

The Farming World

A PAPER FOR
Farmers and Stockmen

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CANNOT BEAT THE "ALPHA" IN A FAIR TEST.

FROM
MATTHEW MOODY & SONS

(Factory and Head Office, Terrebonne, P.Q.)
MANUFACTURERS OF

Rakes, Mowers, Reapers, Binders, Threshing Machines, Ensilage Cutters, etc., etc.

Terrebonne, July 16, 1900,
I, the undersigned, Geo. Belanger, manager for M. Moody & Sons, have bought for Mr. Henry Moody's account two (2) Alpha No. 1 Separators, from The Canadian Dairy Supply Co., after a test of the Alpha De Laval Separator against the "U.S." machine, held on the 10th and 11th of July. In the results obtained by both tests of machines, the difference was large enough to warrant me buying the two Alpha Separators, and I recommend all butter makers thinking of purchasing a Separator to get an Alpha, as no other will give such satisfaction from the work.
[Signed] G. W. BELANGER, Mgr.

Terrebonne, January 5, 1901,
GENTLEMEN:
Yours of the 2nd inst. to hand. The two Alpha Separators which we bought from you during the past season have been in constant use and have given us every satisfaction both as to their capacity and as to the quality and quantity of product.

Yours truly,
M. MOODY & SONS.

THE TEST.

Here are the results of the test, under Inspector Corbeil's Supervision:

	10th July, 1900 U.S. Separator No. 1	11th July, 1900 ALPHA No. 1
Milk received.....	9446 lbs.	9571 lbs.
Average temperature.....	72 Deg. F.	72 Deg. F.
Per cent. of fat in milk.....	3.80 %	3.80 %
Duration of skimming.....	3 hrs. 50 min.	2 hrs. 50 min
Amount skimmed per hour.....	2464 lbs.	3378 lbs.
Speed of Separator.....	7800 Revolutions.	6400 Revolutions.
Average fat left in skim milk, samples taken every 15 minutes.....	0.07	0.03

THE CONCLUSION.

Butter Fat saved by the Alpha on 9571 lbs. milk, as compared to the U.S. performance... 3 83/100 lbs.
Equal to finished Butter: 4 40/100 lbs.
Also saved by the Alpha, as compared to additional time occupied by the run of the U.S.:—
a. Power, oil, wear and tear, attendance, Patron's time, waiting outside the door, spoilt quality of milk..... One hour.
b. Power, 50%, less than with the U.S. during 2hrs., 50 minutes, equal to..... 85 minutes.
And this economy will be a daily occurrence during the lifetime of the Alpha, and will be increased as the season advances and milk is harder to skim.

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GENERAL AGENTS FOR CANADA

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Morris, Stone & Wellington,
Fonthill Nurseries, FONTHILL, ONT

RELIABLE SEEDS!

For Farm and Garden

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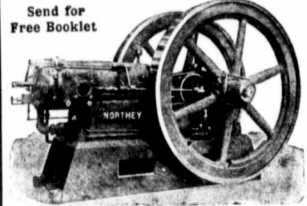
Farmers wishing to buy first-class stock, absolutely **First Hand and without paying commission to agents** should write to us at once for a catalogue and price list. Don't wait until the last minute, as you will be disappointed. Place orders early and secure the varieties you want. Correspondence Solicited.

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TORONTO, ONT.

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20th CENTURY

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Giant Prolific.
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Read the yield from one who has tried our Mammoth Southern, and knows what it is. Don't let your dealer catch you with some cheap job's variety by that name. Get the **PURE** article—take no other. Write us if your dealer does not keep ours, and we will tell you where to get it pure. "Blood will tell."

E. R. ULRICH & SONS,
Springfield, Illinois, U.S.A.

MESSRS. E. R. ULRICH & SONS, Springfield, Ill. Gentlemen,—I used to buy seed corn from you several years ago, and it was always good, and gave me great crops, 20 to 24 tons to the acre, but late years I have bought my seed corn from a dealer that good, sound, Mammoth Southern Sweet Corn hat I used to buy from you? If so, what would it cost me per bushel, delivered in Bond; and have you some good earlier varieties that you can recommend as large yielders of ensilage? We like some earlier that will mature for ensilage. Earlier varieties make richer and sweeter silage, but not so much of it to the acre. I grow 60 acres for silage. Yours truly,
E. E. TILLSON.

Giant Prolific yielded on Government Farm, Agassiz, B.C., summer of 1898, 38 tons and 450 lbs. on one acre.

The Farming World

For Farmers and Stockmen

VOL XVIII

MARCH 26th, 1901.

No 30

The Dressed Mutton Trade



LAST week we gave some figures as regards the dressed beef and live cattle trade with Great Britain, which seemed to indicate that the former is increasing very rapidly at the expense of the latter. Let us now turn to the other branch of the dressed meat trade, that of frozen and refrigerated mutton. The importations of sheep and lambs into Great Britain for the year 1900 show a decided falling off in number from the preceding year. Besides, there was a simultaneous contraction in the volume of exports from each of the frozen mutton-producing countries. Australia suffered from draught, and the River Platte from floods, while New Zealand enjoyed an excellent season. The following table gives the imports of frozen sheep and lambs in carcasses for the past two years:

FROM	CARCASSES 1899.	CARCASSES 1900.
New Zealand.....	3,250,100	3,157,060
Argentine.....	2,394,718	2,332,837
Australia.....	1,204,601	943,924
Patagonia.....	20,000
Totals.....	6,869,419	6,433,821

This table shows a considerable falling off, due, however, not to the lessening of the demand in Great Britain, but to conditions which brought about a shortage in supply in the frozen mutton-producing countries. But while the shrinkage in imports of frozen mutton carcasses is considerable, it does not begin to compare with the shrinkage in the imports of live sheep. For the past two years Britain's imports of these were as follows:

FROM	No. HEAD 1899.	No. HEAD 1900.
United States.....	121,030	142,905
Argentine.....	382,080	178,969
Canada.....	63,030	35,663
Other Countries.....	40,715	25,285
Totals.....	607,755	382,822

The same causes have operated towards decreasing importations of live sheep and lambs as in the case of the cattle imports. Each succeeding year sees the English demand for lambs established more fully on an all-the-year-round basis. In 1900 arrivals were pretty evenly distributed over the season in accordance with the incidence of the demand, except that arrivals in May were too light, and in July were too heavy. The height of the lamb season in Eng-

land is in June, and it should be important that the bulk of the imports reach there in April, May and June, in order that the best all-round results may be obtained.

The Board of Trade returns show that the volume of the frozen meat trade with Great Britain in 1900 was greater than in any previous year, the weight of beef, mutton and lambs imported from all sources being 209,231 tons, as against 201,833 tons in 1899. An important factor in the meat trade, particularly affecting the mutton market, was the enormous importations of frozen Australian and New Zealand rabbits, which in the course of the year amounted to 19,359 tons, as against 13,327 tons in 1899.

For some time New Zealand has led in the matter of quality and prices for frozen mutton. But as in the frozen beef trade, Australia and the Argentine are getting closer to our sister colony on these points. Last year there was a marked advance in this regard, and values for Australian and Argentine mutton approached closely those of New Zealand. In the case of the Argentine there has been a gradual improvement in quality for several years, which continued in 1900 up to the latter part of the year, when there was an unmistakable falling off in quality, owing to the wet season, the effects of which have not yet disappeared. It is also possible that the recent closing of Argentine ports to British breeding sheep may hereafter tend to check any general improvement in this respect.

Our interest in the frozen or refrigerated mutton trade is perhaps not as great as in that of beef. It is a question whether we will ever be able to compete with Australia, New Zealand and South America in the production of mutton for the English market, though we have a big advantage as regards distance. The United States' trade in this particular is not large. In fact in the statistics we have quoted she does not figure at all in the mutton trade. Therefore it may hardly be worth our while discussing this matter from the Canadian point of view. Conditions are so favorable for raising large flocks of sheep at comparatively little expense in these warmer countries, that we could hardly compete successfully. Some will say, however, that if we can find a profitable market in Great Britain for our live sheep and lambs under these conditions, we ought to be able to do so with our dressed mutton. One thing is

certain, we cannot compete in sending over frozen mutton. But if we can send over a high quality of refrigerated or chilled mutton, in all probability a good trade might be worked up. It all hinges on this question of quality and getting the product over in good condition.

There are several features of the dressed beef and mutton trade in connection with the English local supply that are of importance in discussing this question, but we will have to leave a consideration of them for a later issue. In the meantime we would be glad to hear from parties interested in this matter.

More Canadian Horses for Remounts

A cable report last week announced that Major Dent, who spent several months in Ontario last summer purchasing horses for South Africa, and who has been appointed Imperial Remount Officer in Canada, with the rank of Lieutenant-Colonel, sailed for Canada to purchase more remounts for the army, especially in the North-west. Major Gore, of the 11th Hussars, accompanies him as assistant officer.

The fact that Major Dent is returning to Canada to secure more horses may be taken as pretty good evidence that the class of horses purchased here in 1900 gave good satisfaction to the army authorities. There are a number of horses in the country suitable for this work, and it is to be hoped that the Major's coming and his increased powers will be eventually followed by the establishment of a permanent remount depot in Canada.

Beet Sugar Bill Passes

In moving the second reading of the bill for the encouragement of the beet sugar industry last Tuesday, and which passed in the Legislature without discussion, the Hon. Mr. Dryden gave some interesting facts regarding the efforts to promote this industry in Ontario, and its development in some of the States of the Union. During the past thirteen or fourteen years sugar beets have been grown in this province to a greater or less extent. Last year, however, the first definite tests were made with a view to ascertaining the exact prospects of the industry. A number of plots were sown at Welland, at Aylmer and at Newmarket. The highest yield was 30 tons to an acre on one of the Aylmer plots; the second highest, 25 1-2 tons, at Newmarket; the third, 24 tons, at Welland. The lowest yield was 4 1-2 tons, on a Welland plot, but the probable reason was not poor soil, but because the farmer did not pay proper attention to the work. The average yield for the whole was 18 tons per acre, which was certainly a very good yield. A Newmarket plot led with 17.2 per cent. of saccharine matter, Welland with 16.8 and Aylmer 16.1, while the lowest was 9 per cent., at Aylmer. The highest per cent. of purity was 89.5, at Aylmer, while Newmarket followed with 88.8, and Welland 88.4, and the average was 84. Such returns were eminently satisfactory. The average cost per acre was \$28.70, and the average profit on the yield \$43 an acre.

To carry on the manufacturing of the beets into sugar a large amount of capital was required, from \$500,000 to \$600,000 being necessary to make the venture a success. A constant supply of fuel was necessary, as 10,000 tons of coal and 2,000 tons of lime were needed per year. An abundant supply of beets and good transportation facilities were very necessary. Beets might be hauled 40 to 60 miles by rail to a factory, provided proper arrangements were made with the railways. A factory to be a success should have a capacity of 500 to 600 tons of beets per day. This would consume the product of 5,000 to 6,000 acres of land, or the product of 1,200 farms, with an average of five acres each under beets.

He was very hopeful as to the prospect of developing the industry in Ontario. It would prove a success provided the conditions outlined were obtainable. Ontario might support ten factories such as outlined, whose annual output might amount to 100,000,000 lbs. of sugar, valued at \$4,000,000. An industry of that extent would probably employ 12,000 persons. Such an industry was worth fostering, and the Government had decided to set apart \$75,000 a year for three years, to be paid in bounties, half a cent per pound for the first year, quarter of a cent for the second and third years; \$4 per ton to be paid the farmer the first year for all beets, and for the other two years \$4 and such additional price at the same price as would correspond to the proportion of saccharine matter above 12 per cent.

The figures given by Mr. Dryden show clearly what is expected of our farmers in establishing this industry. To get 1,200 farmers in two or three counties sufficiently interested to raise 5 acres of sugar beets each year and cultivate them thoroughly is no small task. But it should prove a profitable industry for the farmer at the prices named, and, therefore, it would pay him well to undertake the work. The greatest difficulty will be to secure help on the farm to cultivate the crop properly. The setting apart of from 5 to 10 acres for sugar beets does not mean that the other work on the average farm will be much lessened. Practically speaking, the cultivation and care of this crop will mean a great deal of extra labor on the farm on which there is very often too little now, to undertake all the work properly. This difficulty will, no doubt, right itself if it will enable the farmer to greatly increase his income, and put him in a position to pay more for help on the farm.

To Test in Ontario

It was announced last week that the Hon. Mr. Fisher had appointed Mr. Wm. Stubbs, ex-M.P. for Cardwell, as special Government officer to test all pure-bred cattle purchased in Canada and destined for shipment to the United States. Mr. Stubbs is a veterinarian of long standing, whose services should prove satisfactory in this connection. As previously announced, Dr. Stubbs will test all cattle free of charge to either buyer or seller, and his certificate that the animal tested is free from tuberculosis will be accepted at the border by the United States authorities. We presume that Dr. Stubbs' field of operations will be Ontario and that other officers will be appointed for the other provinces.

Shire Horse Breeding in England

If we may draw the apparently only natural conclusions from the very large increase in the number of members recently added to the roll of the Shire Horse Society, the large volume of trade in Shires of the most fashionable breeding and this at really inflated prices and the surpassing activity which is general amongst all departments of the heavy draught horse trade at home and abroad, the breeding of Shire horses is looked upon by well nigh all classes as a promising pursuit, both now and in the future. I well remember writing a good many years since, in one of my official reports of the London show of the Shire Horse Society, that everything must tend to an increase in the value of heavy draught horses. Even then the enormous increase in the size of the largest towns was beginning to have an effect on the difficulty in movement of men and merchandise in the streets, and it appeared to be certain that this congestion of the streets of our towns would become more acute. One of the ways which have been suggested as likely to reduce, if not remove the difficulty, is that the number of vehicles should be reduced and those used to be built and horsed that each one shall carry so much more merchandise than did the old-fashioned vehicles. In some towns this has been partially carried out with the only natural result—an increased demand for heavy draught horses weighing the best part of a ton. This alone would have raised the value, but to this must be added the considerably reduced number of Shire horses found in the heavy land districts in England, owing to so large a proportion of the land having gone out of cultivation, and also to the much greater use of machinery on those farms which are still cultivated. In the good old times of thirty or forty years since, when wheat growing was a profitable pursuit, hundreds of farms, which are now mainly down in grass, used to carry their four, five or six teams of these cart-horses, of which a good proportion would be broodmares and fillies or young geldings bred on the farm and growing up until six or seven years old, when they would be sold for £70 or £80 for town work. If it were possible to make a comparison between the number of cart horses kept at the present time, on the farms in the counties of Bedford, Cambridge, Huntingdon, Northampton and Lincolnshire, and in the fifties, sixties, or even seventies, few persons would credit the figures. I should doubt if half as many heavy horses are now to be found on the heavy land farms in these counties, and, what is still more unfortunate for the farmers and the country generally, those horses which have now to do this farm work are not, in my opinion, anything approaching as good. For this deterioration there are several causes, the chief of which may be the severe agricultural depression which set in with that wettest of all seasons, 1879, when little corn or anything was grown, all the goodness washed out of the land, the flocks decimated by the fluke, many cattle and even young horses said to be similarly affected; these and the expensive style of living into which many of our farmers had drifted during the money-making years from 1853 to 1875, rendered farmers so short of capital that necessary outlay on the farm was suspended, the best of the cart mares were sold to pay the high rents charged for the land which, being mainly suitable, only for the growth of wheat, had to be

farmed at a loss; the difficulty of persuading the landlord to reduce the rent to the old tenants—who, anxious not to leave the old farms, struggled on until the farms became as impoverished as the farmer, who at last had to knock under, the farms being thrown on to the hands of the landlords, who were as a body less able to carry on the farms at a profit than their old tenants would have been had a reasonable reduction been made in the old and out-of-date rentals. During the last few years trade and commerce have increased by leaps and bounds, and many of our merchants and others who have made money, are investing a considerable portion of it in the purchase or hire of estates on which herds of cattle and pigs, flocks of sheep and studs of horses of the bluest of blue blood are being kept so that everything tends to increase the value of pure-bred stock in this country. The question may be asked, will our Shire supply of heavy draft horses be sufficient for our needs? My own opinion is that as it has been with cattle, sheep and pigs, so will it be with heavy draft horses for town work. We shall have to seek them from over the sea.

