the outlook is still less favorable than last year. Rye, barley and oats are decidedly short crops.

Threshing shows that the wheat harvest in New Zealand was from 20 to 40 per cent. below expectations.

In Germany the weather has been more favorable, causing material improvement in the crops, which will generally turn out quite well, with the exception of rye, which promises to be 20 to 30 per cent. below the average.

PEAS

will be a very fine sample this year, and the yield in Western Ontario will be above the average. The price we think will be fairly good.

BARLEY.

The yield of barley will be good; and in some sections very heavy, but more or less discolored from the showery weather both before and after cutting. How prices will pull is hard to say, for so much depends on the American crop and the condition in which it has been saved.

OATS

are heavy all through the west; and while the cutting and hauling has been tedious, we think the sample will be good.

APPLES.

Some orchards are said to be pretty well loaded, while the yield of others is poor. Reports from Great Britian say that the crop on the continent is very poor. The crop in England and Scotland, may be described as a complete failure.

LIVE STOCK.

The Montreal Gazette report the market for prime Canadian steers in Liverpool on the various dates as follows :—

	1885.	1886	1887.	1888.
Aug. 20	13½c.	12½c.	11c.	12½c.
Aug. 13	13c.	12c.	11c.	12½c.
Aug. 6	13½c.	12c.	11½c.	13c.
July 30	13c.	12½c.	11½c.	13c.
July 23	12½c.	12c.	11½c.	13c.
July 16	14c.	12½c.	11c.	13½c.
July 9	14c.	12c.	10½c.	13½c.
July 2	14½c.	13c.	10½c.	13c.
June 25	15c.	13c	11c.	12c.
June 18	14½c.	13½c.	11c.	12½c.
June 11	13½c.	13c.	12c.	13c.
June 4	14c.	14½c.	12½c.	12c @12½

Exporters are complaining bitterly about the high rate of freight from Montreal, and say they can engage space on the best steamers via Boston, at 40s. which is relatively a much lower rate than from here. A certain shipping agent has stated that 63s. could be made for deals, and should shippers adhere to the decision not to ship via Montreal, as has been stated by them, it will give agents more time and opportunity to get deals at the rate mentioned.

CHEESE

The cheese market has been a very peculiar one the past month—buyers and sellers have been apart so much that up to the last week by far the larger proportion of the July make was still on the factory shelves. The reason for this is due to the fact, that because June cheese sold well, sale men thought July's make should sell so much better and refused to accept the situation and take the best price they could make. This combined with favorable weather for a heavy make both here and in England, has caused a depression which is still tending to depress the market. The first half of August cheese is now ready to move and this will help to keep the markets quiet.

The following is a comparison of the shipments via Montreal for the past eight years :—

	Butter.	Cheese.
1888	4.723	570,328
Through	2,036	208,784
1887	26,638	693,415
Through	6,928	247,813
1886	16,180	529,161
Through	6,526	206,699
1885	24,228	603,157
Through	8,039	237,471
1884	19,019	663,537
1883	16,068	461,600
1882	16,276	403,813
1881	47,224	331,422
1880	75,424	307,629

BUTTER

is very quiet and little doing. There has been no important move on the part of exporters who have remained inactive and indifferent, being unable to to pay the figures demanded by producers.

Manitoba's Grain Crop.

What was done with Manitoba's immense grain crop of last year is shown by the statement made by Mr. C. N. Bell, of the Winnipeg Board of Trade. The wheat yield was between 13,000,000 and 14,000,000 bushels, of which 8,500,000 was exported to Eastern Canada and Europe; 2,600,000 bushels was converted into flour in Manitoba; 1,100,000 bushels has been used to seed 520,000 acres (the acreage under crop last year was 432,000); and 1,200,000 is in the hands of millers and shippers, and of farmers for close marketing.

The value of wheat exported was $4,675,000; flour and bran, $1,250,000; flax and its products, $120,000; barley, $140,000; oats and oatmeal, $280,000; dairy products, eggs, potatoes, etc, $600,000, making a total of $7,065,000.

Correspondence.

NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. If an answer is specially requested by mail, a stamp must be enclosed. Unless of general interest, no questions will be answered through the ADVOCATE, as our space is very limited. 3. Do not expect anonymous communications to be noticed. 4. Matter for publication should be marked "Printers' MS." on the cover, the ends being open, in which case the postage will only be 1c per 4 ounces. 5. Non-subscribers should not expect their communications to be noticed. 6. No questions will be answered except those pertaining purely to agriculture or agricultural matters.

Correspondents wanting reliable information relating to diseases of stock must not only give the symptoms as fully as possible, but also how the animal has been fed and otherwise treated or managed. In case of suspicion of hereditary diseases, it is necessary also to state whether or not the ancestors of the affected animal have had the disease or any predisposition to it.

In asking questi ns relating to manures, it is necessary to describe the nature of the soil on which the intended manures are to be applied; also the nature of the crop.

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

Swelling on Head and Neck of Fowls.—I have a fine flock of turkeys, one of them, a year old, has a swelling or puff on the head and neck which has now extended over the whole body It eats and drinks well and seems otherwise healthy. —R. E. B., Berlin, Ont.

[Take two ounces white wine vinegar, add half ounce each of sugar of lead and powdered alum; bathe the head and neck freely, also examine the inside of the mouth and throat. There will likely be small sores, if so, wash out with a small rag on a piece of stick. Be careful not to get much of the mixture down the throat. Mix one ounce sulphur and one-fourth of an ounce of powdered saltpetre; give one-fourth of a teaspoonful once a day in feed. This will likely cure the bird.]

Fertilizers for Fall Wheat — Varieties of Fall Wheat—Clawson and Seneca.—1. What kind of fertilizer should I apply to my fall wheat land? The soil is clay loam, with a little gravel, and is not what you would call poor. 2. When should the fertilizer be applied? I cannot get sufficient barnyard manure. What I had is spread and ploughed in. 3. Will it do to sow broadcast and harrow in with Acme harrow? 4. What quantity per acre? 5. Where can the fetilizer be purchased, and what is the probable cost? 6. What fall wheat would you advise me to sow?—W. S., Beamsville, Ont.

[1. Of those fertilizers procurable in Canada superphosphate and Chili saltpetre would probably give the best results. 2. The former should be sown broadcast over the field shortly before the crop is sown and the latter in the same manner early the next spring, or if the land is well drained and no surface washing occurs on it in spring, late in the fall. If applied too early in the fall, or if the land has not first-class drainage or surface washing occurs, much of the Chili saltpetre is liable to be lost; and if applied too late in spring it is liable to cause a large growth of straw of a weak character and liable to rust, and as a result of this, poor, undeveloped grain. It should, however, be avoided to sow it when the ground is wet. Guano is likely even better than the above, but we know of no place in Canada where it can be bought. 3. Very well for the superphosphate, but the Chili saltpetre being sown after the grain is up cannot be covered at all, and does not require it. 4. If the production of straw and grain have been in the right proportion, from 200 lbs. to 400 lbs. of superphosphate, and 75 lbs. to 175 lbs. of Chili saltpetre, would be an average application. If, however, the grain has been liable to lodge or the straw rank, the quantity of Chili saltpetre should be reduced, and in some cases entirely dispensed with. 5. The superphosphate may be obtained from Mr. P. R. Lamb, Toronto, or from Mr. R. J. Brodie, Smith's Falls. The latter gentleman will also furnish you Chili saltpetre at about $1.30 per cwt. The price of superphosphate ranges from $1.25 to $1.80 per cwt. 6. There are many good varieties of wheat, some doing best in some localities and others in others. Read our article on wheats in our last issue. The Clawson and Seneca are the same wheat. The proprietor of the FARMER'S ADVOCATE, when in quest of new seed wheats, procured it from Mr. Swan, of Geneva, the owner of the first prize farm in New York State, under the name of Clawson, which is the original name of the wheat. It was introduced by Mr. Clawson, of Seneca County, N.Y.

Books on Farming.—Would you please tell me what you consider the best book on general farming? —R. J. T., Blackstock, Ont.

[This question is one almost impossible to answer, for there are a large number of valuable books prepared for the various degrees of intelect among farmers; but the variations in the circumstances, ability, energy and knowledge of the farmers is so great, that double the number of books would not cover the ground. "The Culture of Farm Crops" by Henry Stewart, and the "New American Farm Book" by Allen, are two good books at average price for average conditions. "Tenner's First Principles of Agriculture" is a very good cheap little work "The Chemistry of the Farm" and the "Soil of the Farm" are very good little books for farmers that have made up their minds to study them; they are very concise, especially the former. "The Science of Agriculture" by F. J. Loid, is a valuable work on the subject it treats.

Salt Adulteration.—Previous to the adoption of an amendment to the Weights and Measures Act legalizing a standard barrel for salt, I endeavored to bring before the public, through your columns, the importance of having a competent inspector, or some authorized person to look after the quality of salt; as inferior and adulterated salt are being sold on the Canadian markets, and should be branded that they may be known, as only those versed in the art of manufacture or experienced in the business can detect them. The bill passed last session is a very unsatisfactory one, and might without hyperbole be judged a puerile production. Those parties who so strongly urged such a measure must either be prejudiced, or very ignorant of the ultimate result of allowing such salt to be sold. It is not a difficult matter for those manufacturers to give 280 lbs. of salt, as this adulterated stuff is so deliquesent its weight increases rather than diminishes and as the law stands they have a big advantage over other manufacturers, being able to fulfil its requirements and give very much less salt. I have heard other manufacturers say they shall have to adulterate also and spoil good salt to compete with this inferior article, the ultimatum of which shall be, that instead of being the best salt made, Canadian salt shall be the worst. It is therefore much more important that the quality should be looked after than the quantity, which the government has failed to do; not because they were ignorant of the foregoing facts, but for some reasons unknown to the writer. It is therefore necessary for the public to try and learn how to detect those salts, find out where they are made, and refuse to purchase them at any price. This inferior salt is of a chalky whiteness, soft and floury to feel; it has no grit like a good crystalized salt; it is generally white, heavy and fine, but sometimes of a pink color.

Goderich, Ont. JOSEPH KIDD, JR.

Moss in meadows means wet, poor subsoil.

Be sure and save the largest and earliest maturing vegetables for seed.

The Cuban way of keeping ripe tomatoes fresh and firm for several days is to pack them in dry ashes.

A strong brine thoroughly sprinkled over the weed generally known as Live-for-ever is said to totally destroy it.

The New York Tribune says: The cost of keeping the dogs in the U. S. is at least $200,000,000 per annum. The food consumed by a dog of medium size would, if fed to hens, produce $10.00 worth of eggs.

A strong solution of soft soap is the old and reliable remedy for bark-lice. Professor Cook has improved on this by the addition of crude carbolic acid, making the mixture as follows: One quart of soft soap to two gallons of water heated to the boiling point, when one pint of crude carbolic acid is added, stirring the solution well at the same time. This should be applied early in June, and again some months later, with a cloth or scrubbing brush, to all affected parts.

Family Circle.

A Birthday Greeting.

What shall I wish thee for the coming year?
Twelve months of dreamy ease? No care? No pain?
Bright spring—calm summer—autumn without rain
Of bitter tears? Would'st have it thus, dear friend?
What lesson, then, were learnt at the year's end?

What shall I wish thee, then? God knoweth well
If I could have my way, no shade of woe
Should ever dim thy sunshine; but I know
Strong courage is not learnt in happy sleep,
Nor patience sweet by eyes that never weep.

Ah, would my wishes were of more avail
To keep from thee the many jars of life!
Still, let me wish thee courage for the strife,
The happiness that comes of work well done,
And afterward the peace of victory won!

—*Anon.*

OLD MR. CONROY'S LADY-COMPANION.

[CONCLUDED]

Our afternoons were mostly spent in taking long drives, in which, out of deference to Miss Denham's passionate love of the rural, we always avoided towns and large villages. A far-reaching view from any lofty hill would move my small companion like a strain of music or a pathetic story; and the more she felt the less she said. It grew at last to be a rule with us to pull up on reaching any vantage-ground, and to sit and study the distant scene in a silence broken only by the clinking of the bits and the cracking of the harness, while the horses themselves pricked their ears and seemed to listen, and the discreet groom stood motionless as a statue by their noses.

I think the name and fame of Miss Denham must have travelled far and wide, because, whenever we clattered through the most isolated hamlets, the inhabitants tumbled out of their dwellings to a man to a woman, to a pig, to a goose, and had a good stare as long as we kept in sight.

And, when the evening came, what a girl she was for games! Whist, cribbage, chess, backgammon—she knew them all, and not only played them well, but could lose gracefully when she played with Maria. One morning, when my leg was easier, I challenged her to billiards; and hang me if she didn't win!

Later on I made another discovery—Miss Denham could ride. I had leaped across to the stables with a hand on her plump little shoulder, and had been so much struck with her knowledge of my nag's ways, and with her admiration of a side-saddle that poor Dick had bought for girl-visitors, that I then and there arranged to ride into Stanbury with her.