Sanders Spencer.

Give the Young Steer a Chance

Mr. I. H. Kerrick, whose carload of Aberdeen-Angus steers sold for the unprecedentedly large price of \$15.50 per cwt. at the International Stock Show at Chicago last December, seems to understand his business thoroughly. His important point in steer-feeding is to keep the young animal growing and making beef all the time. In this connection Mr. Kerrick gives the following advice to feeders of cattle, and it is well worth considering by everyone interested in this line of work.

"Give the young steer a chance; in this is about all we know and believe about beef cattle feeding. By young steer I do not mean a two year old past; the two year old past is, or should be, a ripe beef. I do not mean by young steer a yearling past, for he is in middle age. I mean by young steer, a steer calf.

"We have been breeding and feeding beef cattle a good many years. While we have been breeding and feeding, we have been observing what other farmers are doing in the same line, and reading about what still many others are doing. On top of this feeding and observing and reading, we have been attending Farmers' Institutes and conventions, and discussing beef production with other beef producers. It would seem as if by this time we should have arrived at a point where we may put down some things as pretty well settled—proved, which we may go ahead and practise confidently and safely.

"One of the things we are now perfectly sure of, is that no amount of careful or skillful or generous feeding will make of a steer a market-topper, unless it is in his blood to do it.

"The steer that tops the market to-day will weigh 1,300 to 1,600 lbs. He will be smooth on his surface, symmetrical in form, deep, wide, thick-fleshed, especially on his back and loins; enough head and neck to live on, and these must be neat and comely; all resting on short, fine, straight, wide-set legs. His whole hide must be packed full of the very best kind of beef. Now that kind of beef will not be much over 30 months old; he may not be over 20 months old. We are now almost certain that the very best and highest priced beef cannot be made on a steer three years old or over.

"To the young breeder we say, search until you find a bull whose breeding and individual characteristics give strong evidence that he will get calves from which may be made the kind of steers that I have described. When the calves come along let them run with their dams six or seven months, or if you need part of the milk for the family you can shut the calves away in a grass lot, allowing them to go to their dams two or three times a day. If you have some good milkers they will take two calves apiece easily enough, or you can take a share of the milk of any cow and make it all right with the calf by substituting some shelled corn and oats, or cornmeal. Before weaning, all your calves should know how to eat shelled corn and oats and meal and bran and oilmeal and any other thing that is good for a calf. Then when you finally take him away from his dam he will never know the difference. A calf handled in this way when he is weaned is what we call a young steer. From weaning time forward we feed him as a steer and treat him as a steer in every way, and expect him to behave as a steer whose business it is to make beef and good beef every day, and just as much every day as he possibly can. If he is bred right, he will do his part. If he fails to make a market-topper at 20 to 30 months old, it will be because his owner has failed to give him a chance—has robbed him of the opportunity of his life. Feed him, feed him judiciously, generously, every day until he goes to the market; this is the way and the only way to make the thickest red beef, and to marble it with fat in the most perfect manner. Grow the steer and the beef together and at the same time. Grown beef, not fattened beef, in my judgment, is to be the beef of the future in this great corn belt. But this beef will be fat all the same, but the fat will be mingled with the lean in a way which can be done only during the growing process.

"The steer has but a single mission in the world, and that is to make beef. Why not give him a chance to fulfil his mission to the full? The only way we can give him this chance is to never allow him to pass a day that he is not making beef to his full capacity. Constant feeding from calfhood to ripe beef implies some things not practised in old-time methods of cattle feeding. It is harder to keep up relish and appetite for beef-making foods for twelve to twenty months than it is for five or six months. We cannot feed a calf, until he is twenty or thirty months old, on corn alone or any other single feed. We could not keep up his appetite so long on a single feed, and even if we could development would be arrested and very imperfect. We must furnish our steer a good variety in his feed. In the corn belt corn will be, and should be, the principal ingredient, but all these farms furnish several kinds of grass and corn-stover and straw, in addition to the grains, and then it is wise to buy oilmeal, in moderation, and sometimes bran, if its use is indicated. By various simple combinations of these feeds a steer can be brought along to twenty or thirty months old without ever a day in which he does not relish his feed.

"The corn belt of the United States ought to produce the market-topping beef of the world. All the essential conditions are here. We have the climate in which the best beef can be produced. We raise in abundance all the feeds that are needed to produce it. We have the farmers whose intelligence is equal to the task of producing it. Almost all farms have the equipment

in buildings, fields, etc., needed in raising beef cattle. We have the transportation and the markets for it. If we will only take the young steer and give him the chance that we in this corn belt are able to give him, he will make us famous—most famous of the beef producers of the world.

We have had good beef breeds of cattle in the corn belt almost from the first and all along, but we have never given the steer a chance to do for us what he could do. Heretofore we have allowed him to loaf around until he was two or three years old before we began to give him a chance, and then his chance to make good beef was past, never to return. His chance to make any kind of beef in the most economical way was past.

"Permitted to run half-fed until two years old with only half a chance left to make good beef, the steer failed to make his owner, for a good many years past, a satisfactory profit. The farmer said the land was getting so high that he would have to let the steer go; and over a large part of the corn belt for the past fifteen years he has been letting him go. But it was not the steer's fault that he did not make us a profit; it was in him all the time to do it; we did not give him a chance, that was the trouble. He can make us a profit, if we give him a chance to do it, on \$50 land, on \$75 land, on \$100 land. He will not only make us a profit on this land as we go along, but he will save and increase its fertility for us and for our children. Give the young steer a chance."

The Tuberculin Test in England

The London Live Stock Journal says: "The controversy regarding the tuberculin test, which has had the unfortunate effect of almost paralyzing effective and practical efforts towards the diminution of bovine tuberculosis, has gone through a good many phases. Little has been done, except to discuss and disagree about the test. The scepticism as to its infallibility has been confirmed by experiment, and other defects are being gradually discovered by those who have adopted it. That it possesses a certain amount of diagnostic value has never been denied, but, as the Dublin experiments prove, it, in a percentage of cases, condemns the innocent and acquits the guilty. It, further, gives no indication of the extent or seriousness of the disease, and is less reliable in bad cases than in those of cattle only slightly affected; it opens up the door to fraud on the part of the unscrupulous, inasmuch as it is apparently possible to saturate the systems of animals with tuberculin until they cease to react. Moreover, it has been accused of precipitating their disease when it exists in an incipient form, and of injuring pregnant cows and young bulls, while it is not certain that its application is ever innocuous.

We have had a number of letters commending very highly our special poultry number. Three weeks from to-day our annual horse number will appear. Last year our special horse number appeared the same week as the horse show. This year we will issue it a week earlier, which will give the advertisers a splendid opportunity to reach farmers and others before they start for the show. Horse breeders should take advantage of this opportunity.

Clover and Stock

Clover is of especial value to the live stock farmer as a valuable stock food for all classes of stock, and in the rotation of crops to maintain the fertility of the soil. Mr. L. N. Bonham writes the "Rural New Yorker" on the management of clover in the Mississippi Valley, its value as a fertilizer to the soil, the importance of fall plowing and proper pasturing:

The clover will not only give us a crop of hay, but a crop of seed, and leave in the soil a crop of roots worth as much as the tops for a fertilizer. By feeding the hay and returning the manure to the soil, we have in a good clover crop and the sod enough phosphoric acid for a crop of corn and wheat to follow. Dr. Kedzie claims enough nitrogen for four average crops, and potash for more than six average crops of wheat. The roots of the clover are worth as much or more than the tops for fertilizing. They weigh as much as the tops. This has been demonstrated by Lawes, by Voelcker, by Roberts and by several of our stations.

A CASE OF SEEDING.—I once tried to get a stand of clover on a clay lot, on which tobacco or corn had been grown for 40 odd years, and no man had ever seen a pound of manure or fertilizer used on it. It was tobacco-sick and corn-sick. But I plowed in the fall and top-dressed it with manure hauled 12 miles from the stockyards. As soon in the spring as it was dry enough to harrow and cultivate, we worked it twice, drilled in six pecks of oats, and sowed six quarts of medium red clover and two quarts of timothy seed to each acre, and I never have seen a better stand of clover.

The clover plant is hardy, but it will not excuse tramping when frosty; hence, it should never be pastured after frost appears, unless one is careful not to turn on in the morning before the frost has disappeared. Grazing late in the fall and during winter is very damaging and will usually kill so much as to make it unprofitable the following summer. As the plant is a biennial, and not perennial, its proper place is in a rotation where it will be turned under the second year after seeding. Attempts to keep clover longer for pasture have invited attacks of clover midge, clover root-borer and kindred pests, that do not thrive where the plants do not occupy the ground longer than the second year, or until the crop has matured. Fortunately, we can hold in check the worst insect enemies of the clover crop, as we can those of the corn and wheat crop, by a rotation that does not keep the land in one crop more than a year or two. We find our rotation of corn, wheat and clover, each one year, is a good one for cleaning the land of weeds and insects.

CORRESPONDENCE

Milking Value of the Aberdeen-Angus

Editor THE FARMING WORLD:

Every breeder of Aberdeen-Angus cattle becomes accustomed to the question, "How are they for milk?" The following is copied from Chas. Escher & Son's catalogue of their dispersion sale at Chicago this week:

"How are they for milk? This question is repeatedly asked us by visitors at the farm and on the Fair circuit.

Ames, Iowa, Nov. 6th, 1900.

My Dear Sir,—Replying to your valued favor concerning the milk and butter test of Jennet, of North Oaks 2nd, will say, that during a period of twelve months, beginning April 1st and ending March 31st, she gave 6,852 pounds of milk that tested 307.44 pounds butter. I trust that you will have a successful sale. With kind regards, I am

Yours very truly,

C. F. Curtiss.

Mr. Chas. Escher, jr., Botna, Iowa.

We are more than pleased to add, in addition to this pleasing reply, that Jennet, of North Oaks, stood second in the milk and butter test against all breeds at the Iowa College farm. She was a cow whose milking qualities had never developed aside from the nursing of her calves, and had never been milked before the test was conducted. The Aberdeen-Angus are as good milkers as any beef breed. It requires good milking cows to rear the kind of steers that bring \$15.50 per hundred pounds live weight."

As regards their popularity in this county I would state that sixteen head of pure-bred Angus have been bought and brought here during the year 1900 by four breeders.

A. J. Russell.

Cobourg, Ont., March 9, 1901.

Co-operative Experiments

Editor THE FARMING WORLD:

The members of the Ontario Agricultural and Experimental Union are pleased to state that for 1901 they are again prepared to distribute into every town of Ontario, material for experiments with fertilizers, fodder crops, roots, grains, grasses and clovers. Upwards of three thousand Ontario farmers conducted the co-operative experiments upon their own farms last year.

List of experiments for 1901:

1. Three varieties of oats.
2. Three varieties of six-rowed barley.
3. Two varieties of hulless barley.
4. Spelt and two varieties of spring wheat.
5. Two varieties of buckwheat.
6. Three varieties of field peas for Northern Ontario.
7. Two varieties of bugproof field peas
8. Cow peas and two varieties of Soja or Japanese beans.
9. Three varieties of husking corn.
10. Three varieties of mangolds.
11. Two varieties of sugar beets for stock feeding.
12. Three varieties of Swedish turnips.
13. Kohl Rabi and two varieties of fall turnips.
14. Parsnips and two varieties of carrots.
15. Three varieties of fodder or silage corn.
16. Three varieties of millet.
17. Three varieties of Sorghum.
18. Grass peas and two varieties of Vetches.
19. Dwarf Essex rape and two varieties of kale.
20. Three varieties of clover.
21. Sainfoin, lucerne and burnet.
22. Five varieties of grasses.
23. Three varieties of field beans.

24. Three varieties of sweet corn.
25. Fertilizers with corn.
26. Fertilizers with mangolds.
27. Growing potatoes on the level and in hills.
28. Planting potatoes the same day and five days after being cut.
29. Planting cut potatoes which have and which have not been coated over with land plaster.
30. Planting corn in rows and in squares (an excellent variety of early corn will be used).

Material for either number twenty-five or twenty-six of experiments will be sent by express, and for each of the others; it will be forwarded by mail.

Each person in Ontario who wishes to conduct an experiment, and is willing to use great care and accuracy in the work, and report the results of the test as soon as possible after harvest, should select the exact experiment desired and apply for the same at an early date. The material will be forwarded in the order in which the applications are received, until the limited supply is exhausted. It might be well for each applicant to make a second choice, for fear the first could not be granted.

C. A. Zavitz,

Agricultural College, Guelph, Ont.

Guelph, March 16, 1901.

Lime and Micro-Organisms

Editor THE FARMING WORLD:

The new soil receiver, so-called, so lately put forth by Prof. M'Alpine, of the West of Scotland Agricultural Society, and briefly noticed at the time by The Farming World, lends a new interest in the use of lime as an indispensable fertilization agent. It has long been known that lime was necessary in conjunction with carbonaceous matter to feed the nitrifying germs in the soil, but that the soil contains myriads of other germs which disintegrate and break up the various mineral matters in the soil was a sealed book to our scientists until Prof. M'Alpine made his notable pronouncement. The soil, it seems, is a seething mass of bacteria, which are all the time at work breaking up the fertilizing matter in the soil, and preparing it for the growing crops. These germs must do their work before manures can have any effect on the crop, and a knowledge of these soil germs, which are most favorable for the functions of soil bacteria, show that lime is of primary importance to their activity. Lime is certainly the basic constituent of soil fertility. Without a full supply of lime in the soil there cannot be any fertility. Lime is essential to the activity of the "bacterium nitrificans," or the nitrifying germ, and Prof. M'Alpine tells us that manure—dung—in conjunction with lime is essential to the activity of the other soil germs. It is plain, then, that those other germs differ little in their requirements from the germs of nitrification. If we supply the well-known requirements for the nitrifying germs—carbonaceous matter and lime—we also supply the precise requirements for those other soil germs which Prof. M'Alpine tells us of. The moral for the farmer is now plain: Supply the soil with plenty of humus matter and lime.

The farmer must now work on bacteriological lines. The old idea was that when you applied

much manure it fed the plant. That theory is now entirely exploded, because unless your soil was germ-occupied you could not grow anything. The growth of plants is entirely dependent upon soil-organisms. The different members of the leguminosae have little roots or nodules on the roots, without which these plants could not grow. These nodules are termed "symbiosis" or "symbiotic" plants, and are nothing less than a special form of bacteria or germ plant growth, similar in many ways to "bacterium nitrificans," but unlike the latter, they are able to get food from other sources—the air—rather than from the soil. In order to make a soil fertile one must have all the different soil-organisms working in unison, and without which it is absolutely useless to expect good crops. The point is not to weaken the plants, but to supply those organisms which they demand. They must have lime compounds in the soil. If this is not realized failure must inevitably result. In Britain sulphate of ammonia is in much better repute than nitrate of soda, because in undergoing the first change in the soil the soda was not worth anything. They are mixing nitrate with lime, and the lime was bound to nurture the plants, and with sulphate they are getting better feeding powers.

Great slaves are those micro-organisms. If one feeds them big crops are obtained, and you make money where you were losing. One of the points to remember in any over-cropped soils is that lime is fast disappearing from the surface soil more rapidly than anything else, and it is, apparently, as essential to put on lime as the most concentrative fertilizer we could obtain, even more so. These micro-organisms must have, and they must be maintained, those minute quantities of lime compounds in order to get in their work. There is a great change in the advice of scientists lately, and, concomitantly, is the practice of our best farmers in the quantity of lime used per acre. Not so very long ago an application of anything less than two tons per acre was considered of little value. Like many other fallacies locked up by scientific men, this theory has long since been entirely exploded. To add two tons of lime to the acre is now, in the light of our twentieth century science, the work of a lunatic, and it is perfectly inexcusable to use a dressing of ten hundred weight, though many use that amount, and more; yet five hundred pounds of caustic lime is now considered sufficient, and this amount should be applied once in three or four years. In a four year rotation the lime should be applied at the time the manure is spread. The great difficulty, so far, is in spreading so small a quantity of lime as 5 or 6 cwt. over an acre in the absence of lime spreaders, as they have in the Old Country. We think our manufacturers of agricultural implements should supply us with some machine for spreading small quantities of lime on the land. The best way to spread 5 cwt. of quick-lime over an acre, is to mix the lime with ten times its bulk of earth and spread with shovels from the cart or waggon.

The Thomas Phosphate had indirect value because of the quantity of lime which it contains, but as to spreading this basic slag on land! Well, I would as soon apply lime any time. Cannot someone give us a machine that would not be too costly to apply the Thomas Phosphate as well as the lime on the land?

J. A. Macdonald.

Hermanville, P.E.I.

Bacteriology in its Relationship to Dairying

By Dr. W. T. Connell, Queen's University, Kingston.

Bacteria are microscopic plants, in fact the smallest forms of organized life yet known. These plants, while exceedingly minute in size, yet carry on, on a small scale, many of the processes of life as seen in our higher plants. They require for life and growth suitable food material or soil, moisture and a favorable temperature, as do all plants. Under circumstances which furnish such suitable conditions for growth, bacteria multiply with marvellous rapidity, and in this way make up much for their diminutiveness in size. There are very many different species of bacteria, in fact hundreds have been described. Now all these species have some function in nature, and play a part good or evil, as the case may be, in many processes which we look upon as quite natural. Among the many functions or activities of bacteria, we have putrefaction and decompositions of all kinds, many fermentations, many important changes in the soil, and finally many diseases in man and animals. Naturally being active in so many different processes we are not then surprised at the statement that bacteria are found practically everywhere.

While this statement is true, it must not be supposed that all species are found so widely distributed, for it is not so, as these microscopic plants follow the same rule as govern the life of the higher plants. They grow and develop from previous germs only on food most suited to them, and, consequently, will be found most numerous where the food is most abundant, and where the other conditions are favorable to their development. Thus the diphtheric bacterium is found in the throats of those suffering from the disease, and may be transmitted to the throats of others in various ways. It does not develop of itself, but has come either directly or indirectly from some previous case. So with other species, each has its own life history. By their life and growth some species as I have before stated are agents of decay, others are the active fermenting agents, and the changes which are described under these two headings alone are very numerous.

Now it is found, when one studies milk and its products, butter and cheese, that certain species of bacteria find in them what we may call a natural habitation or seat of growth, and are practically constantly found therein. In fact, they must be present before we can have the necessary change set up necessary to make butter and cheese a finished product.

These are the agents which induce what I have come to term the normal or natural fermentations in milk, butter and cheese. These changes are those of souring and curdling in milk, acid formation in cheese-making and ripening of the cream in butter-making. All these changes are due to one set of bacteria, which are known as the lactic acid bacilli.

These bacilli must be present before we can have acidity develop in the process of cheese-making, or ripening of the cream in butter-making. Hence it is that, willing or unwilling, the maker has to have this bacterial starter before he can manufacture his cheese or butter. I mean by this that the maker has to have in his milk or cream these bacteria to act as starters.

He may depend on them being in the milk when brought to him at the factory as they usually are in greater or lesser numbers, or he may add what is termed a "starter," which is simply milk whey or buttermilk, containing a large number of these bacteria. The difference is this, if no "starter" be employed then the maker hopes he has got the bacteria present in such numbers as will control his fermentations for him. If he adds a pure "starter" he knows he has got the proper agents to initiate his normal fermentations and control most abnormal ones. One can readily see that "starters" to be used must be pure and clean for if they are not so they cannot initiate the proper fermentations, but will set up abnormal ones, and make a bad article of butter or cheese.

Again, as milk is such a good foodstuff containing, as it does, all the elements of food, milk and its products are very subject to fermentations and putrefactive changes due to entrance of species, not usually found therein which on such a material can grow and develop. The entrance of such species will induce abnormal changes in the milk and in cheese or butter. In fact, nearly all abnormal conditions not directly dependent upon diseases of the animal, or upon the food used, and not directly the fault of mismanagement of the milk during its manufacture can be ascribed to the growth of these foreign species of bacteria.

How do these bacterial species get into the milk?

This question can be answered almost at once by saying that they obtain entry in the majority of cases by faulty and filthy handling of the milk at some stage of the process, from the time it lies in the udder of the cow till it is manufactured. To faulty and filthy surroundings also must be ascribed their due share in the causing of these troubles. Such being the case, as I will try to prove later on, we can see at once the relationship of bacteriology to cleanliness in milk manufacture. For we can, by cleanliness, and by avoidance of these faulty and filthy conditions, do away with the bacteria causing abnormal fermentations. For filth is dangerous, mainly because it contains dangerous bacteria. I mean dangerous in so far as it contains bacteria inimical to the production of good butter and cheese. But some may say, is there no danger by excessive cleanliness of excluding even those forms which are requisite, as bringing about the desired fermentations? We need have no fear of extirpating these forms. They are found in vast numbers in the neighborhood of their food. Indeed, many have found them just inside the teats themselves, and, consequently they would be washed out in the first streams of milk. I have never examined a sample of milk yet where these germs were entirely absent, though I have not examined many samples just after milking. We should not, then, fear the exclusion of the desirable bacterial forms, but should take steps by cleanliness to exclude the undesirable species.

What are the common sources from which the undesirable bacterial forms are derived? Nearly all are in the milk when it is brought to the factory to be manufactured into butter or

cheese. In other words, the milk is seeded at the farm. One of the commonest sources of seeding is the entrance of manure particles either from udder or sides of cow, or from milkers' hands during milking. Every maker knows that in milk brought to him such particles are not infrequently found. Given a favorable temperature the bacteria which are in such particles will rapidly increase in numbers, and taint the milk. If any of you are sceptical, just take a pint of milk, heat it to about 170 F for about five minutes, so as to kill all other ferments in milk, and then, after cooling, introduce a peaz-sized particle of manure and break it up, and set aside in a warm place for twenty-four hours and note the result. I fancy you will be less sceptical of the results of such material in influencing the products manufactured from milk containing it.

Another fairly common source of bacterial tainting is the entrance of dust from dirty yards, pig pens or stables or from the road. Such dust is always laden with manure particles, or with particles from other putrefying matter such as decaying roots or straw, or even from decaying grain.

The character of the changes effected in the milk or cheese by the entrance and growth of bacteria in the ways already described, differ considerably in different cases. The growth of the lactic acid and bacteria has a very powerful influence over the growth of the other species. In the vast majority of instances this influence is to control or even prevent further growth of the other species. As a rule we can say that the growth and development of the lactic acid bacteria has a deterring effect on the development of other species. Right here we see the benefits of a good lactic starter when the milk is not quite what it should be, and yet has been accepted. We cannot make excellent cheese out of milk, but by the use of starters we can make better cheese than we otherwise could.

As an illustration of the effects the lactic acid bacteria have upon the growth of other species I cannot do better than speak of the results of some experiments performed with Mr. Ruddick at Kingston, under the Commissioner of Agriculture and Dairying. From a very rancid cheese sent me from Montreal by Mr. Ruddick, I separated out a bacillus belonging to a class of bacteria constantly found in manure and such-like materials and we attempted to produce this condition by introducing this bacillus into milk and making cheese therefrom.

About one-half per cent. of a starter of this bacillus plus one per cent. of a pure lactic starter were added to milk and then made as skillfully as possibly into cheese. The curd floated, but the gas was worked out very well, and the result was a marked "off" flavored cheese, with a flavor suggestive of decaying roots.

On the next day a starter made directly from the cheese was added to the milk in about one per cent. volume. Here the curd did not float, but the cheese was decidedly worse than the first day's make, though of the same character. In the cheese starter there was only a slight acid development and the result was a worse cheese.

Some days later a cheese was made by adding about one per cent. of the rancid cheese bacillus alone. This curd, while gassy, did not float, but the cheese is typically rancid, in fact, very much the same as the rancid cheese from which I had separated the bacillus some weeks before.

Now here are three cheese, all containing the rancid cheese bacillus, yet the quality of the cheese produced has been so controlled by the lactic acid bacteria present, as to make those cheese better which contained these bacteria in largest numbers during making.

But the main point here is the fact that such cheese can be produced by the presence of this bacillus, and when we look to the sources of this bacterium we find it has its usual habitation in such material as manure and like decaying materials, and such being the case cleanliness in milking, cleanliness of the can and of the milk shed would exclude this bacterium from the milk at the farm at least.

But there is yet a source of trouble—a source that is often threshed out at dairy meetings—utensils, particularly where foul whey has been returned in the milk cans. There is no necessity for a factory making its presence known through the nose almost before it can be seen by the eyes, as too many of our factories do, and while the drain is most often at fault it is too frequently aided by the foul whey tank. A factory can be drained without any odor at comparatively small cost on the septic tank system. Put such foul whey into milk cans and it will take pretty vigorous scrubbing to rid the cans of the taint. You may be sure, if the cans are not properly cleansed so as to destroy them, the same bacteria that are bringing about the changes in the whey will begin to effect the same changes in the milk. If the whey is clean and fresh there is not this danger at all—though my opinion is strongly against whey, in any form, being returned in the milk cans. It only lays open another possible channel of infection and adds to the dangers, if care is not taken to keep the cans very clean. Most of you know that cleanliness is only comparative. One hotel keeper thinks his beds are clean if the sheets are changed once a month, another requires them to be changed daily. So it is, I am afraid, with the handling and care of milk—what one would consider careful handling, or at least all the handling that was necessary, another might and would consider quite the opposite.

This last summer the cheese from a number of districts have shown a peculiar "fruity" flavor. It seems probable that we may be able to trace this flavor to the activity of a foreign bacterium. Experiments are now under way which may probably settle this question, and we hope to know the results in a few weeks.

I could illustrate by many examples the fact that almost all taints, apart from food taints and those due to odors, are due to the entrance of species of foreign bacteria, which it is within our power by careful attention to cleanliness in the care and handling of milk, to exclude. Again, I say, we have to learn the lesson in handling milk that dirt is dangerous, not only because it itself soils, but because of the character of the minute forms of life which it supports—and which so often find in milk a suitable soil in which to develop.

We must, by strict cleanliness, prevent the entrance of material containing bacteria, and by this means prevent abnormal fermentations. Water is very cheap in this country—the more plentiful use of it is called for. Again let me say that good hot water and steam are the very best agents to kill bacteria that we possess, far surpassing in worth all other disinfectants. A plentiful use of these secure clean utensils and clean factories.



Ideal Farm Homes

With this number we show perspective view and floor plan of design Number 17, a beautiful little storey-and-a-half cottage. This house can be built for about \$1,400. The reason we say about is that the prices vary in the different sections of the country, but the variation is not as much as many people would think. Of course, the largest bills are lumber and labor, and with the facilities for hauling lumber in the various sections of the country there is but little difference in the prices.

In the first place, we would like to say a word in regard to the blue prints and specifications of these designs, thereby explaining why these houses can be gotten up so cheaply. A house cannot be built at a minimum cost without complete plans and specifications to start with. Should you go to an architect for a plan of a house of this kind he would charge you anywhere from \$50 to \$75 for the plan. The plans and specifications for this house can be had for \$5. The only benefit you would have in paying the architect from \$50 to \$75 for the plans would be that no one else in the country would have a house exactly like yours, while if you bought this set, possibly you might find another house in some other state, or perhaps in your own, that had been built from the same plans. The actual cost of getting up these plans is a good many times the charge that is made for them.

Now, as the average home builder wants to get up something as inexpensive as possible and have it look as well as he can, it would be well to say what we have figured on for \$1,400. In the first place, all of the finish is specified to be good, first-class stuff; maple flooring in the kitchen and bathroom, and yellow pine finish mostly.

The plumbing is not included in this estimate, but the arrangement is such that the plumbing would be a very little addition, possibly \$125. There are no rooms finished in the upper floor. The six rooms and bath, in fact, everything on the first floor, are finished complete, excepting the plumbing and mantel. The specifications specify every item that goes into the house, the quality it is to be and the kind of wood, even to the picture moulding.

The blue prints that go with these specifications include the foundation

plan, floor plan, front elevation, side elevation (right), side elevation (left), and rear elevation. The price of the cellar and foundation is included in the price of the house.

(Blue prints and specifications can be had at the office of THE FARMING WORLD for \$5.)

An Opinion on Cows.

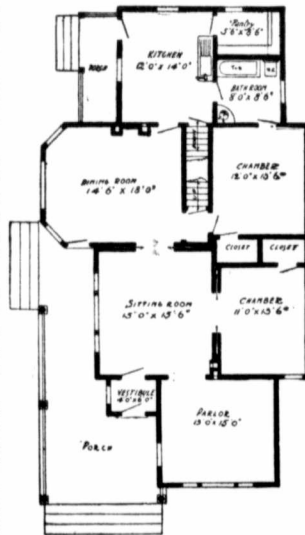
We do not always expect to suit all sorts and conditions of men, and in consequence we sometimes receive very decided opinions in the shape of letters; but we don't remember ever having our fine feelings so badly wrenched as by the following letter:

"GENTS,—My time is out on your paper and I want you to shet her off. I don't need it in my business which is corn and haws, and it is to hiferlutin for me to understan. I don't know what them drugs is you feed cows. The druggist here says that stuff is worth 25 cents a little bottle.

If you print a paper that tells all about cutting and shootin and is full of tuf jokes, and about the big, rich people and the trouble they have, I will look at it and will take it if you sell it down on the grindstone. I now it will hurt your feelings, but I must tell you to stop the milk paper, or it will hurt mine worse to put up the money as times is tight. Now regards to the fokes.