Perhaps you wonder how I can ride with a gouty foot? Well, I don't put it in the stirrup—I let it dangle.

The ride was a great success. She sat Dick's chestnut as if she had been made for it; her colour rose and her eyes danced with life and joyousness. There was only one word which would describe her, and that was the word poor old Dick used in describing that Hobson girl—"scrumptious." She was not one of your flat-chested, round-shouldered equestrians, and her habit fitted her like a glove.

But in the midst of my admiration it struck me as confoundedly curious that she should have any habit at all. So I asked her point-blank how it was. Directly I had done this I felt sorry, for her face fell and she looked troubled. She rode on in silence for a few minutes, looking straight between her horse's ears, and with something very like tears in her eyes. Then she said very softly—

"Mr. Conroy, I can't tell you—I really cannot. I know you have a right, after all your kindness to me, to hear a little more of my past life than my references told you, but to explain about the habit carries me back to days I would rather not think about. Please don't ask about those times, and please don't be cross."

Well, you may be sure I did not press my question after that; and she soon brightened up again.

After this ride I kept my curiosity to myself, and tried to forget that either of us had a past to recall.

And time stole on, and "Miss Denham" was, by agreement between Maria and myself, entirely superseded by "My dear" or "My dear Connie"—which little phrase pleased me well, as reminding me of my plebeian sweetheart of long ago.

Some of the old cats of the neighbourhood wagged their ugly old heads at me, and talked about "old Mr. Conroy's lady-companion," but I did not care; nor did Connie either, for the simple reason that she was innocent of all offence.

I was much amused at the way in which the wives and daughters of my neighbors treated my favorite when they paid me state visits, and at their efforts to patronise or snub her as a superior upper servant. Connie herself seemed a little puzzled at first as to what *rôle* she should assume, until I made it clear to her that she should meet all comers as an equal. After this she treated some of the more inflated feminine potentates to such well-directed shafts of sarcasm as speedily reduced them to frigid and distant politeness.

By way of strengthening my little lady's position, I gave her absolute and complete control in the matter of all almsgiving, and this of course brought the parson and the curates round her, and the Dorcas ladies, and the lovers of Jews, blacks, heathen, thieves, and other bad characters.

My neighbours' sons behaved differently from their wives and daughters, for within a week of

Connie's arrival they began to evince extraordinary interest in my health, and would sit with me for the half-hour together. On these occasions Miss Denham disappeared at the earliest opportunity, leaving me to extract what amusement I could from the young men's piteous efforts to make believe that they c-red a brass farthing whether I was alive or dead. One "masher" covered himself with confusion in the endeavour to talk about my gout while his mind was running on the subject of my companion, by boldly asking after the welfare of "Miss Denham's leg."

You may judge what I thought of Connie's good sense and warm heart, when I tell you that I went over Dick's affair with her from beginning to end and found her sympathy itself. Why, the tears came into her eyes, and she was not only sorry for me—she was sorry for Dick as well! The only trait in her character which disappointed me was her inability to see why I could not have Dick back! her obtuseness on this point almost amounted to obstinacy.

I showed her a photograph of Dick, and the dear little soul looked at it quite affectionately. It proved how thoroughly she had identified herself with the family.

There was one thing about Connie which puzzled me immensely—she wrote pages every day to some unknown correspondent, and always posted her letters herself. In a general way I am not in the least inquisitive, but I must confess to having been anxious to know why Connie wrote so much and so often. I asked Maria if she had observed the letter-writing mania, and found that she had; but, when I inquired the meaning of it, she became aggravatingly deaf. She twisted the word "meaning" into "cleaning," "weaning," "beaming," "steaming," and a score of other absurdities.

But I ferreted the thing out without her. I came to the conclusion that there was a lover in the case, and charged Connie on suspicion. Her responsive blushes were something to see. She turned red-hot, rose up from her chair in a hurry, and gave me three doses of medicine one after the other in quick succession and before I had time to protest; but she looked so pretty while she was doing it that I forgave her and bore no malice.

By-and-by we talked the matter over confidentially, she kneeling down beside me, as if to her father-confessor, and looking proud, pleased, and shy by turns.

I think I must have made a good listener, or she would never have found courage to tell me how handsome he was, how good, how clever, how truly fond of her, *et-cætera*. He was, it appeared, a sort of secretary to an M. P., and was saving up for the express purpose of making my little favorite a home.

You will scarcely credit me when I say that I was old fool enough not to relish the idea, and that I felt quite jealous of Mr. Secretary; but so it was. Still I kept the fiend in the background, and went so far as to say that I would use my influence to do the beloved one a good turn—an offer which gained me a kiss on the extreme crown and centre of my bald head for May may kiss December, and Maria was present.

There was one question I was forced to ask, although it was an awkward one. It was clear that Connie's lover had good taste; but was he a gentleman? This was a point I felt bound to be satisfied upon, and I hinted my thirst of knowledge on this particular head as delicately as I could.

The dear little soul took it all in good part, and gave me a perfectly satisfactory answer. She assured me that he bore a most extraordinary resemblance to myself. It was such a relief to me to hear this that I grew quite interested in the little romance, and proposed that the secretary should run down and pay Connie a visit from Saturday to Monday.

When I said this, she became the most bewitching picture of confusion, and produced a small array of weak-minded little arguments against the scheme, until I, brushing all her polite fibs aside, commanded her, by virtue of our mutual relations of employer and employed, to write an invitation that very afternoon, and to fix Saturday, September 13th, my seventy-first birthday, for the visit. When she left me to do my bidding, my spirits sank to zero; for had I not pledged myself to help this unknown young man to rob me at the earliest possible date of the one solitary being who could in any way atone for the loss of Dick? Poor Dick—why on earth could not he have fallen in love with Connie, or somebody like her, instead of that girl of Hobson's?

* * * * * * *

Saturday came—I mean the Saturday fixed for the Secretary's visit—and found Connie in a state of the most intense though suppressed excitement. She forgot to put sugar in my coffee at breakfast, she put hot water on Maria's cactus, and she made several attempts to read the *Times* upside down. To her habitually affectionate manner there was added a strange flattering timidity.

It seemed to me that there was something very unusual in her way of looking at me, and I thought I detected an exultant gleam in her large soft eyes whenever they met mine—a look such as a child's eyes might have who is possessed of a secret that it is burning to divulge, but has been drilled into keeping back.

The young man was due at Stanbury at six o'clock p.m.; and when the proper time arrived I packed Miss Connie off to the station in the brougham to meet him, and then sat down on the terrace in the dusk and quiet of the autumn evening to await the lovers' return.

The screams of the swifts high overhead and the drowsy cawing of home-tending rooks quieted down, the red sun sank, the mists rose, the crickets and the bats held high festival, while I sat alone. And, as I sat and thought of Dick, wondering where he was and how he was, I felt the burden of my threescore years and ten. I do not think I ever remember such a heavy dew as there was that evening, for I felt great drops of it upon my face.

It seemed to me, sitting there in solitude, as if the fair and restful scene, though so familiar, had gained a strange new touch of sadness. Even my favourite Scotch firs looked mournful and solemn with their background of delicate primrose-colored sky.

By-and-by the carriage flashed up the avenue, swung around the corner, and pulled up at the hall door, paused there a minute's space amid the champing of bits, and then bowled past me on its way to the stables.

A little later I saw two figures mount the terrace steps and come towards me. They came through the mist that had risen from the lawn—nearer, nearer, nearer yet; and I, looking up, saw that these twain were hand in hand, and let my eyes travel up the man's arm until they rested on the face of Dick.

No doubt they thought I should be surprised; but I was not in the least—no, not even when Dick introduced me to Miss Constance Denham Hobson. I just got up, shook Dick's hand, kissed Connie, and marched them in to dinner. F. G. BARBER

"As the Twig is Bent."

"Oo ittle totsy wotsy, I 'pecs oo bettah dit down on de f'o' an' 'et momma wuk."

"Flo'nce, wha's de use raisin' de baby wid sich baby talk? Does yo' wan' de chile to talk like that when he's a grow'd-up man? An' he will 'f you' dress him in dat fashion. Why doan yo' say, 'I's ob de 'pinion ya' bettah set on 'de flo' while yo' muddah purfourms her duties,' an' hab it grow up an' speak good English whileyou's 'bout it?"

Mixed Hospitality.

A certain worthy clergyman in the North who was as much given to hospitality as his good wife was the reverse, was called upon one afternoon by a reverend gentleman. As they had been fellow-students together, and had passed their examination before the same presbytery, they had of course much to talk about. One tumbler therefore followed another, and each tumbler brought along with it something new to discuss, till the time arrived for the stranger to mount and proceed on his way. This however the kind host would not listen to. His heart was warmed and fully awake to the pleasurable feelings of sociality, and, in spite of all the nods and winks and dark looks of his wife, he insisted that his friend should remain for the night. This arrangement being effected, supper made its appearance, and was, as usual, followed by another tumbler by way of a "nightcap." Before retiring, the good dame was asked by her husband to bring in the family Bible. She started on this duty, and while gone the guest took of his shoes, opened the room door, and placed them out in the passageway. While stooping for this purpose, with his head through the door, the good wife returned, and, mistaking the bald head of his reverence for that of her husband, she raised the sacred volume and brought it down with a heavy rap and a matrimonial whisper—"There—that's for garin' him stay a' nicht!"

An English physician has shown why some people can digest milk readily and others cannot. He says: In the digestive fluids of the stomach there exists a special ferment by which the flesh forming part of the milk, the cheese or caseine, is specially digested. This ferment continues in action throughout life in some persons, but not in all; so there are some who can digest milk at all times, and others who cannot digest at any time. In those who too exclusively feed on fresh meat and starchy substances the particular milk ferment ceases to be produced, and the digestion of milk ceases to be a natural act.

The Household.

Vice Versa.

"When she is mine," I murmured in my heart.
"I'll mold her in a thousand ways:
Her faults—dear, tiny blemishes—will start
And melt away like Summer haze."

Ah, now we're married; but my tender dream
Has faded into horrid blurs;
I fetch and carry—like a slave I seem—
She is not mine; 'tis I am hers!

What I Do.

I'm busy, so busy all day,
D' you think I'm too little for that?
I pick up the threads from the floor,
And work, thro' a spool, on my mat.

D' you know how to make one? *I* do.
It's easy if you can begin,
It goes through a hole in the spool,
You work it all round with a pin.

And then, when you have enough done,
You sew it around, through and through,
I haven't much done to mine yet,
But that's what I'm *going* to do.

Rest Before Eating.

Mr. A. I. Root, suffering nervous prostration from mental overwork, finally found much relief by the easy expedient of taking a nap each forenoon or afternoon; and at last he began to observe that when these bits of rest came just before mealtime he could sit at table without experiencing the former symptoms of exhaustion, and digest food with less inconvenience. The remainder of the story we quote in his own words from "Gleanings in Bee Culture":

"Then it occurred to me that Dr. Salisbury, of Cleveland, Ohio, used to almost insist that I should never eat a meal without first being rested thoroughly for twenty minutes or half an hour on a lounge or bed. He said it was far better to have a good sleep before eating; but if I could not sleep, lie still without sleep. My wife has urged this very point for years; but I have usually been so busy just before mealtime I could not get around to it. For some time back, however, I have been taking just half an hour's sleep before dinner and supper; and if any sort of patent medicine had ever given me such a lift in the way of health, it would very likely have been 'boomed' about as well as I could 'boom' it. The philosophy of it seems to be: If you want a man to do a good piece of work, he should be well fed and well rested. Yes, the same is true even of a horse. Well, Dr. S., declared it was a task for a weak constitution to properly digest a meal of victuals; and he declared further that no constitution could digest food properly when it was exhausted and run down to the very last notch; and if any one attempts to get along in that way he will sooner or later find himself broken down entirely."

All the heavy laden—tired housewives in particular—are urged to adopt this simple course of recuperation:

"You are not saving time by sitting down to your meals so worn out that the hand trembles with fatigue that raises the food to your lips. You will get along faster, and accomplish more, by taking this kind of rest. If it seems to you impossible, and you are inclined to smile at the idea of a half-hour nap before dinner and supper, then I shall direct my appeals to your husband, your sons and your daughters. As you value the life and the presence of this patient, hard-working mother, make her take that needful rest, just as my wife and children have been making me use the good common sense God has given us all."

Common Sense in Marriage.

How many noble men and women are asking with earnest, anxious hearts, "What can the busy ones do?" as they see, all over the land, our mothers' lives narrowed and burdened until the tread-mill round of every day duties shuts out all the grand possibilities of human existence, crushes out all the sweet meaning of uplifting, intelligent work!