I really want a loud ripsnortin kind of a paper. If you don't print any of that kind, send my name to the man who does. Must be Democrat. Dern milk cow.

P.S. I don't need no books of no kind o, nothing in that line.—*Hoard's Dairyman.*



Ground Floor Plan.

Farm and Garden Talks

By Isaac F. Tillinghast

The man who saves the dry manure but lets the liquids run to waste, is just equal to him who "saves at the spigot and wastes at the bung."

Small seeds cannot germinate and grow well in a lumpy soil. Before sowing your next crop pulverize and roll the surface well, and see how fine a seed-bed can be made. It pays to sift the lumps from the soil for hotbed and greenhouse.

"Mary had a little lamb," and her father sold it, but the money he got for it did not begin to pay for the injustice he did to that child. Don't you dare to think that Robbie's colt can be father's horse.

Learn to live out of the garden and cellar, instead of the grocery store, if you expect to become a prosperous farmer. Good food in abundance, and of great variety, grown on the farm, should be the first and foremost consideration of every American farmer.

Who are the "lords" of creation in this country? What does it profit a man to own a whole section and be compelled to stand with his hands in his pockets and see the "sports" from a neighboring town stalk over his domain and shoot all his rabbits and quails? Cannot our laws and customs be so amended as to enable a man to control and protect his undisputed premises?

Some varieties of grass start earlier in spring, some better withstand frost in winter, some are less affected by a long continued drought, some hold out later in season, some are more nutritious, some are much more tenacious and long-lived. Therefore, it pays to make up a mixture for permanent meadows and pastures and not depend upon any one kind. We are using a mixture of blue grass, red top, orchard grass, timothy and clover, and we get much more satisfactory results than if we depended exclusively upon any one of these alone.

Strawberries are gross feeders and need plenty of manure. If you neglected mulching them with straw in the fall cover them now with fresh, coarse horse manure. The winter and spring rains will carry the fertilizing elements down to the roots of the plants, thus nourishing them and removing all the objectionable features of such a covering, and leave a better spring mulch than if light straw had been applied alone in the fall.

The effects of chemical manures on garden crops are so variable that the desired result should be kept in mind in order to make a correct application. A prominent scientist calls chloride of sodium, or common salt, a "soil

digestor." Although it is not a direct fertilizer, it is found to be of value in the power it has of rendering various kinds of plant foods soluble, so that they may be utilized by the plant. Ammonia, potash, and phosphoric acid are rendered soluble by the action of salt. The visible effect of salt is to retard the maturity of the plant, thus lengthening the period of growth, and therefore often tending to insure a better yield of all grain and seed crops. Nitrate of soda has just the opposite effect, and greatly hastens the growth and maturity of the plant to which it is applied. The latter is, therefore, of greater benefit to onions, celery, cauliflower and such other green crops as we desire to hasten to maturity.

The family garden usually pays a greater profit on the labor bestowed upon it than any other portion of the farm, even when managed by the old-fashioned method of small plats and beds and hand cultivation. This being the case, it can surely be made to pay a much greater ratio of profit by planning to plant everything possible in long rows far enough apart so as to work them with a horse and cultivator, thus greatly relieving your own muscles. And the saving in cost of cultivation is only a small part of the benefit of the long row arrangement. It will naturally lead to a much more frequent and thorough cultivation of our garden crops. Many farmers are prone to neglect the garden on account of their field crops, and as under their management the manual labor in the former is much greater, they are more inclined to give time and attention to the latter, which might not be the case were it so arranged that the labor was no greater. The important advantage of a frequent stirring of the surface soil among all our growing crops, we are convinced is too often greatly underestimated. It is said that it pays to hoe cabbages every morning during the early part of the season, and, although this may be carrying it to an extreme, we are convinced that a more frequent cultivation than is ordinarily given might prove profitable. The frequent breaking of the crust admits of a freer circulation of the air to the roots, and aids them to make the most of all the dews and rains which fall. The manufacture and assimilation of plant food goes on more rapidly, and to a certain extent cultivation is found to be a substitute for manure. Next to actual irrigation, frequent and continued surface cultivation aids in securing and retaining moisture, and supplying it to the growing plants. More moisture is lost by evaporation through hard, compact soil than is used by the whole crop. Another benefit derived from the long row system is the almost cer-

tain enlargement of the fruit and vegetable garden. The work becomes so easy that a much larger area will naturally be planted.

The proper management of manure through the winter season is a subject of disagreement among farmers. Yet it will be generally conceded that the plan quite commonly practised by many farmers all over the country, that of tossing it out into a heap by the side of the barn, to be leached and washed by the rains, is by far the worst system which can be adopted. In a majority of the stables in this country no arrangement has been planned to save the liquids, and thus at least one-half the value goes to waste. Then if the balance is left exposed to the weather for weeks, or until spring, there is really but little left. There are a few general principles in regard to the management of manures which every farmer ought to fully comprehend and act upon. Every particle of manure, both solid and liquid, should not only be saved, but kept in such a condition until used as to render its fertilizing elements easy to be appropriated by plants. On the ordinary farm there is but one way to save liquid manure economically where there are no cement floors and water-tight gutters provided behind the cattle. That is by placing behind the animals a sufficient quantity of dry absorbents, such as muck, loam, leaves, buckwheat hulls, sawdust, or other suitable material, always taking care to have it free from foul seeds. This soaked material should then be thrown into a pile, with horse manure and bedding if possible, which will better help to retain the liquids and gases, and be kept under cover until hauled and spread upon the land. In our experience we think it is better to do this about as often as a good-sized load is made. Then the leaching will be right where it is required, the soil will take it all up, and little if any will be lost. Our crops generally look better where the manure is hauled and spread in winter, than where put out in heaps, or where kept in until late spring. There is far too much carelessness about saving every particle possible of this prime essential to successful farming. It is perfectly proper to look after all the small leaks on the farm, but such wholesale wastefulness as may be commonly seen in the case of manures is really an unpardonable affair. This loss is frequently of such magnitude as to entirely eliminate every particle of what might otherwise have been profit, and thus the subject demands the most serious consideration of farmers. If your own stable arrangements are not up-to-date in this respect, study up the matter during your leisure this winter and see what improvement it is possible for you to make.

Soils, Crops and Manures.

That man is a benefactor to his race who makes two blades of grass grow where one grew before.

"It will be said that if the yield per acre be doubled the market will be glutted, that no one will receive profits. This is the old scarecrow. No farmer can control the prices of his products. The law of supply and demand is inexorable. What he may do is to improve quality, diminish cost, find the best market, and increase the production from a given area. If he raises the yield from 20 to 35 bushels per acre while the yield of his neighbors remains at ten bushels, and prices remain low, we shall soon see an illustration of the 'survival of the fittest.' The 35 bushels will yield a fair remuneration when prices are at the lowest, when they are high the profits are 200 to 300 per cent."

PROF. J. P. ROBERTS.

Speaking of cultivation for potatoes Prof. W. T. Macoun says: "The nearer the land can be got into a thoroughly pulverized condition to the depth of six inches the better the crop that will be obtained. Cultivation should be continued until the cultivator cannot be got through without injury to the vines."

"In my opinion the winter season is the proper time to draw manure. Spread the manure evenly on the surface of the soil, and if the land has been previously plowed, work it in at seed time by the use of a disc harrow, or some similar implement. If not plowed, the manure acting as a mulch will keep the soil moist and in good condition for plowing at any time."

JOHN CLARKSON.

Sugar beets make a sweet subject to talk about these days, although a sour one to our West Indies friends, who do not want Canada to interfere with their sugar cane crop, which is the basis for a large Canadian trade with them. Prof. Shuttleworth has done a splendid work during the past year in showing the great possibilities in Ontario for growing sugar beets. Our neighbors in Michigan have also been experimenting. Dr. R. C. Kedzie, in his report, gives the following information on the subject:

"Early planting gave larger yields and slightly higher percentage of sugar. Clay loam soil produced the largest tonnage and the highest percentage of sugar. The land responded to every application of fertilizer; the phosphoric acid seemed to be the most beneficial."

GETTING A CROP OF CLOVER.

From the same State comes the cry, as in Ontario, that greater difficulty is being experienced in getting clover to grow.

"On the newer lands where the virgin humus has not yet been severely reduced, there seems to be little difficulty in securing satisfactory seedings by sowing the clover seed in the spring on wheat or some other cereal. Where the fields are prepared for wheat by summer fallowing, or where the ground

is very rich and receives the best possible preparation, or where large quantities of stable manure or other fertilizers are applied, the clover catch is generally insured.

"In those sections where clover has refused to grow when sown with a nurse crop there seems to be no other way than to prepare the ground in the early spring and sow the seed alone, giving it complete possession of the ground."

Those who would like to know would possibly be astonished at the mineral requirements for a clover crop of two tons per acre might consult Prof. Shutt's bulletin on the maintenance of soil fertility through the growth of legumes. Of all farm crops grown no crop comparatively uses up so much potash, phosphoric acid and lime.

"Feed the crop rather than the soil" is becoming a more widely accepted maxim in agricultural chemistry, and extensive practical experiments prove it. The Storr's Agricultural Station give the following conclusion from their experiments:

"The peculiarities of the crop grown in any particular experiment is of more importance than any deficiency of the soil in regulating the demand for fertilizers.

"During the ten years in which the experiments have been made on the field with a rotation of crops the ingredient or ingredients that have been most essential have varied with the crop. When corn and oats were grown phosphoric acid and nitrogen appeared to be most essential, while the requirement of potatoes seemed to be most essential."

H. N. NIKOPO.

Alfalfa or Lucerne.

(Press Bulletin.)

The correspondence of the Ohio Experiment Station indicates a large and increasing interest throughout the state in the culture of alfalfa. On the thin clays of the station farm the results of the experiments thus far made with this plant have not been encouraging; but there are large areas within the state where heavy sheets of drift clay are found, which, when underdrained should produce this crop to advantage. Again, there are other regions of well drained, black soils and rich, upland clays and bottom lands, which are naturally drained by underlying gravels; these offer conditions that have been found most favorable to alfalfa. Mr. Joseph E. Wing, of Mechanicsburg, Ohio, whose land is of the kind last mentioned, has grown alfalfa on a large scale, and with excellent success, and he has furnished the following hints as to its culture:

"The best way to sow alfalfa is to plow the land deep in spring or winter. Turn up a little new soil; harrow down and sow beardless spring barley at the rate of two bushels to the acre. Sow 15 lbs. or a peck, of alfalfa seed at the same time. I usually roll the land well after sowing. This makes the alfalfa do better but is sometimes hard on the barley. Alfalfa will come

up through very firm soil and thrive better than when it is too loose. Let the barley ripen and cut it for grain. Then when the alfalfa starts up a little clip it with the mower. Clip it close. It will start again, and after a month or so clip it again. Keep the stock all off until next year. It is better to keep stock off for two years. Begin mowing the second year as soon as the blossoms form. After the first crop is taken off it will mature another in exactly 30 days. Do not delay cutting this second crop. It will take about 35 days for the second crop to grow. Take it off promptly. Then in 35 or 40 days there is the fourth crop. Take it, or graze it.

"The third year is the best in the alfalfa's life, though it may not decline for ten years. Keep all stock off it after frost, it is deadly then. Stock injures it greatly by treading on it after it is frozen. Do not pasture it close either in summer. It is the best pasture on earth for pigs, horses, cows, sheep and chickens. There is the same difficulty regarding bloat that there is in red clover. After frost there is perhaps more danger; yet the danger is slight if the stock, after being used to it, are never taken away from it until frost and are then taken away for good.

"There is a point of great importance in the growth of alfalfa, and it is responsible for half the failures; poor soil is responsible for most of the rest. This point is the leaf blight, or rust. If alfalfa is left standing too long there comes on the leaves a reddish rust. This rust causes the leaves to fall. Then the stem becomes woody and the hay is of little value, and if it is not cut there will not be any growth of consequence. As soon, therefore, as this rust is seen the alfalfa must be cut, and it must be cut no matter if it is a small growth. It will, as soon as it is cut, start to grow vigorously again. This rust will not form in less than about thirty days. That gives the alfalfa time to make a crop.

"Another point: During a dry time the growth may be short. Cut it just the same when the time comes. It will then be ready to take advantage of a rain and make the next crop. If you have not cut it and the rain comes it will not grow. The lesson is, cut it on time whether it is little or big.

"Don't sow alfalfa on poor soil.

"Don't sow alfalfa on wet soil.

"Don't forget to clip it three times the first year.

"Don't turn any stock on it until the next May.

"Don't let alfalfa hay get dry before raking.

"Don't fail to cut your hay in time. That means to be ready to cut by June first.

"Don't ever let stock on your alfalfa meadows in cold weather.

"Don't sow alfalfa seed on unprepared soil, as you do clover.

"If it fails with you, manure the land and try again."

Breeding and Feeding Poultry for Profit

Written for THE FARMING WORLD, by L. H. Baldwin, Deer Park, Ont.

The selection of stock from which to secure eggs for hatching is most important; in fact is the very foundation for future success. To secure strong healthy chicks we must have vigorous parent stock kept in good condition and properly mated. All inbreeding must be avoided.

The period of the year to hatch will depend on the variety of the fowl. Remember that it is not well to have birds matured and laying before October or November. With the American breeds, like Wyandottes, it is well to hatch in March, April or May in order to secure the best results in laying for the following winter. With the Mediterranean breeds, which develop more quickly, April, May or even June will be quite time enough.

The method of hatching must depend largely on the size of the flock kept and the number of birds you wish to raise. It hardly seems worth while to employ an incubator, unless you wish to hatch at least something over 100 chicks during the season. But in order to make a substantial return from poultry as a branch of the farm, a large number of birds must be raised, making it necessary to use incubators and artificial brooders. Having placed in an incubator the eggs, and having run the machine for 21 days according to directions, we will probably have a hatch representing 50 or 90 per cent. or over of the total number of eggs set.

The little chicks now demand special care and close attention; but let me emphasize the fact that I believe many more chicks are killed by kindness and by being pampered than by any neglect or under-feeding. The active lively chicks with their piercing chirp seem at once to be demanding food, and we naturally hasten to satisfy their appetite, forgetting that nature has supplied them with their first nourishment which must be allowed time to digest before they receive their first meal. The chicks will hatch during the twentieth and twenty-first days. Keep them in the incubator until the morning of the twenty-second day, when they may be placed in the brooders, keeping the temperature in the hover between 90° and 95°. Scatter some finely broken egg and oyster shells, coarse sand, coal ashes, and charcoal about the floor of the brooder. Brooders are generally made about three feet square with an interior hover where the heat is maintained at first to 90° to 95°. Do not place more than 40, or at the outside 50, chicks in each brooder. These brooders are generally advertised to accommodate 75 or over; but do not do it. The chicks will suffer more from crowding than anything else and cannot thrive as they should. Feed sparingly at first. Scattering a little dry coarse oat meal,

bran or broken biscuit. Upon the second or third day a little finely cut meat or hard boiled egg may be added to their food. Care must be taken to supply a liberal amount of green food. At first when grass is not obtainable this can be done by finely cut cabbage, apples, turnips, beets, lettuce or anything of the kind; mixing this with the oatmeal and bran, etc., but adding no water, the moisture from the green food being sufficient.