For the sake of the youth, I will say that amongst the first and most potent for harm are false ideas of marriage. It is too thoughtlessly entered into. Many women and few men, because of their unselfish loving, idolize natures that are, at bottom, shallow and coarse. It is very difficult, if not impossible for a clear-souled, loving, aspiring individual to live a blessed, peaceful, useful life with a coarse natured, indifferent companion. While I believe God sends no greater blessing to a woman's life than the love of an honest, pure, upright man, and I would have every woman fully appreciate its worth, still, I would emphasize this, that marriage is not the grand sole end and aim of life.

Many women there are, all up and down the land, whose women-hearts have nothing strong and pure and tender to lean upon, even though they wear the crown of wifehood, and no human pity is deep enough for their need. If they could cry out, they would tell you how thoughtfully, prayerfully, should this crown with the attendant responsibilities be taken up. It is possible for a woman to live a true, beautiful, womanly life alone, and only when she can do this is she fit to become the helpmeet of another. No woman need die unloved because not married. If she live an earnest, loving life, much of real worth will come to her. Do not mistake me. I believe in marriage. To-night I would like to feel that every woman in God's world had a brave, strong arm to fight life's battle for her, that a great, strong tenderness clothed her about, and that a home, such as God meant our homes to be—"places for souls to grow heavenward in"—claimed her loving service. But we must take the world as it is. Although it is "growing toward the light," there are many good men and women to whom the blessings of real home love never comes—nothing strong, tender and pure. And I claim this: that, unless something comes to us so worthy of out best devotion, so helpful that with its aid we can live more useful lives than would be possible for us to live alone, we have no right to play fast and loose with God's holiest blessing.

At best, life's cares are heavy, and if we would grow upward, the battle with selfishness and sin must be bravely fought. In married life, the vast responsibilities are more than doubled. And with this added weight comes a thousand petty cares, so that only the strongest love and respect, the firmest faith and deepest Christian hopefulness, are sufficient to help us through our daily duties. If this be true, what can we expect of those lives which come together without a strong mutual love—the love of God—high clear aims, and with little conception of the sacredness of living?

Another idea the times are growing up to that I would bring before the young, is this: A woman has a right to investigate the make-up, moral, religious and physical, of the man who is to become the father of her children. Heredity is teaching us much. Study it. Moral education is teaching us much. The rights of coming generations are interesting our best thinkers. Read what they say. Be sure that this man or this woman, to whom you look for future companionship in marriage, can walk with you, not merely by you; can join hands and heart with you in all your noblest efforts; can sympathize with your loftiest aspirations. Be sure that the interests of the innocent darlings God may send you will be considered before self in all your relations.

The Endowment of Daughters.

Mr. Walter Besant makes public, in Longman's Magazine for April, his solution for the problem presented by a large number of women, especially of the educated classes, who are now seeking employment with comparatively few chances of finding it save at starvation prices. He would have us check the evil and its source. To begin with, he points out the "selfishness and wickedness" of bringing into the world children for whom no provision can be made by the parents, and then, accepting these children, he exhorts such parents as have the means, to take at once the opportunity of "endowing" such children as are girls. The boys may be trusted (may they?) to get their own living; but it is undesirable that the girls should be obliged to work, for they do but reduce the incomes available for men, while, if they do work, it is well that they should have a small annual sum to fall back upon—to keep them respectable while looking for employment, and to add to their comfort when employment comes. And how is this endowment to be provided? Mr. Besant shows us. The post office has a system by which, if a father pays 12s 7d a year for twenty-five years he can secure to a daughter at the close of that period, an annuity of £1. For £22 0s 5d a year he can secure to her at the end of the like period, an annuity of £35, which Mr. Besant evidently thinks a very fair sum to aim at—producing 13s 6d a week, on which a necessitous gentlewoman could live without privation. It is not, of course, in the power of every father to put aside £22 a year for his daughter, and, where a man has more than one daughter, the difficulty of procuring an annuity for them is all the more marked. But at least, Mr. Besant holds, he should do his best, and, if necessary, pinch a little in order to do it. And the necessity for endowing daughters is nowadays all the greater, from the fact that the aforesaid lowering of men's salaries, caused by the increasing competition of women with men, is tending to reduce the number of marriages in middle-class life.

"A PHYSICIAN was called out of a sound slumber the other night to answer the telephone. "Hello! what is it?" he asked, little pleased at the idea of leaving his comfortable bed. "Baby is crying, doctor. What shall I do?" came across the wire "Oh! perhaps it is a pin," suggested the doctor, recognizing the voice of a young mother, one of his patients. "No," was the reply, "I'm sure it can't be that." "Perhaps he has the colic," returned the doctor, with well simulated solicitude. "No, I don't think so," replied the anxious mother, "he dosen't act that way." "Then perhaps he's hungry," said the doctor, as a last resort. "Oh! I'll see," came across the wire; and then all was still. The doctor went back to bed and was soon asleep. About half an hour afterward he was again awakened by the violent ringing of the telephone bell. Jumping out of bed and placing the receiver to his ear, he was cheered by the following message: "You are right, doctor; baby *was* hungry."

Who Knows?

Who knows where pins and needles go—where all the buttons stray? Who knows where all the pennies go, that somehow get away? Who knows how all the china breaks, that wasn't touched at all? How baby gets so black a bruise, yet never gets a fall? Who knows whence all the fashions come, and when they disappear,—why one brief month should make a fright of what was "such a dear?" Who knows how little bills can swell to such prodigious size? Who knows, indeed, what's going on beneath his very eyes? Who knows just where her husband goes when "business" keeps him out? Who knows when best to wear a smile, and when to wear a pout? Who knows the time to face the fact that she's no longer young? Who knows how best to speak her mind, and how to hold her tongue? Who knows the most convenient day to bring a friend to dine? Who knows the half of what he spends on clubs, cigars and wine? Who knows one bonnet cannot last a woman half her life? Who knows the woman is the same when sweetheart turns to wife? Who knows why all the pretty girls are often last to go? How all the ugly women wed who never have a beau? Why small men fancy wives so large, and large men fancy small? Who knows, in fact, how half the world was ever matched at all?—[R. Leverett.

Mother Must Know.

Before one can do much towards self-improvement, she must see the necessity for it, and that necessity must seem equally as pressing in her mind as her household cares, and then she must summon her will power to her assistance. "When a woman will she will," you know. One thing is certain,—there is no mother who would be perfectly willing that her children should say of her, "Mother doesn't know," if she only stopped to think of it. They may love and respect her, but when "mother doesn't know" they are going to grow, daily, farther and farther away from her. "But there are so many daily tasks that must be done," you say. I know it. I've "been there." But take those tasks into consideration, as you do a meal when you "put on the toughest things first." Do what absolutely must be done, and may be you can find some way to slip out of the rest, part of it at least.

If the must-be done's are too many for your strength, then it's time for a revolution at your house. One thing is certain; the mother must not be a drudge. You must have someone to help you. If you can't get a girl, call in a small boy, and if the boy isn't forthcoming, enlist the hired man. If you are a farmer's wife, there are many things in which he can help you. Then, when you have gained your hour for reading and study, commence where the children will first need your assistance. Have some idea of all their studies, and keep in advance of them. Grown people can find much interesting information in common school books, that they could not see at all when they were younger. It will do you good to brush up in the common branches, and the little ones must never get an idea that mother "doesn't know." As children grow older, they become farther advanced in their studies, and it is more work to keep pace with them; but they also grow better able to take a part of the household cares off your shoulders, giving you more time for study.

You should never judge a man by his family—Cain belonged to a very good family.

Minnie May's Dep't.

MY DEAR NIECES,—How contradictory are the accounts of what is fashionable! According to some chroniclers bonnets are very small and dresses draped a great deal, while others tells us that the bonnet is worn much larger, that the dresses are worn more severely plainer than ever, and that bustles are quite discarded. Who shall we believe? I think the fact is both are correct, and we have now reached a period when people may have their dresses and hats, etc., arranged which ever way is most becoming to themselves, so numerous are the styles shown one is not confined to any particular one, and it is certainly as it should be; for what looks well upon one person may not be in the least becoming to another, and the first principle in dress is to select what we think would be most becoming to ourselves.

The Irish peasant cloak is very fashionable just now. This garment is never decorated, unless the graceful way it is worn be accounted decoration. The material is rather heavy serge, and the favorite color a deep crimson, that makes the blond look fairer and gives the brunette a clearer skin. It is very long, indeed a veritable cloak, and has a short upper cape or a wide collar, and a hood at the back. The hood comes well over the head and is very projective, and the garment is to be especially commended for travelling. Black braid has a decided vogue, it is liked not only on black, but crimson, brown and dark green. The heavy rope-like braid is also fancied, it is used to define the outline of a bodice or drapery, and looks well on a cloth costume.

In English walking hats severity is so much the vogue that not a flower is seen upon them. Fancy quills and high stiff loops are seen upon them. These hats must be worn over the face so that not a particle of the bang will show. A closely dotted black veil with a woven edge is worn. The Mendens hat with its many feathers drooping about it, the Gainsborough with its long plumes, and the Tusca with its wreath of short feathers, are all more desirable for winter than summer wear, and will be worn again.

It is said that green hats in felt and velvet will be among the winter novelties.

goods, or be trimmed with braids or galloons of the same color.

The figure in our illustration shows a pretty style. The dress material is of dark green serge,

There will be a marked absence of draping upon some shirts this autumn. The waist will often differ from the shirt in color and fabric, and sometimes the latter will be overfaced a few inches deep around the lower edge with the waist

the three panels down each side are trimmed with braid, or they can be bound with fine woolen braid such as binds gentlemen's vests; the revers on the front of the bodice are dark green velvet. This has the effect of considerably diminishing the apparent size of the waist, and the beautiful braid trimming adds to the dignity of the wearer to which also long coats contribute. The boys costume is for a child up to six years old, and requires about two yards material, forty-two inches wide for a medium size. The other bodice may either answer for a walking jacket for the autumn, or for a style of your winter dress.

MINNIE MAY.

Minnie May offers a prize of a beautiful brooch for the best article on "How to dress on $60 per annum." Also a handsome pair of gold cuff studs for the best recipe and way of "Making bread, rolls, currant-loaf, buns, etc." Communications to be in by the 25th September.

Recipes.

The prize of a silver napkin ring has been awarded to Miss Emma Hall, Millbank, Perth Co., Ont, for the best tried recipes for pickles, catsups, sauces, etc.

GREEN TOMATO PICKLE.—Cut half peck of green tomatoes and six large onions into thin slices; let them remain in salt and water over night; then pour off the brine and put them in a preserving kettle with four tablespoonfuls of sugar, four of the best mustard, two teaspoonfuls of ground cloves, two of cinnamon, one of cayenne pepper, one of curry powder, and let them simmer for one hour; then put them in stone or glass jars.

FAVORITE PICKLES.—One quart raw cabbage chopped fine; one quart boiled beets chopped fine; two cups of sugar, tablespoon of salt, one teaspoon of black pepper, one-fourth teaspoon red pepper, one teacup of grated horse-radish; cover with cold vinegar, and keep from the air.

PICKLED CABBAGE.—Select solid heads; slice very fine; put in a jar, then cover with boiling water; when cold drain off the water and season with grated horse-radish, salt, equal parts of black and red pepper, cinnamon, and cloves whole; cover with strong vinegar. This is convenient and always good.

CUCUMBERS FOR PRESENT USE.—The best way of utilizing cucumbers for present use is to parboil them in a solution of water, vinegar and salt. They should be split in two before boiling, and, if done properly, will present a beautiful green color.

RIPE TOMATO PICKLES. — To seven pounds of ripe tomatoes add three pounds of sugar, one quart vinegar; boil them together fifteen minutes; skim out the tomatoes and boil the syrup a few minutes longer; spice to suit the taste with cloves and cinnamon.

PICKLES.—Slice one peck green tomatoes and one quart small white onions, each in a separate dish, with a small teacup of salt on them; to stand over

night; drain well, then take two quarts vinegar, one pound brown sugar, a few pepper pods, some mace and ginger root, and put all together and simmer till tender.

CHOW-CHOW. — Two quarts tomatoes, two white onions, half dozen green peppers, one dozen cucumbers, two heads of cabbage, all chopped fine ; let this stand over night ; sprinkle a teacup of salt in it. In the morning drain off the brine and season with one tablespoonful celery seed, half teaspoon cayenne pepper, one cup brown sugar, one ounce cinnamon, one ounce allspice, quarter ounce black pepper, quarter ounce cloves, vinegar enough to cover, and boil two hours.

PICKLED CAULIFLOWER.—After cutting off all the green leaves, put the cauliflower into boiling water, with a good supply of salt, and boil from three to five minutes ; take them out of this, dip them in clear cold water one minute, cut them in pieces convenient to put in jars, then make a mixture of one tablespoonful of mace, one of cloves, one of allspice, one of ginger, two of white mustard seed, and a red pepper pod ; with each a gallon of vinegar ; let the mixture boil and pour it upon the cauliflower ; cover it closely and let it stand one week ; then pour off the vinegar, scald it, and return it hot again to the cauliflower ; then put in jars ready for use.