For the first three days we must see that the chicks learn to run under the hover for heat. Whenever a visit is paid to the brooder and chicks are found outside the hover it is well to force them under the flannel. By the third day they will learn to find the heat whenever they need it. As their appetites increase with their growth, increase slowly the quantity fed; but still always feed sparingly, and never more than they will eat up clean at one time. The only time you can be liberal is at night. For the evening meal either coarse oatmeal, millet or cracked wheat may be fed, and if any is left over it will be readily eaten up in the morning for breakfast. The life in the brooder with artificial heat should extend for about six weeks, the temperature being gradually reduced until the chicks can be left without any heat whatever. A little whole wheat can be fed at the end of the first week, and will soon become a staple article in the way of grain. Always keep plenty of fine oyster shell, grit, coal cinders, charcoal, and clean water accessible. If the eggs are hatched before the frost is out of the ground it will be necessary to place the brooders in sheds or brooder houses built for the purpose.

When placing the brooders outdoors they should be located in the orchard, under or near the shade of other trees, or in a field where you propose cultivating corn or root crops, or near a raspberry patch, or in fact anything that will afford shade for the chicks during the intense heat of summer. By using wire netting (1 inch mesh) two feet or two feet six inches high, make an enclosure about fifteen feet in diameter around the brooder. Support the wire by driving stakes, using ordinary builders' lathes, on the inside of the netting turning the edge of the lath towards the netting. The two ends of the wire netting being bound by two pieces of lath on opposite sides nailed with wire nails and clinched. This keeps the ends straight and makes it more easy to handle the wire without damage when moving it from place to place. This wire netting will keep the chicks under control long enough for them to become located in their own brooder, and can be removed when the chicks are about three weeks old. But if the weather

is unsettled and stormy keep the wire netting up longer in order to have the chicks more under control to drive into the brooder or brooder shed when any storm comes on. When the wire netting is removed the chicks will take care of themselves and will find their way back to the brooders for the night.

Brooders should be placed more than 100 feet apart, so that the different batches may not become confused. When the chicks are six weeks old remove the brooder and in its position place an "A" coop three feet wide by two feet six inches deep with no floor. This will house the chickens for another six weeks, and by simply moving it in any direction each day it is kept on perfectly clean ground. The front may at first be closed with a board and afterwards more ventilation given by leaving the slats open bit by bit.

When the chickens are twelve weeks old remove the "A" coop, and in its last position place what we may call a "B" coop, with two perches, on the following plan: Make 6ft. long by 2ft. 10in. wide, with slanting roof. It should have two perches, running lengthwise of the coop, and a slat door to be shut at night. This, like the "A" coop, has no floor, and by moving it from day to day it is kept standing on clean ground, and in this coop the chickens may remain until the fall, when they should be moved into their winter quarters.

Having placed 40 or 50 chicks in the brooder, this number, after allowing for reasonable mortality and culling of cockerels for killing, will leave about 25 birds to each coop at four months old, and is a sufficient number for the coop to accommodate for the rest of the season. From the time the chicks are given their freedom from the brooder and the wire netting is removed, allow them perfect freedom to roam at will. These brooders may be placed in different parts of the orchard, in lanes, in spare pasture lands, in fact anywhere as long as they cannot be damaged by cattle, etc. The little chicks running amongst your crops will not do appreciable harm, in fact what little harm they may do will be more than overcome by the good in killing insects and grubs upon the cabbages or roots. Tomatoes and melons and such fruit may of course suffer by the chickens breaking the fruit when it is ripe.

During all this period of growth do not attempt at any time to force the chicks too quickly by overfeeding or giving any quantity of meat. Slow and sure is the rule upon which to produce a laying hen. By the first of September we should have the winter quarters ready to receive the pullets. Then comes the important step of

selecting the stock for the winter layers. Remember in the first instance you can pretty well count on 50 per cent. of your flock being males. Again, allow yourself enough margin to cull freely. To be able to put aside 50 per cent. of the females is not a bit too much. You have then left in your flock a selected lot of vigorous pullets, and in all respects thoroughly healthy birds. Place these in the hen house soon after the 1st of September, in ample time to get accustomed to their new quarters before they settle down to lay.

With regard to feeding stock in winter quarters, and in order to succeed in obtaining a good yield of eggs, care must be taken not to let the fowls get too fat, and yet to feed them what they require to produce the eggs and keep in good health. The first essential in keeping them in proper condition is exercise and fresh air. Feed sparingly in the morning with some fine grain, oats, millet, or wheat, thrown among plenty of straw, which will keep them scratching for their living all day. Give a full feed at night. Green food should be provided daily when the fowls have not access to grass, and may be given any time during the day. A cabbage or its equivalent in chopped roots will supply the green food. At night feed all the flock will eat; either grain or a mash three or four times a week; or the mash supplemented with grain, wheat, corn, buckwheat, etc., if the birds are still hungry. The mash may be made up of about equal parts of corn meal, bran, wheatlets, oat meal, chopped meat, scraps from the house, boiled liver, cut bone, etc. Use only sufficient moisture (skimmed milk or water) to make the whole a crumbly mass. With a flock raised under these conditions and properly housed there will certainly be a good return in eggs, especially in the winter, when the best prices are obtainable.

An Entertaining Poultry Firm.

A short time ago we had the privilege of enjoying a most pleasant and interesting visit to Glenary Farm at Davisville, Ont., the headquarters of the Toronto Poultry and Garden Produce Co., Limited. This company have some fifty acres of land in a commanding and picturesque spot, about 20 acres being laid out as garden and the rest is devoted to poultry. We were most cordially received by the manager, Mr. J. M. Wilson, who, on learning the object of our visit, readily conducted us over the place.

We went through the long, comfortable-looking buildings, the first of which was devoted exclusively to thoroughbred White Wyandotte fowls, the breeding of which is a specialty of the company. The sight of these birds would be a pleasure to any poultryman. To a layman it was certainly an education. Snowy, handsome fowls they are, and the picture of perfect health. Certainly, no pains appear to be spared on the keep and housing of the

poultry of this company. Warm, clean, well-aired pens, carpeted with clean straw. No dirt, and no rubbish is to be seen anywhere.

The same was noticeable in the next building, which contained exclusively thoroughbred single-combed White Leghorns. These graceful birds—the celebrated egg-producing breed—are a most beautiful sight, such dainty build, with rich, blood-red combs and wattles, in contrast to the perfect whiteness of plumage. We visited also the Barred Plymouth Rock pens and other buildings containing birds fattening for table use. We were informed by Mr. Wilson that many hundreds of birds were being constantly bought up by the company from the outlying districts and some remote parts of the province. The birds are bought in at market rates from the farmers and undergo a process of fattening before being killed.

We were much interested in the brooder house. Probably there is not another of its size and capacity in the Dominion. In connection with the brooder house is the incubator room containing 25 machines of 220 egg capacity. These were not in use at the time of our visit and the brooder pens were filled with fattening stock, but the whole idea, as explained to us by Mr. Wilson, suggests a future second to no other industry in the country. The place, at present in its infancy, shows signs of much labor and enterprise, and has gone very rapidly (if quietly) ahead since the inauguration of the company about two years ago.

"The principal business of the company," remarked Mr. Wilson, in answer to some questions, "is to supply the private families of Toronto and elsewhere with all kinds of eggs, poultry, and vegetables of the very best quality. Business of this kind is almost exclusively conducted by telephone, and goods themselves are our best advertisement. No, we have so far raised no turkeys, but we buy in turkeys, geese, ducks, and chickens at market prices, and these, after being fattened upon grain and carefully looked after for three or four weeks, are sold for table birds."

Mr. Wilson further informed us that the principal specialty and great drawing card of the company was in the sale of new-laid eggs. These are put up as soon as gathered, and the boxes sealed and dated, so that—the demand for these always far exceeds the supply—no eggs leaving the farm are ever more than twenty-four hours old.

"Our eggs have brought us a great deal of custom," said Mr. Wilson, "and many of the big families of Toronto, who now order all their poultry and vegetables from here, were first brought into touch with us through hearing of our new laid eggs."

The company, as may be seen in their advertisement in this issue, offer to farmers the means of improving and regenerating their stock through the sale of eggs from the company's

own high-class thoroughbred birds at what appears to be a very reasonable price, and we would recommend our readers to consider carefully this opportunity of improving their poultry by introducing a strain from the pens of Glenary Farm.

Another Auction Sale at Calgary, N.W.T., in April.

The public sale movement which has been the leading event in live stock circles in Ontario during the past few weeks seems to be shedding its influence abroad. The Western breeders are taking the matter up under the auspices of the pure-bred Stock Associations of the Northwest Territories, and will hold a sale at Calgary the second week of April. The following from one of our Western exchanges gives particulars as to the origin of the undertaking and how it is to be conducted: "Arrangements have now been made whereby an auction sale of pure-bred cattle will be held at Calgary during the second week in April, probably on the afternoon of the 12th, when the Western Stock Growers', the Territorial Horse Breeders' and pure-bred Cattle Breeders' Associations hold their annual conventions. The sale will be under the auspices of the pure-bred Cattle Breeders' Association, assisted by the Territorial and federal departments of agriculture. The association expects to be in a position to take delivery on all animals intended for the sale at any railway point in the Territories and carry them to Calgary in its own cars, free of all charges. The local government has promised to aid the venture by paying all cost of transportation to the point of sale. Very complete arrangements will be made at Calgary for the reception and care of the animals, all at the expense of the association. An entry charge of one dollar per head for members and two dollars per head for non-members will be made, which will represent the total cost of the sale to the seller, from the time his animal leaves his care until a sale has been made.

The scheme has received the enthusiastic support of nearly every pure-bred cattle breeder in the Territories. A carload of excellent individuals is going to the sale from the Prince Albert line, one from Crane Lake and one from the Edmonton line. The sale will be extensively advertised by the association and a large attendance of bona fide buyers is now an assured fact. All persons having pure-bred cattle to sell, males or females, are asked to at once communicate with the secretary, C. W. Peterson, Government Buildings, Regina, who will supply entry forms and give further information on the subject."

Tommy—Pop, can people swear with their eyes? Tommy's Pop—Not that I know of, my son. Tommy—Then what is a cursory glance?

The Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep, and Swine Breeders' Associations, and of the Farmers' Institute System of the Province of Ontario.

THE DOMINION CATTLE, SHEEP, AND SWINE BREEDERS' ASSOCIATIONS.

Annual Membership Fees:—Cattle Breeders', \$1; Sheep Breeders', \$1; Swine Breeders', \$1.

BENEFITS OF MEMBERSHIP.
Each member receives a free copy of each publication issued by the Association to which he belongs, during the year in which he is a member. In the case of the Swine Breeders' Association this includes a copy of the Swine Record.

A member of the Sheep Breeders' Association is allowed to register pigs at 50c. per head; non-members are charged \$1.00 per head.

A member of the Sheep Breeders' Association is allowed to register sheep at 50c. per head, while non-members are charged \$1.00.

The name and address of each member, and the stock he has for sale, are published once a month. Over 1,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

A member of an Association will only be allowed to advertise stock corresponding to the Association to which he belongs; that is, to advertise cattle he must be a member of the Dominion Cattle Breeders' Association, to advertise sheep he must be a member of the Dominion Sheep Breeders' Association, and to advertise swine he must be a member of the Dominion Swine Breeders' Association.

The list of cattle, sheep, and swine for sale will be published in the third issue of each month. Members having stock for sale, in order that they may be included in the Gazette, are required to notify the undersigned by letter on or before the 15th of each month, of the number, breed, age, and sex of the animals. Should a member fail to do this his name will not appear in that issue. The data will be published in the most condensed form.

A. P. WESTERVELT, Secretary.
Parliament Buildings, Toronto, Ont.

ning for 6 months. Must have no bad habits and be trustworthy and honest. State size, age, experience, and wages expected, with or without board. One with experience preferred. Apply to Cheesemaker, Clayton, Ont.

Good plowman and teamster, who is steady and industrious and without bad habits, wanted at once. Will live in the house and have the same fare as the family. Good place for a careful man. No. 763. a

Trusty man wanted, either married or single. Free house, garden and \$240 a year provided for a married man; to a single man board and \$150 a year will be given. No. 764. a

Wanted, at once, a steady young man to work on a farm near Port Hope. Must be accustomed to all kinds of farm work and be willing to milk whenever required. Good home and good wages for 8 months or longer. No. 765. a

Married, and also single, man wanted, who are used to all kinds of farm work, and experienced with live stock. Good wages given to capable men. Address F. A. Gardner, Britannia, Ont. a

Wanted, a good, reliable man, who understands general farm work. Must be a good milker. Farm is 14 miles from Ottawa. Mixed farming carried on. State length of time that you would engage for, and wages expected. Address R. H. Grant, Hazledan, Ont. a

Steady employment to a young man, who must be good with horses, and not afraid of work. State wages asked. No. 766. a

Young man, or boy of 16, wanted on a farm; also a general servant. No. 767. a

Man wanted for a farm near Syracuse, N.Y. Must be reliable and up-to-date. Will provide house, garden truck, milk, and wood. State wages expected. Might let farm on shares. No. 768. a

Wanted, at once, a young, single man on a small farm to do general work for eight or twelve months. Must not drink, smoke, or use profane language. A good home. Wages \$12 to \$16 a month, according to ability and worth of man. No. 769. a

Steady man, experienced in plowing, milking, and general work, wanted for the summer, or by the year. Will pay \$16 to \$18 per month, for seven or eight months, or \$150 to \$180 per year, according to proficiency; board and lodging included. No. 770. a

Another Successful Provincial Auction Sale.

"The British Columbia Provincial Auction Sale is a decided success." Such is the brief but very satisfactory telegram received concerning the provincial auction sale of live stock at New Westminster, held under the auspices of the Dairymen's Association of British Columbia.

The live stock offered for sale were purchased in Ontario by Mr. Hodson and Mr. Westervelt, acting for the Dairymen's Association, and shipped in three cars, leaving Toronto at noon, February 12th. Thanks to the assistance of the C.P.R. officials, a very quick run was made, and the stock arrived at New Westminster on Sunday, February 24th, early in the morning. The cars were in charge of Lester Higgins, who is now permanently employed by the Dominion Live Stock Associations to take charge of the live stock shipped under their auspices.

The shipment comprised a nice lot of Shorthorn bulls and heifers, which are well calculated to improve the beefing stock of the Pacific Province, some choice Ayrshires, a carefully selected lot of Shropshire, Oxford, and South-down sheep, and a number of Berkshires and a few Tamworths of a good type. Besides these, there were sent a lot of pure-bred poultry of the breeds most serviceable to the farmer, including White and Silver-laced Wyandottes, Plymouth Rocks, Light Brahmas, and Silver-grey Dorkings, Banded Plymouth Rocks being in the majority.

The Dairymen's Association of British Columbia are showing a most commendable enterprise and public spirit in introducing this new blood to the Province, and thus giving the farmers of that district the opportunity of purchasing first-class animals at their doors. They are also to be congratulated on the success of the sale.