TOMATO CATSUP.—One bushel of good ripe tomatoes, half gallon of good vinegar, quarter pound allspice, two ounces cloves, three tablespoons black pepper, six large onions, one pint and a-half of salt, four large red peppers ; boil half an hour and strain through a sieve, and add the vinegar last ; boil until it is thick enough.

WORCESTER SAUCE. — One ounce cayenne pepper, one quart vinegar, three cloves garlic pounded, three cloves shalots pounded, five anchovies bruised fine ; the whole to be well mixed and rubbed through a sieve ; keep for ten days corked up, and then bottle for use. Strain or not as preferred.

HORSE-RADISH SAUCE.—Grate very fine a stick of horse-radish ; with two tablespoonfuls of it mix a teaspoonful of salt and four tablespoonfuls of cream ; stir briskly, and add by degrees a wineglass of vinegar.

OUDE SAUCE.—One pint green tomatoes, six peppers, four onions ; chop together ; add one cup salt, and let it stand over night ; in the morning drain off the water ; add one cup sugar, one cup horse-radish, one tablespoon ground cloves, one of cinnamon ; cover with vinegar, and stew gently all day.

APPLE AND TOMATO SAUCE.—Cut 12 large onions and one dozen and a-half large tomatoes, one dozen Snow apples ; add one-half gallon vinegar, one handful sugar, same of salt, also quarter pound mustard and ground ginger each ; boil two hours and a-half ; strain through a colander.

BURNT BUTTER FOR FISH OR EGGS.—Heat two ounces of butter in a frying-pan till a dark brown, then add a teaspoonful of vinegar, half a teaspoonful of salt and half a dozen shakes from the pepper-box.

MUSHROOM CATSUP.—To each peck of mushrooms, half pound of salt ; to each quart of mushroom liquor, quarter ounce of cayenne, half ounce of allspice, half ounce of ginger, two blades of pounded mace. Choose full grown mushrooms (picked in dry weather), put a layer of them in a deep pan, sprinkle salt over them, and then another layer of mushrooms, and so on alternately ; let them remain for a few hours, then break them up with the hand ; put them in a nice cool place for three days, occasionally stirring and mashing them well ; now measure the quantity of liquor, without straining, and to each quart add the above proportion of spices, etc. Put all into a stone jar, cover it up very closely and put it in a saucepan of boiling water and let it boil three hours ; afterwards turn all into a clean stewpan and let simmer gently for half an hour ; pour it into a jug and let stand in a cool p'ace till next day, then pour it off into another jug and strain into very clean dry bottles, and do not squeeze the mushroons. To each pint of catsup add a few drops of brandy. Be careful not to shake the contents, but leave all the sediment behind in the jug. Cork well and seal. This will keep good for years.

Answers to Correspondents.

TEACHER.—The meaning of the word "gospel" should be understood by all Sunday school teachers. It is a compound of two Saxon words, God and spell. The former signifies "good," exemplifying the passage in which our Lord says, "There is none good, save one"—that is God. The latter one means "tidings" or "message," and the two combined means 'God's message," or "good tidings ;" God and good being acknowledged by our forefathers as synonymous.

TROUBLED HEAD.—You cannot "go into company," you "go into society." Listen to others when conversing, selecting those whose manners you admire, and "take a leaf out of their book." The very essence of good breeding lies in forgetting self, and devoting yourself in a kind and unobtrusive way to others.

LAURA.—We prefer to use the word "recipe" in reference to the ingredients to make the component parts of any viands ; and to employ the word "receipt" as denoting a signed or acquitted bill.

MYRA.—Eating humble pie. In "humble pie" we have a corruption of *numbles*, an old word which stood for the liver, kidneys, etc., of a deer The word was variously written *nombles*, *numbles*, and very commonly *umbles* or *humbles*. Old Cookery Book gave recipes for "umble pie," whence came the saying that a man is made to "eat humble pie"—to content himself with inferior meat, while another may dine on the haunch.

ELLA.—I advise you to banish all thoughts of the young gentleman from your mind as soon as possible. You say you have never had any hopes of winning him ; then I doubt if you really and truly love him. I expect 'tis but a passing fancy. Arouse your womanly dignity, and never let him know by words or actions that you feel for him anything more than friendship. Cultivate a spirit of cheerfulness, and believe it is all for the best. "Live for those who love you, for those whose hearts are true, for the heaven that smiles above you, and the good that you may do."

The minister asked a little girl whether she always did as her mamma told her. She answered : "Yes, and papa does, too."

Miss Waldo (of Boston)—"Yes, Mr. Wabash, I attended four weddings last week, and three more are on my tablets for this week." Mr. Wabash (from the west)—"Indeed, Miss Waldo, quite a profusion. I s'pose in Boston leap year makes a great difference in the number of weddings."

PRIZE ESSAY.

The Art of Entertaining.

AWARDED TO MISS L. A. WOOD, BIRTLE, MAN.

To be given to hospitality is a scriptural command, and one which, to right minded people, is not a hard one to obey. We enjoy holding pleasant intercourse with our friends, be we the entertainers or the entertained, and so much of it is done at present, that entertaining is well called an art, and as such should be conscientiously studied.

There are two or three essentials to be considered in this study. In the first place we must, see to it that we ourselves are pleased to entertain. Let us experience genuine pleasure in the thought that we have it in our power to give others a happy time, be it long or short. Of course, this will sometimes cause a struggle ; little things will crop up to worry us, anxiety will come unbidden, and we will begin to wish it were all over. There are few good actors among us. Strive as we may our feelings will betray us; so let us get at the root of them, and fairly wrench them from us. One of the causes that often worries us in this line is the intense desire to excel those around us in our effort. We sacrifice comfort, health, and even honor—for where we go beyond our means our honor is certainly in danger. This is decidedly wrong, no excuse can be made for it. Let us carefully estimate how far our means will allow us to go, and make the very most of them, but go no further on any account. The reward of a quiet conscience will be of more value than we can express.

Now our next duty is to please others, those whom we are to entertain. This is a secondary consideration, for really it is dependent on the first. If we are not happy ourselves we can have little hope of making those around us so. Then granted that we have attained that felicitous state of mind, our next duty is to exert ourselves for others. We must study their interests finding out the best way of pleasing in a quiet unofficious manner. Let our sympathies take hold of all, let us be young with the young, grave with the grave, gay with the gay, as St. Paul would express it, "all things to all men," perhaps at no other time are we called on to lose our own identity so completely, and yet the more we succeed in this, the more thorough will our own enjoyment be. Again, we are required to exercise tact in this duty particularly in the way of invitation.

It is generally conceded nowadays that with people of ordinary means, frequent small gatherings are more enjoyable than fewer large ones. Then let us arrange to have those of congenial tastes at once, taking care, however, to make no pronounced distinction in the social scale. We must provide ourselves with plenty of resources in the way of amusements, not a difficult task in these days of inventive genius. Let us then cultivate this art, for well will it repay us. Our manners will become more graceful, our views of life will broaden, our hearts will grow more unselfish. It will be easier for us to follow the divine injunction "love one another."

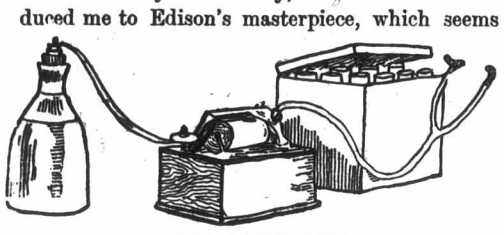
Matter-of-Fact Criticism.—A poet sings, "I have a son, a little son, a boy just five years old." "We don't see anything peculiar in this," says a critic. "If the poet had a little daughter who was a boy just five years old, it would be interesting."

A Pretty Pincushion.

Here is a pretty way to make a pincushion, for those who are tired of square ones. Make three little satin bags, and face the top of each with a different shade; or, have two of the bagsalike, and the third one to match the facings. Separate bags may be made to hold whatever you intend to stuff them with, and put into the satin ones. Tie each bag with a narrow ribbon or a tiny cord and tassels, then stand them up and fasten them securely together. The bags may be ornamented before they are made, by a painted or embroidered bird, spray of flowers, or cluster of leaves. By placing a tiny doll in each bag, and allowing only the head to peep out, you will have the "three little maids."

Edison's Phonograph.

Here are a few little sketches showing how the phonograph is used. They are the result of a short visit to Colonel Gouraud at his charming house at Beulah Hill, he being Edison's friend and representative ove. here. The Colonel was in his cosy little study, and at once introduced me to Edison's masterpiece, which seems



THE APPARATUS.

likely to accomplish a peaceful revolution. The talking, singing, and playing apparatus stood on a table in one corner, occupying not much more room than a large-sized musical box. To the eye the machine consists of a small cylinder, which is put into motion by a battery. The phonogram is like a section of a big gelatine gaspipe, a portion about three inches long being capable of containing about 1,000 words.

Suppose your wife is in New York, and she wishes to send you a long and, let us hope, loving account of her doings, and suppose that you are both the happy possessors of perfected phonograms. She is provided with an article like

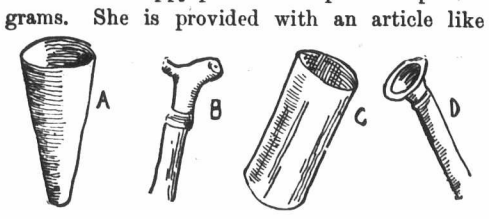


fig. A in my sketch, which she fixes to the cylinder, and addresses her sweet somethings into it. Having exhausted her supply, she pushes a button, stops the battery, takes off the gelatine pipe, wraps it up, stamps it, and drops it into the nearest letter box.

In about eight days her presumably anxious husband hears the postman's knock and is handed the gelatine missive (Fig. C). He at once rushes to his phonograph (let us hope), puts the battery in motion, slips the message on to the cylinder, drops the ear-hook into his ear (see fig. B, and listens to his wife's words delivered in her own sweet voice with delight, which in some cases might be increased by the knowledge that the lady was (thanks to Mr. Edison) 3,000 miles away.—[Pall Mall Budget.

Sunday school teacher—"Tommy, do you know what the meaning of 'Amen' is?" Tommy—"Yes'm; it's what the people say when they think it's time for the minister to stop."

Home-Made Cream Cheese.

The first essential is some kind of press. Any man can make one. A draining box is also needed, with a slat division across it and open at one end, and a hoop in which the curd will be pressed. Rennet, of course, is used to "set" the milk, and annotto is used for coloring by those who do not think it injurious.

For six or eight gallons of milk, take one-third of the above quantity of rennet or less, according to its strength, and put to soak in warm water. Skim the cream of night's milk into a small vessel, as it must be heated more than milk, and put it on the stove. Now take a lump of coloring matter the size of a small hickory nut, dissolve in a cup of hot water, pour it into the milk and stir thoroughly. Let the milk heat until it feels warm to the hand, add the fresh morning's milk, if desired, also the warm cream, take off, and pour into the water your rennet is soaking in; stir well and leave to set. Put the rennet with a handful of salt and a pint of water in a jar and set in a cool place, to use the next time. Let the milk stand about three-quarters of an hour, or until the curd is firmer than clabber; then, with a long, thin knife, cut in checks about an inch square. Let it sit a little longer, then put over a slow fire and heat a little longer than you did the milk, stirring constantly and cutting (not mashing) it fine, by taking it up in handfuls, and cutting it with a knife; drop back into the warm whey. Take off, and let stand fifteen minutes, have a large cloth over your draining box, pour in the whey, curd and all, and let drain about one hour, breaking up occasionally and turning in the cloth so all the whey will drain off. Then with the fingers crumble fine, and salt to taste—about three handfuls of salt to this amount. Wring out a square of strong domestic (three-fourths of a yard) in whey, put over the hoop, and put the curd in, pressing down evenly with the hand. Put on the top and put to press. Begin slowly, and gradually increase the pressure. Leave in the press all night. Next morning, turn, and press again; the next day rub with melted butter, and put in a cool, dry room to cure, turning frequently.

Recipes.

QUINCE BUTTER.—Slice pared quinces and boil in sufficient water to cover them, let them cook until they are reduced to a pulp, rub through a sieve, weigh it, and to each pound allow three quarters of a pound of sugar. Boil the pulp until like jelly.

GRAPE BUTTER.—Mash and strain the ripe grapes through a sieve, add one and one-half pounds of sugar to each pound of pulp. Boil slowly and put up as you do jelly.

QUINCE JELLY.—Put a kettle full of cores and parings over a slow fire with enough water to cover; boil until very tender, strain through a cloth, do not squeeze; to every pint of juice allow three-quarters of a pound of sugar; return to the kettle and let boil; then stir in the sugar; boil twenty minutes and pour into glasses.