FARM HELP EXCHANGE

The Farm Help Exchange has been started with the object of bringing together employers of farm and domestic labor and the employees. Any person wishing to obtain a position on a farm or dairy, or any person wishing to employ help for farm or dairy, is requested to forward his or her name and full particulars to A. P. Westervelt, Secretary, Live Stock Associations. In the case of persons wishing to employ help, the following should be given: particulars as to the kind of work to be done, probable length of engagement, wages, etc. In the case of persons wishing employment, the following should be given: experience and references, age, particular department of farm work in which a position is desired, wages expected, and where last employed.

These names when received together with particulars will be published FREE in the two following issues of the "Agricultural Gazette" and will afterwards be kept on file. Upon a request being received the particulars only will be published, the names being kept on file.

Every effort will be made to give all possible assistance, to the end that suitable workers, male or female, may be obtained. Every unemployed person wishing to engage in farm or dairy work is invited to take advantage of this opportunity.

Help Wanted.

Wanted, a boy about 18 or 19 years old, who has worked on a farm and is capable with horses. Will give \$14 a month for 8 months. Must be well recommended and be of good character and habits. Also girl wanted who can milk, must be over 15 years old and have good references. Good wages given. No. 760. a

Four men wanted at once for general farm work on a 400-acre farm. Must be able and willing to work. Work will be mostly following teams. Will hire for 7 or 8 months, and, if satisfactory, 2 or 3 of the men would be kept through the winter. Good wages. No. 761. a

Boy wanted, about 15 or 16 years of age, for 8 months, or for the year, to help in general farm work. Apply to Box 153, Ridgeway, Ont. a

A willing, capable man wanted on a 100-acre farm. Good wages to one who suits. No. 762. a

Wanted, a good, stout boy or man to work as an assistant in a medium-sized cheese factory for the coming summer, starting on May 1 and run-

Wanted, working foreman, or manager, who thoroughly understands raising horses, cattle, and swine. Must have good references. Also for rent, for a term of years, farm of over 300 acres, with first class house and buildings, suitable for dairying or stock raising. No. 771. a

Wanted, for 7½ months, a single man, able and willing to do all kinds of farm work, plough, milk, and work machinery. Must be a Protestant and total abstainer. Wages \$125, for period named. Also strong boy, about 17 years old, required, who can plough and milk. W. C. Brown, Meadowvale, Ont. a

Two married men with small families, accustomed to milking and caring for stock, and doing general farm work, wanted at once. No. 749. b

First-class farm hand wanted on a dairy farm, one who can milk, feed stock carefully, and make butter. Also housekeeper required, good, capable woman for a farm house. Comfortable home and small family. No. 750. b

Reliable, experienced man wanted by the year, or for a longer time, if suitable, on a general purpose farm, where mixed stock are kept. If married, he can secure a house close by in the village. Can start at once. Wages \$175 a year. No. 751. b

Wanted, a young man, about 18 years of age, to attend to a herd of Shorthorn cattle. Address J. & W. Russell, Richmond Hill, Ont. b

Sober, steady, experienced young man wanted for seven or eight months. Good home. State wages expected. No. 752. b

Steady young man, between 20 and 25 years of age, who does not object to the inconveniences of a rough, new-cleared district, and is willing to do his best, wanted on a farm near Parry Sound. Wages, \$18 a month, with board and washing. Need not be able to milk. No. 753. b

Wanted, man good with horses, sober, honest and industrious. Will provide house and stable, orchard and garden, pasture for cow, and firewood. In winter there will be bush work to be done. No. 754. b

Wanted, at once, a man used to all kinds of farm work and machinery. Must be a good plowman, kind to stock, able to milk, sober and painstaking. Protestant preferred. Will engage for a year or for eight months. State wages and give age. No. 755. b

Man wanted on a small farm near Port Burwell. Would have to milk, if required. Would pay \$12 to \$16 a month for eight months, and give a home for the balance of the year for lesser wages. No. 756. b

Five men required at once in British Columbia. Will give from \$20 to \$25 a month and board and permanent employment. No. 757. b

Man wanted by the year who is steady and sober, on a farm where dairying is carried on all the year round. Will be boarded at the home-stand. No. 758. b

Good wages given to a couple of good men for a large stock farm near Fort William. Engagement to be for a year and wages paid monthly. One must have a good knowledge of dairying. The other must understand farm machinery. No. 759. b

Domestic Help Wanted.

Good strong girl, or widow, without family, wanted on a farm. Comfortable home; no milking; no hired man in house; small family; good wages. No. 772. a

Wanted, to work in a farm home and help milk, a steady, healthy, and reliable girl. Family consists of three adults and one child. Wages from \$85 to \$100 a year, according to ability. Must have references. Duties to commence May 1. Apply to Mrs. D. J. McClure, Churchville, Ont. b

Wanted, on a farm in Norfolk Co., a smart girl, from 17 to 25 years old, who understands all kinds of housework. Steady employment. State wages expected and give references. No. 747. b

Domestic wanted, to do general housework. No milking or outside work of any kind. Farm is within the corporation of a thriving town. Middle-aged person preferred. No. 748. b

Situations Wanted.

Man who has been manager of a large stock and fruit farm for some years wishes to secure a position as manager of a farm where stock is kept. Is a good feeder. Wages asked, \$30 a month, house, wood, garden, and cow. Family consists of self, wife, and daughter, aged 17. No. 923. a

Young man, of good character, who does not smoke, chew, drink or swear, and has lived on a farm all his life, having cared for cattle, wishes a position. No. 924. a

Young man, aged 22, who has had nine years' experience on a farm, would like to hire as a general farm hand for five or six months. Wages expected, \$17.50 a month with board, washing, and lodging. No. 915. b

Man, who has always lived on a farm, wants a place as a farm foreman, or would hire to go on a fruit farm by the year. Family all grown up. Would board other hired help. No. 916. b

Young man from the Old Country, who has been ten years in Canada and is well used to horses and cattle and general farm work, and a good plowman, wants a place. Can furnish good references, and is not afraid of work. No. 917. b

Situation wanted as working foreman, by man who is well posted in all branches of modern farming and machinery and is kind to stock. Good references. Would take farm on shares where everything is furnished. No. 918. b

Married man, with family, wants to rent a farm on shares. No. 919. b

Man, used to farming work of all kinds, wants to hire by the year on a dairy farm. Does not use liquor or tobacco, and has no bad habits. Can start April 1 or 8. No. 920. b

Man, aged 50, in good health, who is by trade an engineer, but who can milk and look after cows and horses, wants to get a place. Is used to care and management of machinery of all kinds, and is a fair carpenter. No. 921. b

Domestic Situation Wanted.

Widow, with a little son 7 years old, wants a place. Good references. State wages given. No. 914. b

Position as general servant on a farm wanted by a strong, young woman from the Old Country, who understands dairying and poultry. Wages, \$10 a month. Will arrive in Canada about the end of March. No. 922. b

N.B.—Where no name is mentioned in the advertisement, apply to A. P. Westervelt, Parliament Buildings, Toronto, giving number of advertisement.

Farmers' Institutes.

Under this head the Superintendent of Farmers' Institutes will each week publish matter relating to Institute work. This will include instruction to Secretaries and other officers, general information about Institutes and Institute work, suggestions to delegates, etc. He will also from time to time review some of the published results of experiments conducted at the various Agricultural Colleges and Experiment Stations of Canada and the United States. In this way he hopes to give Institute members some valuable agricultural information which they might not otherwise receive, on account of not having access to the original publications. If any member at any time desires further information along any of the lines discussed, by applying to the Superintendent he will be put in direct communication with the Institution that has carried on the work.

G. C. CREELMAN,
Superintendent Farmers' Institutes.

Farmers' Institute Notes.

Farmers' Institutes Are Growing. Already we have received from local Secretaries more than 17,725 names of members for 1901. This is greatly in excess of the number received up to this time last year.

Send in Lists of Members. The Superintendent would like to have all the lists of members sent in promptly by the 10th of each month. A few Secretaries have not yet sent in their membership lists that were gotten up at the Regular and Supplementary Meetings.

About the Annual Meeting. A few Institutes have not yet reported on their February business meeting. At that meeting the directors are all called upon to decide the place of the annual meeting. They were also to instruct the Secretary whether they

wanted a speaker for their annual meeting. Please report at once as we wish to lay out the routes of delegates who will attend these meetings.

East Middlesex Pleas'd. Secretary Munro, of East Middlesex, writes: "We have had excellent meetings this winter. Never had the like before. The time each day was far too short for the audience. I cannot tell you the enthusiasm displayed by all present at the meetings. The interest was intense. The people in our district this year declare that the Institutes do great good."

Beaver Valley for Fruit. Mr. G. C. Caston, who was one of the delegates in Division 6 in February, was greatly pleased with the Beaver Valley as a fruit district. He writes: "While in East Grey my most popular subject was fruit culture. They would not let me discuss anything else, and they seemed as if they could not get enough of it, even when we discussed it all day. I was struck with the great natural advantages of the Beaver Valley. Here is a fertile valley reaching from above Kimberley down to the Georgian Bay, some 14 miles, every tillable acre of which is capable of producing fruits of the highest excellence. All the valleys could be very cheaply irrigated, which in dry seasons would be of inestimable value in increasing the quantity and improving the quality of the fruit. There is also plenty of water fall to furnish power for an electric road to the bay. I have seen no place of equal area in this province with brighter prospects for a great future than this fertile Beaver Valley."

Cold Storage Agitation. In West Simcoe meetings were held at Collingwood, Stayner and New Lowell. Mr. Caston writes further: "Here again fruit culture, cold storage and transportation were the all-absorbing topics of the meetings. They are agitating for a cold storage depot and canning factory at each of these places. They were intensely interested in my cold storage talk, and wanted me to promise to go back again next year."

Institute Work in New Ontario. Mr. T. G. Raynor writes: Our missionary work in New Ontario was a decided success, and I believe the way is opened for immediate organization. Not only were the meetings well attended, but the interest taken—as shown by the questions asked and discussions which followed—was very satisfactory indeed. In fact it puts in the shade the interest taken in many places in Old Ontario. At Hymer, near Port Arthur, a new settlement of about two years' standing, 180 settlers have made their homes. Forty farmers and five ladies were at our meeting. They were very loath to let us go at 4.30, but we had a 16 mile drive to our evening meeting, so had to leave.

At Murrillo that night 70 farmers were present, and a similar interest was manifested. Next day we drove to Slate River, and had a good meeting at the schoolhouse. The 25 farmers present seemed well pleased. From

there it is 15 miles to Fort William, where they had made a special effort to get up a programme, and although it was a new thing with them and a Saturday night, there were 125 persons at the meeting. Mr. Peter McKellar, an influential citizen of Fort William, accompanied us to all of the meetings, and expressed himself as being well pleased with our work.

On Monday we reached Dryden, where there is a really good settlement. Here we found two old Ontario Agricultural College boys, and they had worked up really good meetings. 35 were out in the afternoon and 135 at night.

Mr. Drummond and I gave them all the help we could at these five meetings. At most of them we met settlers from Old Ontario, who told us they were trying to put into practice the methods learned at Institute meetings in past years, and we noticed that they were the most active in the discussions.

Excursions to Guelph. A number of the Institutes have already made arrangements to run excursions to the Agricultural College again this year. Some of them have already secured their dates, and it is advisable that others do so at once, so that they may not be disappointed in the day selected by their directors. We have had a lot of correspondence with the railroads and have insisted that they extend the time to two days where the Institutes have to travel more than 100 miles. They assure us that this matter will be thoroughly discussed at their meeting this week, and that we may expect a favorable reply.

Provincial Auction Sales. Institute members all over the country will be pleased to know the success which has attended the auction sales held recently at Guelph and Ottawa under the auspices of the Live Stock Associations. Some of the Agricultural Societies sent representatives to the sales with instructions to buy thoroughbred animals for the use of their members at home. The Superintendent also met many Institute officers at the sales, buying animals on their own account.

Fall Fairs and Exhibitions. The province is paying a great many thousand dollars every year to our Agricultural Societies to enable them to improve their agricultural conditions. In most localities the Act has been construed to read that they must hold a fall exhibition. This again has dwindled down in a great many places to a horse race, and it was interesting to note at the late meeting of the Canadian Association of Fairs and Exhibitions the trend of the discussion on this subject. It was clearly demonstrated there that fall fairs could be made instructive and educational, and at the same time the gate receipts be kept up. We were appointed Assistant Secretary and Editor of this Association, and are now working on what will be the first printed report of the Canadian Association of Fairs and Exhibitions.

Judges at Fairs. Probably the officers and directors of our fall shows have no greater source of trouble than that of selecting the judges. In order to get the best men for the work the custom has been to go far from home, and this has been found expensive. In the extreme eastern part of the province they propose next fall to arrange their own district and township shows in a series, and employ three judges who shall judge all the animal and vegetable products at the shows in that district. A schedule will be arranged for them, similar to the way in which Institute work is now conducted, and thus they will be enabled to secure competent men at a minimum cost.

Seed Fairs. Some of our Institutes, notably South Wellington and East York, have for a number of years been holding seed fairs, just before spring opened. The custom has been to offer prizes for the different varieties of seed grain used in that district, and to have them judged by some one competent to do the work. The Farmer's Institute members from the riding attend, and when the Fair is over they exchange grain, or make arrangements with the prize exhibitors to secure seed for their spring sowing. We are to-day in receipt of a bill advertising the Seed Fair in South Grey, to be held in the town of Durham, on Saturday, March 23. We are very glad indeed to see the Institutes taking up this work, and shall give them every encouragement in it. It is work that might well be done by the Agricultural Societies, but, as they have not done it, the Institutes have taken it up, and those who have done so find it one of the most profitable and interesting Institute meetings of the year.

Membership of Farmers' Institutes.

For 1907 Up to March 20.

During no previous year have the Farmers' Institutes of the Province of Ontario shown such large memberships at this time of the year. With a total of 17,726 members the officers are to be congratulated on the success of their Institute work. We hope before the end of the year that every Institute will show a membership greater than 100. As will be seen, one Institute has not yet reported, and this, together with the regular monthly lists from the live secretaries of the other Institutes, should soon swell the number past the 20,000 mark.

MEMBERSHIP LIST.

Addington	77
Algoma, E.	122
Algoma, C.	76
Amherst Island	37
Brant, N.	26
Brant, S.	83
Brockville	189
Bruce, C.	138
Bruce, N.	147
Bruce, S.	186
Bruce, W.	279

Carleton..... 79
 Cornwall..... 56
 Dufferin..... 257
 Dundas..... 235
 Durham, E..... 148
 Durham, W..... 192
 Elgin, E..... 244
 Elgin, W..... 173
 Essex, N..... 97
 Essex, S..... 200
 Frontenac..... 85
 Glengarry..... 173
 Grenville, S..... 126
 Grey, C..... 143
 Grey, N..... 231
 Grey, S..... 251
 Haldimand..... 290
 Halton..... 714
 Hastings, E..... 124
 Hastings, N..... 538
 Hastings, W..... 113
 Huron, E..... 304
 Huron, S..... 237
 Huron, W..... 328
 Kent, E..... 222
 Kent, W..... 109
 Lambton, E..... 82
 Lambton, W..... 333
 Lanark, N..... 208
 Lanark, S..... 147
 Leeds and North Grenville..... 137
 Leeds, S..... 191
 Lennox..... 116
 Lincoln..... 265
 Manitoulin, E..... 121
 Middlesex, E..... 257
 Middlesex, N..... 360
 Middlesex, W..... 190
 Monck..... 200
 Muskoka, S..... 98
 Muskoka, C..... 34
 Port Carling (Branch Mus. C.)... 16
 Muskoka, N..... 116
 Norfolk, N..... 374
 Norfolk, S..... 106
 Northumberland, E..... 300
 Northumberland, W..... 107
 Nipissing, W..... 70
 Ontario, N..... 213
 Ontario, S..... 351
 Oxford, N..... —
 Oxford, S..... 256
 Parry Sound, E..... 175
 Parry Sound, W..... 100
 Peel..... 484
 Perth, N..... 355
 Perth, S..... 190
 Peterboro', E..... 107
 Peterboro', W..... 177
 Prescott..... 89
 Prince Edward..... 217
 Renfrew, N..... 73
 Renfrew, S..... 93
 Russell..... 119
 St. Joseph Island..... 52
 Simcoe, E..... 151
 Simcoe, C..... 54
 Simcoe, S..... 106
 Simcoe, W..... 135
 Stormont..... 144
 Victoria, E..... 168
 Victoria, W..... 154
 Waterloo, N..... 253
 Waterloo, S..... 440
 Welland..... 173
 Wellington, C..... 332
 Wellington, E..... 239
 Wellington, S..... 187
 Wellington, W..... 198
 Union (Branch of W.W.)..... 88

Wentworth, N..... 183
 Wentworth, S..... 75
 York, E..... 163
 York, N..... 114
 York, W..... 191
 Total..... 17 226

Membership of Women's Institutes to March 16, 1901

Brant, South..... 62
 Bruce, West..... 38
 Grey, North..... 53
 Halton..... 26
 Hastings, North..... 22
 Hastings, West..... 39
 Huron, West..... 92
 Lincoln..... 8
 Northumberland, West..... 11
 Ontario, North..... 36
 Ontario, South..... 56
 Peel..... 34
 Peterboro', West..... 17
 Victoria, East..... 45
 Wellington, West (Union)..... 27
 Wentworth, South..... 32
 York, East..... 39

The Care of Manure and How to Apply It

By James McFadyean, Walton.

When I consented to read this paper it was only on the condition that you were to expect nothing new; nothing but what you have all heard before, and that I would merely open the subject and leave the discussion with yourselves, because that is whence the real benefit of these Farmers' Institute meetings is derived.

I need hardly tell you that at the present time in Ontario the question of the care and management of manure is becoming more and more important. I am sure it will not be disputed that our soil is not as productive as it was fifty years ago, when it contained all the stores of fertility that had accumulated for ages. But when I had given the subject some consideration I came to the conclusion that I, at least, could lay down no hard and fast rules by which every farmer could take care of and apply his farmyard manure. There are so many conditions to be considered, and so many circumstances to contend with, over which we have no control. However, a few general principles may be adhered to.

To my mind the proper care of manure commences with the cutting of all the straw, which can be done at the time of threshing at a very moderate expense. It may require the exercising of a little patience while the grain is still in the shock that it may become thoroughly dry, and cost us the battening of our barns that it may be kept so. Then we have all the straw in less bulk than that occupied by the sheaves, and in a position and under the most favorable conditions to be used either as a feed or bedding, to the best possible advantage. There is no better bedding than the cut straw, from the fact that a greater body of it lies close to the floor to soak up the liquid manure;

and, if we could be impressed with the value of liquid manure, we would, as far as possible have all stable floors water tight, so that the liquids might be preserved and mixed with the solids. Perhaps it would not be out of place to quote from a very reliable authority on farming the estimated value of the fresh urine from the different animals, as compared with the fresh solids:

Horses, solids	\$1.36	per ton,	urine	\$	8.62
Cattle, "	"	"	"	"	3.14
Sheep, "	1.59	"	"	"	11.31
Swine, "	1.79	"	"	"	3.06

You will see that the liquid is worth three or four times as much as the solids, and yet this is the very part that is allowed to go to waste.

This is an average, and estimated at the cost of the commercial fertilizer. But to make good manure we must feed good food. Manure made from feeding straw alone is barely worth the handling. The same authority tells us it is only worth from 70 to 75 per cent. to the ton of straw fed, while that from a ton of timothy hay is worth \$2.50. That from clover hay is worth \$4.14; from pea meal, \$5.40; from bran, \$6; and from oil meal, \$10.

FEED HAY AND COARSE GRAINS AT HOME.

Now, we have the maintaining the fertility of our land in view. We must feed our hay and coarse grain on the farm, and convert them into money through the medium of butter, cheese, and meat, and leave the manure heap so much the richer. If we sell a ton of cheese, say at 9c. per pound, we would receive \$180, and how much of the fertility of the farm have we sold? It takes about ten pounds of milk to make a pound of cheese; and the same authority tells us there is 96c. worth of fertility to the soil in a ton of milk; so, there will be \$9.60 worth of fertility in ten tons, and, if the whey be fed on the farm, its fertility is worth \$3.50. Thus the net amount of plant food sold would be worth \$6.10. Now suppose we sold clover hay, it would take thirty tons at \$6 to bring us \$180, and as clover hay, after being fed to stock, is worth \$4 a ton as a fertilizer, we have sold \$120 worth of plant food from the farm. And this is only another proof of what observation tells us, that the farmers who are carefully and judiciously feeding their hay and coarse grain are the men who are maintaining the fertility of their land, and making some money also.

Now, I think it is an acknowledged fact that stable manure spread over the barnyard and exposed to the action of the snow, rain and sun, becomes reduced in weight and value. The very essence of plant food is leached out if it goes where it is least needed. As it is taken from the stables, byres and pig-pens it should be mixed and kept under cover, or, what is second best, piled up in deep heaps. Manure is capital which we have to invest that does not improve with age nor increase in value with handling, and the sooner it is bearing interest the better for ourselves.

(To be continued.)

The Farm Home

The Man With a Happy Smile

He tried to scatter sunshine all along the way,

He sought to make the world a better place:

In spite of disappointments he went on from day to day

With a happy, cheery look upon his face.

He kissed the little children, he stroked their sunny curls,

He tried to fill the toiler's breast with cheer;

He had gallantry for ladies, he had smiles for all the girls—

He was trying to bring heaven nearer here.

He tried to scatter sunshine, he sought to be polite,

He tried to follow out the golden rule,

And, so people got to thinking that he wasn't balanced right—

They voted him a nuisance and a fool.

—Chicago Times-Herald.

Aunt Mary's Yorkshire Pudding —Excellent Marmalade.

By Laura Rote, O.A.C., Guelph, Ont.

Every housekeeper excels in making some two or three things, and, I always claim, they should give their successful experience, as far as possible, to the world that other women may, at least, have the opportunity of trying to improve.

When out to tea some time ago I made a remark about a very nice sweet pickle that was on the table.

My hostess laughed, and said she had gotten the recipe from a lady who had told her she wasn't to tell anyone how it was made. "You may be sure," added my hostess, "I made no such promise, and I thought her one of the insistent women I ever met. The idea of her not wanting other people to enjoy the good things of this life! She thought the pickle would get too common."

There is one dish we frequently have with roast beef, lamb or mutton, and that is Yorkshire pudding. It is easily and quickly made, is wholesome and nutritious, and is universally liked by everyone. Where there is a large family, and the meat bill has to be considered, it greatly helps the joint of meat to go farther.

I got my recipe from my old auntie in England, and it never fails. We call it "Aunt Mary's Yorkshire Pudding."

For every egg take three ounces of flour (equal to one small tea cup full), one half pint of milk and half a teaspoon of salt. Beat the eggs, add a little of the milk, then the flour and salt and gradually the rest of the milk. The batter should be smooth and thin. Two eggs makes plenty of pudding for a family of six.

When the roast of meat is about half cooked or more take it from the oven. I had a tinsmith make a wire rack with four legs an inch and a-half high. Pour a little of the fat from the meat pan in another pan into which the rack will fit. Pour in the thin

batter, put in the rack, place the meat on it, and put in the oven. If you have no rack, just put the meat right into the middle of the batter. It answers as well, but the pudding has not such a nice appearance. It bakes a nice golden brown in from half to three quarters of an hour. It puffs up very light, but always sinks when taken from the oven. Cut into pieces and serve hot with the meat and vegetables.

Gravy can be made from the dripping in the pan the meat was first cooked in.

This same batter baked in a well-greased pan or put into a bowl and steamed or boiled for one hour makes a good dessert when eaten with sweetened cream or milk or a thin boiled sauce.

A nice sauce for any pudding is made by heating some milk, thicken slightly with corn starch, sweeten and flavor.

ORANGE MARMALADE.

At this season of the year the supply of canned fruit and jelly is apt to be getting a little low and should be replenished by making a kettle of marmalade.

Marmalade is an especially nice addition to the breakfast table, and in the spring when one's appetite is apt to need a little catering too often proves itself the proper tid-bit.

After trying many recipes we have at last succeeded in getting one which would be hard to improve upon. We think it equal to the Dundee marmalade made in Scotland. It is a clear yellow jelly with the rind evenly distributed through it.

The directions must be followed accurately. No sweet oranges or lemons are used. A dozen oranges will make sufficient marmalade to fill thirty ordinary jelly glasses.

Get good firm bitter oranges. Peel off the yellow part of the rind in long strips with a sharp knife, just as you would peel an apple. Then remove the white part. Cut the yellow part into shreds as thin as possible. This may be done by placing half a dozen of the strips on top of each other and cutting with a sharp knife. Cut the white part into pieces about the size of peas. It boils transparent and forms part of the jelly. Scrape out the pulp from the sections, discarding the thick, tough core. Save all the pips, which should be put in a bowl and a pint of water poured over them. For every pint of cut up rind and pulp add two and one half pints of cold water. Let stand over night. Next day add the strained liquid from the pips. Put on the stove and when it has reached the boiling point boil quickly for three quarters of an hour, then remove from the stove. The following day weigh the boiled liquid and for every pound, add one and one-quarter pounds of granulated sugar.

Then boil for about an hour or

until when a little is cooled on a saucer it shows a tendency to jelly. Avoid too much boiling, as it is apt to give it a strong flavor. Put into glasses and when cold tie down.

If you have never made marmalade or have already made some from a different recipe, try at least half a dozen oranges by the above directions. I know the result will please you.

Be Careful, Girls.

Be careful what you sow, girls!
For every seed will grow, girls!
Though it may fall
Where you cannot know,
Yet in summer and shade
It will surely grow;
And the girl who sows good seed to-day
Will reap the crop to-morrow.

Be careful what you sow, girls!
For every seed will grow, girls!
And the girl who now
With a careless hand,
Is scattering thistles
Over the land,
Must know that whatever she sows to-day
She must reap the same to-morrow.
—The Deaconess Visitor.

Kitchen Weights and Measures.

A List the Cook Should Keep Close at Hand or Commit to Memory.

Four teaspoonfuls of liquid make one tablespoonful.

Four tablespoonfuls of liquid, one gill or a quarter of a cup.

A tablespoonful of liquid, half an ounce.

A pint of liquid weighs a pound.

A quart of sifted flour, one pound.

Four kitchen cupfuls of flour, one pound.

Three kitchen cupfuls of cornmeal, one pound.

One cup of butter, half a pound.

A solid pint of chopped meat, one pound.

Ten eggs, one pound.

A dash of pepper, an eighth of a teaspoonful.

A pint of brown sugar, thirteen ounces.

Two cupfuls and a half of powdered sugar, one pound.—November Ladies' Home Journal.

Books for Children.

We should furnish children, through the channel of books, just as beautiful conceptions, as high ideals, as are compatible with their age. No mere book of facts will give either of these. A fact which does not enfold an ideal or an inspiration is about useless to a child. Why should he know just how many thousands of eyes some butterflies possess, having at best but a faint conception of such great numbers, unless the fact can in some way awaken him to the marvels of creation?

We need to keep in mind the child's tastes, and buy him books which, while not fairy tales, are yet written in

such a pleasing and fanciful style that they will appeal to his imagination. The heart is the open portal to child nature. If we wish him to enjoy history, we must select those books which will in some way touch his feelings. Give a boy a hero, and he will love the book which enshrines his hero's life.

In giving a book we must remember that it is not, like a toy, a gift for the moment; even a child's playthings, Aristotle said, should have direct bearing on his life.—*Good Housekeeping*.

Hints by May Stanton.

Woman's Shirt Waist. No. 3784. To be Made With or Without the Fitted Lining.

Simple waists possess an inherent charm that no amount of elaboration ever outdoes. The smart model shown is made of white lawn with revers of all over tucking, white shield, collar and cuffs are of fine embroidery; but the same design is available for silk and



3784 Shirt Waist,
32 to 42 in. bust.

woolen materials and for all the range of cotton and linen stuffs. In the new shirt waist flannels woven with silk stripes it is admirable combined with taffeta; made from albatross it is eminently satisfactory and when unlined and made from batiste, Madras, Swiss muslin, dimity and the like, it makes an ideal summer bodice.

The foundation lining (which in this instance is omitted) closes at the centre front. On it are arranged the back, the full fronts and the shield—this last being attached at the right side and hooked into place at the left, while the waist closes at the centre, but separately from the lining. The fronts are extended, rolled back and faced to form the revers. The sleeves are in Bishop style with narrow cuffs of lace. At the neck is a stock collar that closes invisibly at the centre back. When the lining is omitted the shield is joined to the stock collar only, and attached to the fronts, under revers, permanently on the right and buttoned under the left.

To cut this waist for a woman of medium size, $3\frac{1}{2}$ yards of material 21 inches wide, $2\frac{3}{4}$ yards 27 inches wide,

2 yards 32 inches wide or $1\frac{3}{4}$ yards 44 inches wide will be required, with $\frac{1}{2}$ yard of all-over lace, $\frac{1}{2}$ yard of silk for revers, 1 yard of lace edging and $\frac{5}{8}$ yard of insertion to trim as illustrated.

The pattern No. 3784 is cut in sizes for a 32, 34, 36, 38, 40 and 42 inch bust measure.

The price of above pattern post-paid is only 10 cents. Send orders to "The Farming World," Confederation Life Building Toronto, giving size wanted.

Some Tried Recipes.

Amber Pudding.—Cook one-third cup of corn meal in one quart of milk for half an hour, then add one-half teaspoon of salt, one-half cup of molasses, one quarter teaspoon of cinnamon and one pint of sliced apples. Turn into a buttered dish, pour over one pint of cold milk and bake for four hours in a slow oven. When cold there will be a clear amber jelly all through the pudding.

Buckwheat Cakes.—Scald one-half cup of corn meal with one pint of boiling water and let stand until lukewarm, then sift in one cup of white flour, one quart of warm water or milk and six cups of buckwheat flour. Beat well, add one-half yeast cake dissolved in a little warm water, one-half teaspoon of salt and one-quarter cup of molasses. Let stand in a warm place for the night. Next morning add one-half teaspoon of soda dissolved in a spoonful of boiling water. To grease the griddle there is nothing better than a thick piece of salt pork, fastening it securely as possible to a fork by running the tines through the thick skin on the upper side.

Cocoa Cup Custards.—Allow one teaspoon of cocoa, one beaten egg, one scant tablespoon of sugar and one-quarter teaspoon of vanilla to each half-pint of milk. Dissolve the cocoa in a little of the scalded milk, cool partially, add the other ingredients and bake in a moderate oven.