QUINCE CHEESE.—Quince marmalade boiled very thick and put into small pots. It will turn out as firm as cheese, and can be cut in slices for tea or lunch.

APPLE JELLY.—No fruit can make better jelly than apples, and the Siberian crabs are particularly nice. Cover with cold water; boil until quite pulpy; strain through a jelly bag; add one pound of sugar to a pint of juice; add lemon for flavoring if desired.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES.—As you have already been informed that my reason for not writing to you last month was pressure of work resulting from some days' play, I shall, without any reference at present to my substitute for August, proceed at once to tell you of some things which interested me in my hours of recreation.

It is now some years since I met two young lads—brothers they were and country boys—the youngest of whom at an early age showed unmistakable evidence of the capacity of profound thought, the other was a rollicking, "jolly good fellow," neither duller nor cleverer than the ordinary specimens of the genus schoolboy, with a heap of mischief hidden underneath his wilful black hair. They were boys who had the advantage of a very superior home-training, but further than that they had to a great extent to make their own way after arriving at the age of fifteen or sixteen. The years have passed, scarce without us knowing it the rounded cheeks of boyhood have become the rougher faces of manhood, and the seeing of these two nephews of mine (for Uncle Tom claims kinship to all boys and girls who are struggling to make the most of life,) graduate with the degree of B. A. was one very interesting feature of my trip. Owing to circumstances their parents left Canada, though *Canadians* true and loyal they still are, so it was one of the colleges of the neighboring Republic that "mothered" (in a literary sense) my boys. A lady who was present among the throng of commencement visitors thus describes the scene:—

"The commencement exercises of —— college were indeed most interesting. The weather being favorable, they were conducted in the open air. The college campus—with its old trees planted by the graduates of the years gone by, for each graduate honored his *alma mater* by planting a tree in her grounds, until the trees became so dense that it was necessary to desist—was a most fitting place for the class of '88 to read their last essays, to deliver their last orations and to sing their last songs as students. The rostrum, decorated with evergreens, was reserved for the professors and faculty of the college and for the class of '88. As one by one the members of the graduating class appeared before the audience, the earnest manly faces of the majority of the boys appearing in striking yet pleasing contrast to those of the blooming girl graduates in their simple, airy, white dresses—the blue sky their canopy, the soft white clouds their curtains, the rustling of the leaves in the dreamy June wind sweet accompaniment to their young voices—my eyes filled and my heart was lifted in silent prayer that they might, indeed, go forth in the strength of their great Exemplar to honor their class motto, 'A clean record.'"

I could add much more to the lady's description but space will not permit as it is my object in this letter to draw some practical lessons from the pleasing scene. I will say, however, that as I looked upon the class my thoughts went away back to the early days, before I left the old homestead, with its roses, when one great longing of my life was to be a college boy; then to later ones, when I was just entering upon manhood, when, life all before me, with the buoyancy

of youth I cherished high hopes of what the future would unfold to me. The "graver noon of manhood" has come, however, and with it the realization that college life with all its pleasures is far from being the "one thing needful," that neither are the ideals of youth, even were they realized, the needful thing to make life "one grand sweet song."

And now for our lessons. The first I would suggest is the importance of having some definite aim in view. For four years that class of students had before them a special object, which had in its turn, I trust, a further object, viz., to use their privileges so that the world might be better by reason of their living in it. Four years steady application to their studies, with a greater or less degree of earnestness, was the "purchase money" of the desired manuscript which would bear testimony to their faithfulness. My nephews and nieces, have *you* an object or are you aimlessly drifting? Farmers' boys are not limited in option, for though no department of the farm should be overlooked, I think it is well to specialize. It would intensify your interest in a marked degree to know that your Clydes or Clevelands, Percheron-Normans or Shires, your Ayrshires or Jerseys, Shorthorns or Herefords, Holstein-Friesians or Polled Angus, your Leicesters or Southdowns, Shropshires or Cotswolds, Lincolns or Oxforddowns, your Suffolks or Berkshires, your Brahmas or Hamburgs, Wyandottes or Plymouth Rocks, Spanish or Polish, Houdans or Langshans, your Pekin ducks or Bronze turkeys, were the best of their kind and most marketable articles you would find many of them to be, more especially if the owner was well-reputed as an honest and honorable dealer. To my nieces I would say that a most worthy aim, one which every girl should have, is to bec ome perfect in the science of housekeeping and the art of homekeeping, to do which requires concentrated effort. If it is your privilege to receive some of the higher branches of education you will find in your aim ample scope for utilizing them.

Another lesson we might learn, is the value of education to farmers' sons and daughters. How in the future are you going to cope successfully, intel'ectually, politically and socially with young men and maidens who can not creditably discuss such topics as "The Anglo-Saxon's Mission," "The Highway of Life," "The Tendency of Scientific Investigation," "Liberty Over-much," "The Philosophy of Politics," The Ministry of Suffering," "Principle vs. Policy," etc., unless you appreciate your privileges. And now, while you have the opportunities peculiar to youth alone, take advantage of every way of improving your mind. I know some of you are ready to say "Oh, it is all very well to talk, but those college boys and girls have their way made for them." Will you allow me to tell you what I know to be *facts* concerning some of our best college graduates? One, now a Q. C, originally a country boy and a farmer's son, says, "Had it not been for his sister's good, stout, home-made socks, his bare toe would have been visible as he went to receive his degree." Another was a machinist by trade; when he reached manhood, he realized the lack of an education; so, working at his trade in vacations, and living a life of rigid economy, he educated himself--indebted to no one for material help. A brave girl I know wore a dress three successive summers, hat ditto, that she might attend school; and if Uncle Tom is any judge of feminine self-sacrifice, that is a striking intance.

I have missed my aim if the foregoing remarks lead you to think I would like you to leave the farm to engage in some other occupation. Not by any means; those of you who are going to remain on the farm are the very ones I want to talk to. When I insist on an education, it is not to leave the farm, but to stay on the homestead and use your education there. I am not sure that a full classical or scientific college course would be the best for a farmer, though it would certainly be no disadvantage to have it. I think a good agricultural and literary course would be more to the purpose, and that course has this great advantage, that, where boys could not be spared from home, they could take it in a good measure by reading it up at home. Now to apply this, can you not before this year closes begin such a course—the study of any one book or subject would be a good beginning. I would be the last to disparage the elevating influence of a good girl's company, far be it from me to draw rigid lines concerning a moderate degree of innocent and healthful recreation; but will you not for your own good—for the immortality within you—give up those frothy, if not sinful pleasures which pass away with the moment, and which not unfrequently sap the foundations of vigorous health; not a few I have known whose moral welfare was seriously impared by partaking of these so-called pleasures; and now, while youth is yours lay a solid foundation on which to build all your after life.

I would conclude my letter to you by giving from memory the closing words of the valedictorian of commencement day. The nephew, by the way, of whom I spoke in the beginning of my letter as early giving evidence of unusual intellectual capactity, has carried his reputation through college; he was the "lion" of the '88 class, indeed of all the classes for his record is unprecedented in the history of the college, his standing being an average of 98 per cent. for his four college years. As he stood before an audience composed of hundreds of people, from noisy school-girls to gray-haired grandsires, but little more than a school-boy himself, in the name of his class bidding farewell to the professor, the faculty, class-mates and friends, I thought of my other boys and girls, wishing they were around me, that together we might hear this earnest voice saying, "In bidding farewell to my class-mates, I know of no better human exemplar than the greatest of the apostles, to commend to you as well as myself. His earnestness of purpose, his lofty aims, his unswerving faithfulness in duty, his liberality in mind, and above all his loyalty to Him whom he professed to follow, make his a life thrice worthy of imitation."

UNCLE TOM.

An Effect Before a Cause.—"I was rather hot at the moment," said a man when asked how he came to commit an assault, "and so I struck the fellow." Here was an instance of an effect before a cause. Percussion generally produces heat, but in this case the heat preceded the percussion.

The other day he was telling a rather tall yarn to a gentleman who interrupted him with, "Do you know about George Washington?" "No," said the youngster. "Well, he was a very good man who could not tell a lie." "What was the matter," was the quick retort, "couldn't he talk?"

Puzzles.

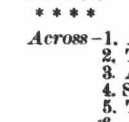
1—TREE PROBLEM.

I have 16 ornamental trees that I wish to pla t in 12 rows, each row conta ning four trees. How may I do it?

FAIRBROTHER.

2—CROWN.

Diagram.



Down—1. A consonant.
2. Similar.
3. A waiting servant.
4. A species of parrot.
5. To cheat.
6. The rainbow.
7. A place of abode.

Across—1. A consonant.
2. The first person of the verb to be.
3. A knight-errant.
4. Safe.
5. Tapistry.
6. A point of the compass.

FAIRBROTHER.

3—HIDDEN IMPLEMENTS.

1. Are you going to build a house or a kennel for your dog?
2. We saw the soldiers drilling one day last week (2).
3. I think you are a person of sound judgment.
4. He was fined for killing a bird.
5. John paid his taxes yesterday.

SNOWBIRD.

4—STAIR PUZZLE.

The steps form five half squares. 1. A color. 2. Want. 3. Deed. 4. Loose. 5. A joke. 6. Skill. 7. A kiss. 8. Note. 9. Part of a circle. 10. A fissure. 11. Degree. 12. An insect. 13. To shut up. 14. Lean. 15. Any. 16. Two consonants. 17. In casket.

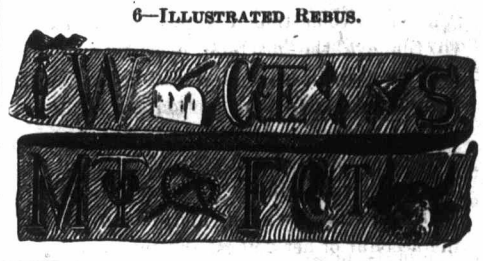
HENRY REEVE.

5—DROP VOWEL PUZZLE.

-n- b- -n- th- fi-w-rs d-c-y,
Sc-ntl-ss l--v-s b-str-w th- w-y;
-ll th- b--ty -f th- b--rs
F-d-ng w-th th- p-ss-ng h--rs.

HENRY REEVE.

6—ILLUSTRATED REBUS.



7—DROP VOWEL PUZZLE.

W- l--k -l-ng th- sh n-ng w-ys
T- s-- th- -ng-ls f-c-s;
Th-y c-m- t- -s -n d-rk-st d-ys,
-n i -n th- bl- -k-st pl-c s.

A. T. REEVE.

8—TRANSPOSITION.

A malsl gitnh lewl nehsifid,
Liwl slepae stohe hatt ese;
Tub a greal neo lhfa lbnurdeed
Grinbs sorwor ot eteh.

A. T. REEVE.

9—CROSSWORD ENIGMA.

My first is in peace not in quiet,
My second is in famine not in plenty,
My third is in parsnip not in beet,
My fourth is in March not in June,
My fifth is in concert not in social,
My sixth is in style not in fashion,
My whole will name two birds and a vegetable.

A. T. REEVE.

10—CURTAILMENT.

Whole I'm counted as devotion.
On the land or on the ocean;
A magpie now, my friend, you'll see,
If you will only curtail me;
Curtail again, I'm good to eat,
Though p rt of me is made of wheat;
Once more curtail, now mind your eye,
For it will make the printers sigh.

FAIRBROTHER.

11.—AN OLD MAXIM BEHEADED AND CURTAILED.

-en'- -vi- -ction- -iv- -- -ras-;
-hei- -irtue- -r- -ri- -- -ate-.

AMOS HOWKINS.

12—HIDDEN FISH.

1. She gave me her ring.
2. We found the heretic at Dover.
3. This is the best route known.
4. The man's almond tree is dead.
5. The spikes are long
6. Listen to the bass singing.

FRANK RIDDLE.

Answers to August Puzzles.

1—1. Swan. 2. Crow. 3. Heron. 4. Wren. 5. Swallow.

2— Keep your eye on the goal, lad,
Never despair or drop,
Be sure your path leads upwards,
There's always room at the top.

3.—
BROOK
ROAN
OAR
ORION
RACK
ICE
CROOK
REIN
OIL
SPOON
PEAK
OAR
STOOK
TARN
ORB
ON
K

5—PORTRAIT
ODORANT
RODENT
TREAT
RANT
ANT
IT
T

10 - Murmur.

4— They never taste who always drink,
They always fall who never think.

6— Advice is often given by——
To make our wits more keen.

7—The United States of America.

8— One by one the sands are flowing,
One by one the moments fall,
Some are coming, some are going,
Do not strive to grasp them all.

9—
PARSNIP
EGG PLANT
PUMPKIN
POTATO
ENDIVE
RADISH
SQUASH
} PEPPERS AND PEAS (P's)

11—The seas are quiet when the wind gives o'er,
So calm are we when passions are no more,
For then we know how vain it was to boast
Of fleeting things so certain to be lost.

Names of those who have Sent Correct Answers to Aug. Puzzles.

A. Russell Ross, Hattie Robinson, E. Eulalia Farlinger, Amos Howkins, Anita S. Cote, Robert Wilson, Carrie Sheeres, Helen Connell, Emma Dennee, Frank Riddle, A. T. Reeve, Libbie Hindley, Henry Reeve, Cecelia Fairbrother, Jessie Stuart, Jane Campbell, E. A. Ferguson, Geo. Green, Emily Orde, Chas. Pierce, T. H. Murray, George Harvey.

The Charm of Music.

Fair Visitor (to convict)—I suppose, sir, that the singing of the birds relieves the monotony of your dreary life?

Convict (profoundly nonplussed)—The singing of the birds, miss?

Fair Visitor—Yes, sir, the little jail birds, you know. They must be such a boon.

High Living in New York.

Judge Peterby—Did you experience much annoyance from the climatic influences while you were in New York?

Col. Yerger—No, not to speak of. The hotel clerk put us up in the attic, but we didn't have to climb. All those big New York hotels have elevators that take you up to the attic without your knowing it.

An Affecting Advertisement—The following affecting advertisement was copied many years ago from a London newspaper:—"If this should meet the eye of Emma D——, who absented herself last Wednesday from her father's house, she is implored to return, when she will be received with undiminished affection by her almost heart-broken parents. If nothing can persuade her to listen to their joint appeal—should she be determined to bring their gray hairs with sorrow to the grave—should she never mean to revisit a home where she has passed so many happy years—it is at least expected, if she be not totally lost to all sense of propriety, that she will, without a moment's further delay, send back the key of the tea caddy."

NEW ADVERTISEMENTS.

PRIZES.

$1,500 WORTH of STOCK GIVEN AWAY!

For Procuring New Subscribers to the FARMER'S ADVOCATE.

THE MOST LIBERAL PREMIUMS EVER OFFERED

BY ANY PUBLISHER IN CANADA.

CONDITIONS:

1st. Cash must accompany all lists of names.

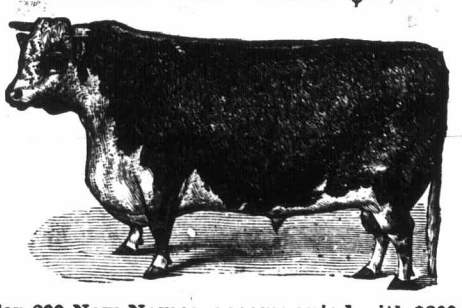
2nd. In all cases to secure these prizes the names sent in must be new subscribers. *Renewals will not count.*

3rd. Competitors may send in their lists weekly if they so desire. The party who first sends in the full number of names will secure the prize.

4th. A Cash Commission will be allowed to all who are not prize winners: From 10 to 20 names, 25cts. each; 20 to 50 names, 35cts. each; 50 to 100 names, 45cts. each; 100 to 200 names, 50cts. each.

All the animals we offer are of good quality, and are registered or capable of being registered. All are of good families and have good ancestors. The Poultry will be equally good.

Hereford Bull---Value $150.



For 200 New Names, accompanied with $200, we will give a **pure-bred Hereford Bull,** of fine breeding and quality, bred by

R. J. MACKIE,

Springdale Farm, Oshawa, Ont., who is an extensive breeder and importer of

HIGH QUALITY AND FASHIONABLY BRED HEREFORDS.

For a description of his herd see June number of the FARMER'S ADVOCATE, page 166. The bull given will be one of Mr. Mackie's finest young animals, and will be fit for service when shipped.

Ayrshire Bull---Value $100.

For 150 New Names, accompanied by $150, we will give a first-class **Ayrshire Bull** from the noted prize-winning herd of

THOMAS GUY,

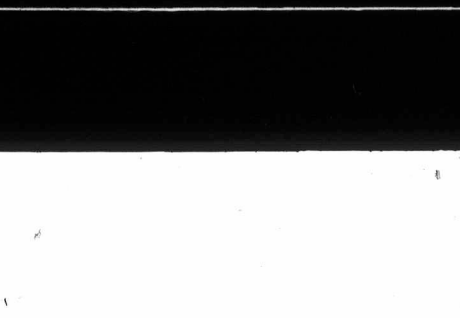
— BREEDER OF —

Ayrshire Cattle, Leicester and Southdown Sheep, and BERKSHIRE PIGS.

SYDENHAM FARM, OSHAWA, ONT.

A review of his herd will be found in the September number.

Shorthorn Bull---Value $150.



For 200 New Names, accompanied with $200, we will give a **pure-bred Shorthorn Bull,** bred by

JAMES GRAHAM,

Port Perry, Ont., a very extensive breeder of

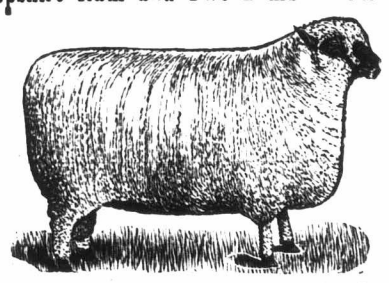
SHORTHORNS and COTSWOLDS

His herd now numbers upwards of 100 head.

Highly bred milking strains are his specialty

The bull we will give will be one of his best young animals, and will be highly bred, of good quality and fit for service when sent out. For particulars of this herd see September number of the FARMER'S ADVOCATE.

Shropshire Ram and Ewe Lamb--Value $40



For 80 New Names, accompanied with $80, we will give a first-class **pure-bred Shropshire Ram and Ewe Lamb,** bred by

MESSRS. JOHN MILLER & SONS, BROUGHAM, ONT.

the extensive Breeders and Importers of

CLYDESDALES, SHORTHORNS, SHROPSHIRES.

For many years Mr. Miller, sr., has been one of the most famous breeders in America.

Shropshire Ram Lamb--Value $25

For 50 New Names, accompanied with $50, we will give a good **pure-bred Shropshire Ram Lamb** from the famous flock of

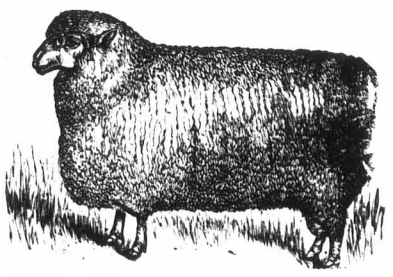
John Dryden, M.P.P., Brooklin, Ont

Importer and Breeder of

Cruickshank Shorthorns, Clydesdales, Shropshire Sheep

and **Black Minorca Fowls.** Show animals always on hand. See May ADVOCATE, page 138 for description of this herd.

Yearling Cotswold Ram---Value $40.



For 80 New Names, accompanied with $80, we will give a show **Yearling Cotswold Ram,** or a **first-class pair of Lambs** as the winner may wish, from the well known Cotswold flock, the property of

JOSEPH WARD, MARSH HILL P. O., ONT.,

Breeder and Importer of first-class

SHORTHORNS, COTSWOLDS, SHROPSHIRES

For many years Mr. Ward's flock has been one of the best in Ontario.

Cotswold Ram Lamb---Value $15.

For 30 New Names, accompanied with $30, we will give a good **pure-bred Cotswold Ram Lamb,** bred by

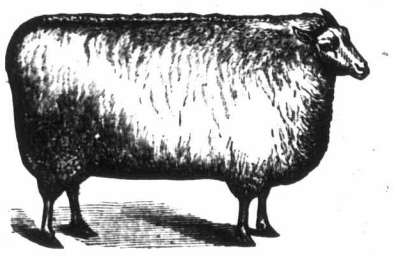
David Birrell, Greenwood, Ont.,

Breeder and Importer of

CLYDESDALES, SHORTHORNS, COTSWOLDS

For description of herd and stud see June number of the FARMER'S ADVOCATE, page 167.

Leicester Ram Lamb---Value $15.



For 30 New Names, accompanied with $30, we will give a first-class **pure-bred Leicester Ram Lamb,** descended from imported stock; bred by

ALEXANDER JEFFREY, WHITBY, ONTARIO.,

—BREEDER OF—

Clydesdales, Shetlands, Shorthorns and Leicester Sheep.

For description of stock see September number.

Dorset Horned Ram Lamb---Value $30.

For 60 New Names, accompanied with $60, we will give a **pure-bred Dorset Horned Ram Lamb,** bred by

Capt. Wm. Rolph, Markham, Ont.,

BREEDER AND IMPORTER OF

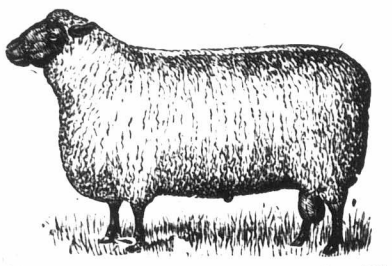
JERSEYS

OF THE MOST NOTED FAMILIES; also breeder of

Clydesdales, Shetlands and Dorset Horned Sheep.

For description of his herd see July number of the ADVOCATE, page 202.

Hampshire Ram Lamb--Value $30.



For 60 New Names, accompanied with $60 we will give a **pure Hampshire Ram Lamb** of good quality, bred by

MR. JOHN ADAMS, PORT PERRY, ONT.,

—BREEDER OF—

Shorthorns, Clydesdales, Shropshire & Hampshire Sheep

and BERKSHIRE SWINE.

See sketch of Ambleside Farm in July number, page 202.

Black Minorcas---Value $7.

For 10 New Subscribers we will give a pair of Black Minorcas, bred by Mr. John Dryden, M. P. P.

Berkshire Boar--Value $30.

For 60 New Names, accompanied by $60, we will give a **Berkshire Boar**, fit for service, bred by

J. G. SNELL & BRO., EDMONTON, ONT.

They have for sale a good lot of young pigs from two to three months old by the prize-winning boars

ARE SOVEREIGN (490),
LORD DERBY (486),
BARON VON BISMARCK (426),

and out of first-class recorded sows. Prices right. In the last six years their Berkshires have won three-fourths of the first prizes offered at the leading shows in Ontario.

BERKSHIRE SOW--VALUE $30

six months old, or a **pair of Berkshire Pigs**, eight weeks old, same value, presented by

J. C. SNELL, EDMONTON, ONT.,

Importer and Breeder of

Shorthorns, Cotswolds and Berkshires

whose motto is "A good beast with a good pedigree." Mr. Snell ships stock to order and guarantees satisfaction. See August number of the ADVOCATE for a description of Willow Lodge.

Pair of Pure Berkshire Pigs--Value $40.

For 80 New Names, accompanied by $80, we will give a **pair of pure Berkshire Pigs** bred by

WM. LINTON,
AURORA, ONT.

BREEDER AND IMPORTER OF HIGH-CLASS

Shorthorns, Berkshires and Cotswolds.

Also for 10 New Names, we will give a pair of Black-breasted Red Game, from Imported Stock.

See illustration of bull and history of his herd in August number.

POULTRY.

For 10 New Names we will give a pair, and for 6 New Names one Cock, of any of the following varieties:

Light Brahmas, Dark Brahmas, Langshans, W. F. B. Spanish, Colored Dorkings, Golden Sebright Bantams, Houdans, Rouen Ducks, Pekin Ducks. Valued at $7 per pair.

For 20 New Names, we will give a pair, and for 12 New Names, one Cock.

Mammoth Bronze Turkeys---Value $9.

ALL BRED BY

WM. HODSON, BROOKLIN, ONT.,

for twenty years a successful breeder of the popular varieties of land and water fowls. Send to him for prize and price lists.

White Fantail Pigeons--Value $7.

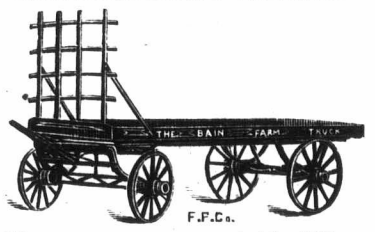
For 12 New Subscribers.

we will send to any boy or girl a beautiful pair of White Fantail Pigeons directly descended from Mr. Hodson's pair which took the Silver Medal at the American Centennial of 1876.

ADDITIONAL STOCK PRIZES.

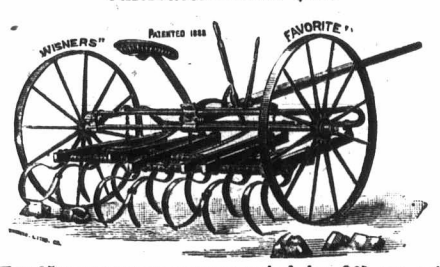
We will give as subscription prizes young animals, either male or female, of any of the following breeds: Shorthorns, Herefords, Galloways, Ayrshires, Jerseys, a bull or heifer (of fair quality), purely bred, for 100 new subscribers, accompanied by $100. We can also supply home-bred or imported stock of any desired breed, age or quality. In all cases we will guarantee satisfaction as to the quality, breeding and value of the animal. We will give very liberal terms to agricultural and other societies, and farmers in new sections; special inducements in sheep and poultry. Write for particulars. We intend distributing large quantities of new varieties of seed grain among our subscribers. Special notice of this will be given during the winter months.

BAIN FARM TRUCK—VALUE $65.



For 110 new names, accompanied by $110, we will give one of the celebrated Farm Trucks manufactured by the Bain Wagon Co., Woodstock, Ont. This Truck gives universal satisfaction and should be on every farm.

Patent "Favorite" Iron Frame Section Cultivator—Value $36.



For 65 new names, accompanied by $65, we will give one of the above cultivators manufactured by J. O. Wisner, Son & Co., Brantford, Ont., manufacturers of Grain Drills and Seeders, Hay Rakes and Tedders, Spring Tooth Harrows and Cultivators.

CHATHAM WAGON—VALUE $65.

For 110 new names, accompanied by $110, we will give a Wagon manufactured by the Chatham Mfg. Co., of Chatham, Ont. This is a very popular Wagon and is known all over Canada.

SULKY PLOW---VALUE $40.

For 75 New Names, accompanied by $75, we will give the **Western Ho Sulky Plow**, manufactured by

COPP BROS., Hamilton, Ont.

Send for cuts and information.

FANNING MILL---VALUE $35.

For 65 New Names, accompanied by $65, we will give one of the **Famous Fanning Mills, with Bagging Attachment,** manufactured by

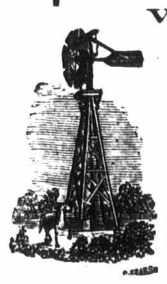
MANSON CAMPBELL, of Chatham.

STOCK SCALES—VALUE $50.

For 90 new names, accompanied by $90, we will give one of Osborne & Co.'s Standard Portable Stock Scales; capacity 4,000 lbs. Osborne & Co., Hamilton, manufacturers of all styles of Standard Scales. Send for Illustrated Price List.

Improved Halliday Standard Wind Mill,

VALUE $75.



For 125 New Names, accompanied by $125, we will give a **10 Foot Improved Halliday Standard Wind Mill** manufactured by the

ONTARIO PUMP CO., TORONTO,

Manufacturers of Pumping and Geared Wind Mills, 1 to 40 horse-power, also I. X. L. Feed Mills, Haying Tools, and Iron and Wood Pumps. Send for Illustrated Catalogue.

Winchester Repeating Rifle--Value $25.

For 40 New Names, accompanied by $40, we will give a **Model Winchester Repeating Rifle** or an **Imported English Breech-loading Shot Gun** of first-class pattern and make, laminated steel barrels, left barrel choked, top snap, pistol grip, rebounding locks and rubber butt.

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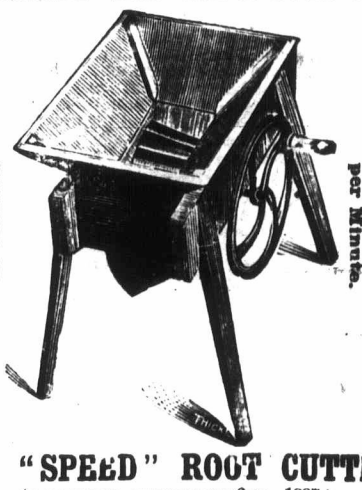

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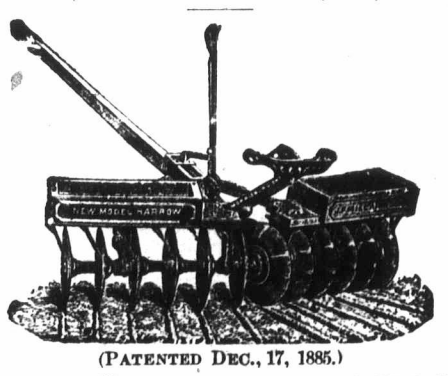

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PULVERIZING HARROW

With our new Shifting Attachment and Weight Boxes. Receives everywhere highest commendation because very effective in work, simple in construction, durable in wear, convenient in handling.

☞ The "New Model" will be made with seeder for 1889.

We will exhibit during this month at Toronto, Hamilton, London and all principal fairs.

Write for circulars with testimonials from leading farmers.

J. F. MILLAR & SON,
273-c **MORRISBURG, ONT.**

STOCK GOSSIP.

Our readers will make note of Mr. Geo. M. Beeman's sale of Jerseys which takes place at Kingston during the time of the Provincial Exhibition.

M. T. Buchanan, Esq, Ingersoll, Ontario, has recently sold his imported Clydesdale stallion, Bold Lion, to Mr. Wm. Harris, of Mount Elgin, for the sum of $1,950.

Several important auction sales of pure bred stock are advertised in this issue. Some of them are dispersion sales of valuable herds. All who are interested should send for catalogues, which will be sent free on application.

We had the pleasure of visiting Mr. R. J. Mackie, of Oshawa, Ont., and found his Herefords doing well. Mr. M. and his neighbor Mr. L. G. Drew, have been weighing their bull calves from time to time during the summer. One of Mr. Drew's calves gained eighty lbs. in twenty days, and one of Mr. Mackie's gained seventy two lbs. in the same time. Let us hear from others.

R. Rivers & Son, of Springhill Farm, Walkerton, have a nice lot of red heifer calves this season, sired by their Cruickshank bull Victory. They have only one bull calf, a nice red, out of Lady Mortimer, winner of 1st prize at the Northern show last fall. They think him good enough to stand at the head of a first class herd. Their Southdowns are doing well considering the dry weather. See advertisement in another column.

Mr. John Jackson arrived home from England on the 13th ult. with eleven head of Shropshires for leading breeders of that breed, including a prize ram for Mr. John Campbell, jr., of Woodville. I also bought forty-five head of my favorite Southdowns, including a 1st prize aged ram at Cambridge, 1st prize ewes at Royal Counties Show, 2nd prize ewes at Royal and Nottingham, 2nd prize ewes at Norfolk and Essex, also a pen of 1st prize at Ely and Cambridge, also a number of show shearling rams, ram lambs and ewe lambs, as well as breeding ewes.

O. Sorby, of D. & O. Sorby, Guelph, Ont., arrived home safely on the 17th ult. with fifteen mares and fillies and one yearling colt; no insurance and no loss. They have now thirty-five pure-bred Clydes on hand of the last importation. The Glasgow Herald of 7th August, says: Of the Messrs. Sorby's lot three were bought from Mr. Taylor, Paisley. Of these the three-year-old, Veronica, was first at Kilbarchan show this year, while the yearling, Lady Ailsa, was drawn in a lot of first-rate yearling fillies at Paisley show. Perhaps the best of the lot was the handsome big mare Adela, got by Belted Knight (1395). She has gained prizes at Dumbarton and Maryhill shows and was first this year at the former. The mare Lelia, bought from Mr. T. N. McDowall, was first of the first prize pair at Strauraer this year.

Mr. Dryden, M.P.P., Brooklin, Ont., reports the trade in Shropshire sheep as booming. He has sold 185 within the last two weeks. The largest sale of Shropshire sheep ever made from Ontario County to one man at one time, was made to E. S. Butler of Ridgeway, Ohio, who bought sheep to the value of five thousand dollars in one lot. Other sheep which Mr. D. has sold, have been scattered over Ontario and several States in the union—reaching from New York to Dakota. The demand cannot be supplied. One purchaser who wished two hundred shearling rams, but would have been content with strong ram lambs, had to leave without them, owing to the extreme difficulty in finding that number. His sales of cattle include several head intended for the show ring. Among these are, seven to W. C. Edwards, M. P., of Rockland, Ont.; two to Sheriff Hagar, of Plantaganet, Ont; four to E. S. Butler of Ridgeway, Ohio. These include the first prize yearling heifer of last year, at the Provincial Exhibition: the imported two-year-old heifer Mulberry; and the show calf, Imperial Victor, dam imported Velvet, sire imported Sussex. Although times are said to be hard, the demand continues brisk for choice animals. It pays to breed the best.

We have just received from the Wyton Stock Breeders' Association their catalogue, which contains the pedigree of 39 Holsteins, 17 bulls and 22 cows. The preface to this catalogue contains some very interesting and spicy matter regarding their favorites, from which we select the following:—"The Holstein cattle are handsome and large, they take on fat rapidly when not in milk, and are very quiet and docile in disposition. Fully matured cows will often weigh 1,800 pounds, and bulls in good condition, 2,000 to 2,500 pounds; deep milkers are the rule, and it is rarely found that a well bred cow is not a good milker. A matter of much importance to dairymen is the fact that these cows give a large flow of milk for eight or ten months, and many of them milk all the year. La Polka 2d has milked continuously for fourteen months In this, as in many other things, the best is the cheapest. The following are some of the milk and butter records of our herd. Milk Record—Jamica, 112 lbs. highest day, 3,039 lbs in 40 days; Ethelka, 101 lbs. highest day, 2,682 lbs. in 31 days; Aaggie, 84 lbs. highest day, 18,004 lbs. in 365 days; Uegio, 82 lbs. highest day, 16,823 lbs. in 365 days; Imogenia, 2 years old, 47 lbs. highest day, 10,925 lbs. in 365 days; Matron, 2 years old, 44 lbs. highest day, 10,908 lbs. in 365 days; Aaggie Ida, 3 years old, 75 lbs. in 1 day. Butter Record—Netherland Queen, 20 lbs in 7 days; Jannek, 19 lbs. in seven days; Lady Walworth, 19 lbs. in seven days; Georgie, 2 years old, 14 lbs. in 7 days; Netherland Princess, 2 years old, 14 lbs in 7 days; Oriana, 2 years old, 13 lbs, in 7 days; Aaggie Ida, 3 years old, 20 lbs. in 1 week. Send for their catalogue. See their advertisement of auction sale in our advertisement columns.

Dates of Principal Fairs to be held in Canada and United States.

NAME.	PLACE TO BE HELD.	DATES.	SECRETARY.
43rd Provincial Exhibition of Agriculture and Arts Association of Ontario	Kingston	Sept. 10th to 15th	Henry Wade.
Eastern Townships	Sherbrooke, Que.	" 4th to 6th	E. Winn Farwell
Industrial Exhibition	Toronto	" 10th to 22nd	H. J. Hill.
Southern Fair	Brantford	" 11th to 13th	R. M. Wilison.
Guelph Central	Guelph	" 12th to 14th	R. Mackenzie.
Southern Counties	St. Thomas	" 17th to 20th	John A. Kains.
Western Fair	London	" 20th to 25th	Geo. McBroom.
Great Central Fair	Hamilton	" 24th to 28th	Jonathan Davis.
Bay of Quinte	Belleville	" 25th to 28th	Wm. Smeaton.
Great Northern	Collingwood	" 25th to 28th	T. J. Crawford.
North Lanark	Almonte	" 25th to 27th	Wm. P. McEwen.
Ontario Central	Port Perry	" 25th to 28th	H. Gordon.
Quebec Provincial			S. C. Stevenson.
South Dorchester	Belmont	Oct. 2nd	Wm. Black.
County of Prince Edward	Picton	" 2nd to 3rd	Thos. Bog.
Peninsular Fair	Chatham	" 2nd to 5th	John Tissiman.
Provincial Exhibition	Charlottetown, P.E.I	" 3rd to 4th	A. McNeill.
Buffalo International	Buffalo, N. Y.	Sept. 4th to 14th	C. W. Robinson
Tri-State	Toledo, Ohio	Aug. 27th to 31st	John Farley.
Ohio Centennial	Columbus, Ohio	Sept. 4th to Oct. 19th	L. N. Bonham.
Michigan State	Jackson, Mich.	" 10th to 14th	J. C. Sterling.
Minnesota State	Hamline, Minn.	" 10th to 15th	H. E. Hoard.
Western Michigan	Grand Rapids, Mich.	" 17th to 21st	James Cox.
Indiana State	Indianapolis, Ind.	" 17th to 23rd	Alex. Heron.
Illinois State	Olney, Ill.	" 24th to 28th	Chas. F. Mills.
St. Louis	St. Louis, Mo.	Oct. 1st to 6th	Arthur Uhl.

STOCK GOSSIP—*(Continued.)*

ANNUAL ENGLISH SHEEP SALES.—Mr. Joseph Beach's sale of Shropshires was held on July 24th, when Royal Jubilee was let for 50 guineas and Royal Bristol was sold for 50 guineas. The highest price paid for a shearling ram was 85 guineas, this was paid by Mr. Tanner for the hire of the first prize yearling at the Royal Show. The top price paid for ewes was £6 10s. per head. Mr. Milton Druce's sale of Oxfordshire Downs was held the next day, and made an average of £11, which is slightly above the average of his last two sales. The highest price made was 46 guineas. At a union sale of Hampshire ram lambs the top figures realized was 15 guineas. Prices were generally low compared with last year. Mr. John Barton's flock of 130 Hampshire ram lambs made an average of nearly 10 guineas. At the Uffington sale of Shropshires, held on July 24, the rams averaged £23 5s. 6d., and the ewes £5 4s. 9d. One shearling ram was sold for 92 guineas, another 80 guineas, another 65 guineas, and another 47 guineas. A pen of ewes sold for 12 guineas each. Mr. T. S. Minton's sale took place at Mintford on July 25th A two-shear-ram was let for 35 guineas, and the shearlings made prices up to 20 guineas, and averaged £17 0s. 6d. A pen of ewes sold for 9½ guineas each. His Berkshire pigs sold up to 7½ guineas each. At Mr. Rupert Garne's sale of Cotswolds, the average for the rams was £10 4s. 7d.; the highest price realized was 20 guineas. At Mr. Hugh Aylmer's annual letting of long wool rams the average was £8 18s. 6d.

Mr. Arthur Johnston, of Greenwood, Ont., has just returned from Scotland, bringing with him the first instalment of his importations of 1888, consisting of a number of Clydesdale colts and fillies of good quality and breeding. The Shorthorns, of which he has purchased more than in former years, follow later, as usual. Mr. Johnston reports the herds in the north of Scotland as rather thinner in condition than usual, in consequence of the cold spring and early summer months, though keep is uncommonly abundant in all parts of Great Britain. He also reports good Clydescales as very much higher than in former years; indeed, too high to warrant the extensive importation of them to this country at the present market price for them here. Speaking of his return to Greenwood, Mr. Johnston says: "Though the pastures are bare, and in many places brown, I find my herd in very much better condition than last year, and much better than I expected from the reports which reached me while in Scotland of the great lack of rain. I also find this the case with my neighbors' herds as well as my own. The great question is, how to keep the flesh on them during the coming winter with the almost total failure of the hay crop and the very short crop of straw." Mr. Johnston has made the following sales of Shorthorns since his last report:—To Mr. Duncan McLaren, of Dunmore, Ont., the very superior and high bred heifer Baroness of Aberdeen 2nd; to Mr. T. G. Colwill, of Andby, a good young bull out of the Marr cow Stamford 9th, and sired by the first prize bull Warrior (55173), now owned by the Messrs. Nicholson, of Sylvan, Ont.; to Mr. John Lee, of Highgate, Ont., a young bull, Lord George, sired by imported Eclipse, and out of imported Stativa Duchess 2nd; to Mr W. H. Carlisle, of Plymouth, Ohio, U. S., imported Royal Victor (53611), a Duthie bred bull, and to the same party he sold Nonpariel of Hillhurst 2nd; to D. McLaren, of Dunmore, Baron Bright, a son of imported Duke of Lavender (51135), and out of imported Rose of Vermont; to Geo. Thomson, of Alton, Ont., the aged imported bull Baron Camperdown; to D. K. High, of Jordan, Ont., the choice of his heifer calves, Nonpariel Duchess, by imported Duke of Lavender, and out of imported Nonpariel 36th; to Mr. Isaac Fisher, of Goderich, Ont., the imported bull Dublin, of the Cold Cream sort; to Mr. Geo. Stewart, of Maple Valley, the young bull Volunteer, twin with Stamford Warrior, sold to Mr. T. G. Colwill, and to the same party he sold Daisy Lavender, by imported Duke of Lavender, and out of Lady Fawsley by imported Lewis Arundel; to Mr. Henry Shaw, of Colinville, Ont., the imported Ury bull Viscount; to Mr. Wm. Umphrey, of Sunderland, the bull Warrior Bold, by Warrior; to Mr. D. Birrell, of Greenwood, Ont., the imported bull Premier Earl; to Mr. J. T. Coats the Golden Drop bull Guard; to Mr. John Fried, of Roseville, Ont., the imported bull Oxford; to Mr. T. G. Colwill the aged cow Stamford 9th; to Mr. Andrew Ritchie, of Dirleton, Ont., the Sheriff-Hutton bred bull Grand Sheriff; to Mr. R. Miller, of West Liberty, Iowa, the imported Clementina heifer Clementina Queen; to Mr. George Nicholson, of Wroxeter, the young bull Lord Erskine, of the Verbena sort, and sired by imported Eclipse; to Mr. E. Armstrong, of Aberfeldy, Ont., the heifer Daisy May; to Mr. McLaren, of Osceola, Ont., the Cruickshank bull Victor Hugo; to R. C. Strickland, of Lakefield, the heifer Daisy Duchess, by the imported Cruickshank bull Duke of Lavender and out of Daisy Armstrong, and to the same party Rose of Halton, by the imported Cruickshank bull Prince of Orange (51976), and out of imported Rose of Kinaldie; to Dr. Morton, of Barrie, Ont., the young imported red bull Primrose, out of the Kinellar cow Clarionet; to Henry Cargill, Esq., M.P., of Cargill, Ont., the young imported bull Albert Victor, and to the same party two Ury heifers, Ury of Greenwood and Ury Queen; to Mr. W. S. Lister the young cow Rose of Vermont, by Vermont (47153), and to the same party Clementina's Gem, imported, and Heleotrope, the first prize cow at the Toronto Industrial Exhibition in 1887, and also the young imported bull Lancer, of the Kinellar Bessie family.

STOCK GOSSIP *(Continued)*.

Mr. Chas. Groat, Brooklin, Ont., reports his Shorthorns and Clydes as doing well. He has recently sold a yearling bull to Mr. Samuel Bray, of East Whitby.

At the last show of the Royal Agricultural Society of England, Mr. Thompson, of Inglewood, took five out of eight first prizes including the champion prize for best female, he also owned the reserve beast for champion males, in the Shorthorn class. All these winners were got by Beau Benedict, bred by Mr. Linton, at Sheriff Hutton.

Messrs. J. G. Snell & Bro., Edmonton, P. O., Ont., write us under date of Aug. 17th: Our importation from England, consisting of 22 Cotswold sheep, and two Oxford Down ewe lambs arrived here this week. Among the Cotswolds are, the first prize shearling ram at the Oxfordshire, Bath and West, and Royal Shows; also Champion sheep at Oxfordshire Show, against all classes; two breeding ewes, first prize at Oxfordshire Show, with their lambs; five shearling ewes, one pair of which won first prize at the Bath and West, and second at the Royal; seven ewe lambs, one pair winners of first prize at the Oxfordshire Show; seven ram lambs, large and good. We intend showing Cotswolds at the Provincial and Industrial Exhibitions. We will not for this season show Berkshires, having sold to Mr. A. W. Martin, Muncie, Ind., all those we had prepared for exhibition.

The Bollert Bros., of Cassel, Ont., write under date of Aug. 21st: The demand for high class Holstein-Friesians is exceedingly good. Last week Mr. E. Mott, of Norwich, selected the two very choice yearling heifers Reine 2nd and Hiemke 2nd (the latter a daughter of the world-renowned Barrington), and the three-weeks-old bull calf Lord Lyon, from our herd. The calf is out of Guliemette (winner of 2nd prize at the Provincial in 1886). His sire is Barnton (winner of 1st prize in class and silver medal for best bull any age at same fair). Mr. Mott has made a grand selection, and success is sure to follow him. On the 7th our grand cow, Lady Westwood, dropped a beautifully marked bull calf. In giving birth to this youngster she succumbed to the fatal malady, milk fever. She was one of the richest bred, and one of the finest Holsteins that ever crossed the ocean. She was a daughter of the famous Glenburine, that gave in ten months 20,138½ lbs. of milk and made 21 lbs. of unsalted butter in seven days in January. This calf is sired by Lytle, the present herd bull at the renown Sinclairville Stock Farm. During the last eight months we imported 35 head of the finest Holsteins we could find, including such animals as Trijntje, with a milk record of 95 lbs. in a day; Geldertje, with a record of 84 lbs. on grass alone; Lady Westwood, with a record of 80½ lbs. on grass only, and the younger ones are mostly sons and daughters of the famous Barrington. This makes our herd, we believe, the largest and finest in the Dominion.

NOTICES.

THE VACANT PROFESSORSHIP.—Just as we go to press we learn that Mr. Thos. Shaw, of Hamilton, has been appointed Professor of Agriculture at the Ontario Agricultural College.

No less than twenty different States and Provinces have been represented among the students of the Ontario Business College, Belleville; Barbados, West Indies, being the last. The old O. B. C. maintains its position splendidly.

We direct the attention of our readers to the advertisement of Manson Campbell's Fanning Mill, with new bagging attachment. This mill will be exhibited at the leading fairs this fall, thus giving our readers an opportunity to inspect it. Mr. Campbell is the largest manufacturer of fanning mills in Canada, and reports his sales over 1,000 this year already.

We direct the attention of young men seeking a business education to the advertisement of the Detroit Business University, a live, practical school. It is the consolidation of two of the oldest, largest and most popular business schools in the west. The Goldsmith, Bryant & Stratton Business University, and the Mayhew Spencerian Business College. Those contemplating attending a first-class business school will do well to correspond with them.

LONDON'S GREAT NINE DAYS' FAIR.—The Western Fair and Industrial and Arts Exhibition, to be held at London September 20th to 29th, gives promise of being more interesting and attractive this year than ever, which is largely due to the management having decided to spread the the fair over nine days instead of one week as heretofore, thus necessitating the giving of larger prizes and more and better attractions. Londoners justly take a laudable pride in their Western Fair, and judging by the amount of money they are spending in printer's ink this year, we predict they will get the 100,000 visitors that they are aiming for.

Many improvements have been made on this harrow during the past year, making it now the best Spring-tooth Harrow before the

FALL TERM OF THE

ST. CATHARINES

BUSINESS COLLEGE

Opens September 10th, 1888.

J. C. Rykert, M. P., will deliver the opening lecture in the evening. Music by the celebrated Ball family and former students. Circulars and Catalogues free.

W. H. ANGER, B. A.,
272-tf PRINCIPAL.

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Is being greatly enlarged and improved at a cost of several thousand dollars.

Students in attendance from **British Columbia, Manitoba, Michigan, New York, Vermont, Ontario and Quebec.** The commercial course is practical and thorough. **Tuition**—$10 per term of 10 weeks, or annual scholarship, $25; life scholarship, $35. ☞ Parents, send your sons where they can have the advantage of a Christian home, and the best educational advantages as well. Send for circular, address

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CANADIAN NATIONAL PARK.

The house is electric lighted and has every comfort and convenience found in city hotels of the highest grade. The numerous hot sulphur springs in close proximity vary in temperature from 80 to 121 degrees, and perfect bathing facilities are supplied. Testimony to the wonderful curative properties of the waters is plentiful. A first class livery of driving and s ddle horses forms part of the establishment, and there are excellent roads and walks in all directions, built and maintained by the Government. The house is 5,000 feet above sea level, and is surrounded by magnificent mountain peaks 5,000 to 8,000 feet high. In grandeur of scenery and purity of atmosphere the region is immeasurably superior to any similiar health resort on the continent. The hotel rates are from **$3.50 a day upward**, and special terms for longer time may be had by addressing GEORGE HOLLIDAY, MANAGER, Banff, Alberta, Canada. For further information and for excursion tickets apply to any **Canadian Pacific Ry. Ticket Office, or at 110 King Street West, Toronto.** 272-y

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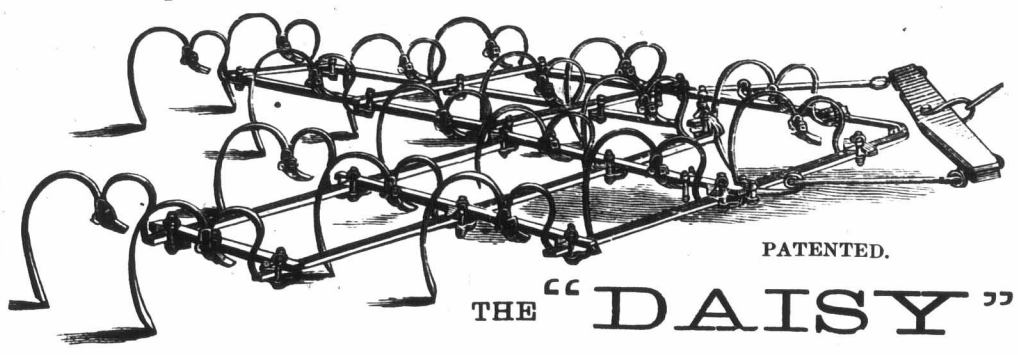
has proved itself to be without exception the best general purpose tool ever put in the hands of the farmer. No other like implement has ever earned for itself such a high and extensive reputation in so short a time. The sowing device is simple and accurate, and even opposition agents admit it has no equal as a cultivator. It prepares the ground, sows and covers. Best made and finest finished. All machines warranted throughout.



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