Parsnips in Four Styles.—Parsnips are not as generally appreciated as they should be. After paring it is best to cut them into half inch slices, as in this way they cook more evenly. They should then be covered with boiling water, boiled for ten minutes, drained, fresh boiling water put in the saucepan and the parsnips allowed to boil slowly until tender, salt being added about ten minutes before they are done. If very old and strong the water may be changed a second time during cooking. When tender they are drained and are then ready for use in various ways. They can be floured and dried in a spider; are very good dipped in molasses before frying; can be served in slices or dice in a cream sauce, or may simply be re-heated in a little butter and seasoning; may be mashed with potatoes and served plain or made into cakes and browned; are good scalloped with crumbs and baked.

A Health Alphabet.

The Ladies' Sanitary Association of London compiled the following health alphabet a few years ago which every one might commit to memory and put into daily practice with profit:

A—s soon as you are up shake the blanket and sheet;

B—etter be without shoes than sit with wet feet;

C—hildren, if healthy, are active, not still;

D—amp beds and damp clothes will both make you ill;

E—at slowly and always chew your food well;

F—reshen the air in the house where you dwell;

G—arments must never be made too tight;

H—omes should be healthy, airy and light;

I—f you wish to be well, as you do, I've no doubt;

J—ust open the windows before you go out;

Keep your rooms always tidy and clean;

L—et dust on the furniture never be seen.

M—uch illness is caused by the want of pure air;

N—ow, to open the windows be ever your care;

O—ld rags and old rubbish should never be kept;

P—eople should see that their floors are well swept

Q—uick movements in children are healthy and right;

R—emember, the young cannot thrive without light.

S—ee that the cistern is clean to the brim.

In India, China, Japan and adjacent countries are about four hundred million people who rarely eat meat; yet they are strong, active and long-lived. Darwin is authority for the statement that the Andean natives perform twice the work of ordinary laborers, and subsist almost entirely on bananas.

As far back as Feb. 20, 1738, an "umbrella" was imported in the good ship "Constantine," as shown by the invoice, "for the proper account and risque" of Edwin Shippen, who, for aught we know, might have worn that nine-shilling "umbrella" completely out years before Jonas Hanway excited the ire of the London cabman.

The pennies do not consist of copper alone, there being in them two per cent. of tin and three per cent. of zinc to ninety-five of copper. They cost the Government about forty-two cents a pound exclusive of stamping, and there are 1418 in a pound, so that the Government makes a fair profit on every pound minted, since, while they are redeemable in gold, but few are presented. At present they are all coined in Philadelphia by law, because there was formerly no demand at all for them in the Southwest and in the far West. A bill is now before Congress permitting their coinage in other mints.

The Farming World

A PAPER FOR FARMERS AND STOCKMEN.

Publisher, D. T. McAINSH.
Editor, J. W. WHEATON, B.A.

The Farming World is a paper for farmers and stockmen, published weekly, with illustrations. The subscription price is one dollar a year, payable in advance.

Postage is prepaid by the publishers for all subscriptions in Canada and the United States. For all other countries in the Postal Union add fifty cents for postage.

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Receipts are only sent upon request. The date opposite the name on the address label indicates the time up to which the subscription is paid, and the change of date is sufficient acknowledgment of payment. When this change is not made promptly notify us.

Discontinuances.—Following the general desire of our readers, no subscriber's copy of THE FARMING WORLD is discontinued until notice to that effect is given. All arrears must be paid.

How to Remit.—Remittances should be sent by cheque, draft, express order, postal note, or money order, payable to order of THE FARMING WORLD. Cash should be sent in registered letter.

Advertising Rates on application.

Letters should be addressed:

THE FARMING WORLD,
CONFEDERATION LIFE BUILDING
TORONTO

Business Notes.

Horse show announcement on page 761.

Deering Manufacturing Co., top of back cover.

Wm. Ewing's reliable seeds for farm and garden, on page 738.

Fleming Bros., cure for lump jaw, are announced on back cover.

Wilson's Diamond Steel-Bearing Scales are giving good satisfaction. Advertisement on page 766.

Morris, Stone & Wellington, Fonthill, advertise choice seed potatoes on page 738. Send and get their prices.

Grimm Mfg. Co., of Montreal, are making many sales of their evaporators and maple sugar tools in Ontario. See their advertisement on page 766.

A full line of fruit and ornamental trees for spring, at lowest possible prices, can be had by writing to the Winona Nursery Co. direct. Advertisement on page 738.

Creamery Package Co., of Chicago, have opened up a branch in Cowansville, Que., for their Canadian business. Creamery men will do well to get their catalogue and prices.

A letter from E. E. Tilson to the E. R. Ulrich & Sons, Springfield, Ill., speaks very favorably of ensilage seed corn. Send your name and secure prices. Advertisement on page 738.

The Ames Plow Co., of Boston, advertise on page 760, their new universal hand seeders and cultivators, suitable for every class of work. Popular prices. Send for catalogue describing complete line.

J. A. Cooper, 200 Wellesley street, Toronto, is manufacturing a sprayer that will cover the tallest fruit trees. It works by air pressure, requiring no pumping while operating. The price will fit every gardener's pocket. Price from \$2 up.

Drs. Hess & Clark are advertising an instant louse killer through their agency, the Greig Mfg. Co., Montreal. Examine your sheep at once and you will probably find ticks. Do not wait on the weather, but secure a package of this instant killer. Advertisement on page 764.

Steele, Briggs Seed Co., advertisement appearing on front cover, show 28 years progress, results from supplying good seeds. Send your name for catalogue. It is mailed free to you. You can depend on receiving fresh and reliable seeds, not old and shop worn.

We would like to draw the attention of our readers to the advertisement of live stock ear labels of Mr. R. W. James, Bowmansville. These labels are both handy and profitable, and save an immense amount of trouble, vexation and anxiety, and sometimes the loss of an animal. Write him for particulars.

E. E. Berry, Forrestville, writes: "I have used a great deal of Gombault's Caustic Balsam, and have been very successful with it. What can you sell me the Caustic Balsam for by the dozen bottles?" This speaks well for the goods sold by Lawrence Williams Co., whose advertisement appears on page 762.

Farmers find it as important to have scales as the merchants do, and they should have a stock scale, so that they can tell the weight before sending to market. C. Wilson & Son, Toronto, send a free price list of their new stock scale, with rack for holding hogs and sheep, as well as other kinds of stock, by referring to this paper. An agent wanted in every township.

We owe an apology to the Dominion Wrought Iron Wheel Co. Their advertisement, by some oversight, was omitted in THE FARMING WORLD of March 5th. A party enquiring for their address while in the office of the Vessot Co., Front street, THE FARMING WORLD was looked at for the address, which happened to be the copy in which the advertisement was omitted. This is an illustration that shows the advisability of advertisements appearing every week.

QUESTIONS AND ANSWERS

Hessian Fly—Orchard Grass—Pasture for Hogs.

J. A. G., Petrolia, Ont., writes: "Will you please answer, through the columns of your paper, the following questions:

(1) What kind of grain crops of both spring and fall seeding does the Hessian fly attack?

"(2) What is the best time and proper quantity of orchard grass and meadow fox-tail to sow to an acre? Also what is the best proportion in which to mix these? Is it best to sow them with a grain crop?"

"(3) What is the best system of soiling crops for hogs so as to have it continue from early spring to late fall or the beginning of winter? Would it be best to turn the pigs into the growing crop or to cut it for them? At what stage of the growth of the crop is it most profitable to feed it?"

"(4) Would it be beneficial to sow Thomas-Phosphate with a spring crop to ensure a catch of clover on fairly rich soil? Ours is a clay loam. About how much should be sown to the acre?"

Questions (2) and (3) are answered by Prof. G. E. Day, Agriculturist, Ontario Agricultural College, Guelph.

(1) Wheat, rye and barley are all

attacked by the fly, and nothing will be gained by substituting the two latter for wheat. The Hessian fly cannot live on any other grains and on none of the grasses, so far as is known. For full description see "Studies in Nature" in FARMING WORLD of Jan. 1, 1901.

(2) Orchard grass, or, in fact, any grass, may be sown in the fall or early spring. When orchard grass is sown alone, between twenty five and thirty pounds of seed are sown per acre. meadow fox-tail about the same. I would not advise sowing meadow fox-tail with orchard grass, and would much prefer to use tall fescue instead. A mixture of about equal parts of orchard grass and tall fescue should make an excellent mixture for pasture. About twenty-five pounds of the mixture will be sufficient. I would prefer to sow either with fall wheat in the fall, or with an early sown barley crop in the spring.

(3) As to soiling 'crops for hogs, a plot of permanent pasture would prove valuable; then a plot of alfalfa would give extremely early green feed, and would also furnish considerable green food later in the season; next would come vetches or tares. The hairy vetch is a much stronger grower than the ordinary vetch. For late soiling crop, rape answers very well. As to time of feeding, clover and vetches would have to be fed while quite young, as the hogs do not care much about them when they get nearly full grown. These crops may be pastured, but on the whole I think I would prefer, if time permitted, to pasture only a part of them and cut the remainder. This is especially so in the case of rape. A reasonable amount of grain should be allowed the hogs while on pasture.

(4) The advocates of Thomas-Phosphate claim that it should be sown in the fall. It then has time to become incorporated in the soil and to improve the growth of the plants the following season. Applying early in the spring before all the snow is off would be better than applying with the grain crop. One of the strong points claimed for this phosphate is that it will make clover grow where nothing else will, but we presume to get results the directions of the manufacturer should be followed as closely as possible. From 300 to 500 lbs. is the amount usually recommended per acre.

Postman (delivering letter, the address of which was hardly readable): "Your name's obliterated."

Party: "Deed, it's nothing of the sort; it's O'Brien."

A Sprayer
for
\$2.00

Mechanically perfect in construction. Does the work as well as more expensive ones. Will cover tallest fruit trees. Sends out fine spray for field crops. It works by air pressure—no pumping while operating.

Send for free illustrated circular

J. A. COOPER,

200 Wellesley St.

TORONTO, ONT.

Western Dairy School.

The Last Monthly Meeting a Great Success.

An institution that is growing very much in favor among the dairymen and farmers west of London is that of the Western Dairy School, Strathroy, Ont. During the past two years the School has been in charge of Mr. A. Smith and an able staff of instructors, who are doing excellent work for the dairy industry of the extreme western part of this province. There has been a larger attendance of students during the term which closed last week than ever before, the total on the roll being 48, many of whom are makers of long standing who attended for the purpose of perfecting themselves in the business of cheese and butter-making.

A feature of the work under Mr. Smith's superintendancy has been the holding of monthly meetings of the patrons of the School and the farmers in the locality. These meetings have been largely attended. On Tuesday last we had the privilege of being present at one of these gatherings and the lecture-room of the School was jammed to the doors, a large majority of those present being ladies.

Mr. James Healy, of Strathroy, presided. The first speaker was Dr. Neu, of London, who discussed the importance of bacteriology and the influence of germ life on milk and its products. This subject is becoming of vital importance to the dairyman, who, to make a success of his business, must understand the influence of these lower organisms on milk and how to prevent their injurious effects upon it. Cleanliness is a most important factor in controlling these germs. While sanitary conditions should be strictly observed and practiced by everyone connected with the business from the maker to the patron, and especially the latter who has control of the milk when it is most susceptible to the growth and influence of these germs.

The next speaker was Dr. Mills, President of the Ontario Agricultural College, Guelph. He referred to the great change in public opinion in regard to the Strathroy School as compared to a few years ago, and put it down to the good work of those at present in charge of the School. All this educational work is most important and is making for progress and success in the great agricultural work of this country. We must have our factories manned by the very best makers, who should be paid wages in keeping with the work they do and the responsibility they assume. But no matter how good the maker may be he must have good milk or he cannot make a good quality of cheese. For this reason the patron had important duties to perform in feeding his cows and preserving the raw product (the milk) in the very best possible condition for cheese and butter making. Their duties in this particular necessitated the strictest attention to the little things connected with milking and caring for the milk.

Miss Miller, who has charge of the

home dairy at the school, discussed the making of butter on the farm in a practical and common sense way. There are three systems of separating the cream from the milk—by the shallow pan method, the deep or shot gun cans, and the cream separator. The last named was the best, and afforded a means of making a more uniform and a better quality of butter than either of the other two. If properly managed the deep or shot gun can gives better results than the shallow pan method. The main thing is to keep the milk cool. From 40 to 45 degrees give good results. The cream should be ripened evenly by stirring every time fresh cream is added. The churning temperature was not constant and was controlled by the condition of the cream. A thick cream could be churned at a lower temperature than a thin cream. Do not have too much cream in the churn, and always use a thermometer. Too much cold water should not be used and the cream should not be churned too sweet.

Mr. W. R. Graham, poultry manager Ontario Agricultural College, spoke of the value of the poultry industry to the farmer. Every farmer should endeavor to have his hens lay in winter when prices are highest. There was not much difficulty in obtaining eggs at this season if the business were properly looked after. Hens should have plenty of fresh air and exercise and warm roosting quarters. Selection was better than breeding in securing layers. Hens should have plenty of water. Most hens were overfed with grain. At the College one-third of the ration fed was vegetable matter. His plan was to feed a couple of handfuls of grain every morning, sown in loose straw, to about every ten hens, afterwards came roots, with grain in the middle of the afternoon. At night he fed a mash consisting of one-third clover-hay or clover-meal, one-third bran and one-third old chop. The demand for guaranteed new laid eggs was unlimited.

To get these, farmers must kill off the surplus male birds. An infertile egg will keep better than a fertile one. The dressed poultry trade was important. A hen should not be kept longer than two years, and should be fattened and sold in the spring rather than in the fall. White meat was more preferable for table use than the yellow or corn-fed meat. The Plymouth Rock and Wyandotte were the best all-round general purpose fowl. Pure-breeds will make better gains in fattening than the ordinary barnyard fowl. Chickens should be fattened quickly after September, and this could best be accomplished with a crate. His method was to feed two weeks in crate and then with cramming machine. He had found two of ground

\$5,000 in Prizes

CANADIAN

Military Tournament

and

HORSE SHOW

Toronto Armories

April 24, 25, 26, 27

Entries close Thursday, April 11th and should be addressed to

HENRY WADE, Secretary

Parliament Bldgs., Toronto

GEO. W. BEARDMORE, Chairman **STEWART HOUSTON, Manager**

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Foot of Jarvis Street, TORONTO, CAN.

corn, two of buckwheat and two of oats, wet with 1 pound of skim milk to 1 pound of grain, to be the most profitable ration for fattening chickens.

He was followed by Mr. Jno. Jones, of Bowmanville, Ont., who gave a short talk on growing corn and the silo, in which he strongly recommended every dairyman to adopt this plan of supplying his cows with good succulent food during the winter months.

After one or two short addresses by other parties interested in the work of the school, a most successful meeting was brought to a close.

Early Seeding in the West.

Can Eastern Canada Beat This?

Many Eastern people imagine that our great Western country is so cold and wintry like most of the year that to sow seed before the middle of May is never thought of. A speaker once said: "The Canadian Northwest is a country having winter all the year round with the exception of a little bad sleighing in July." But these views are seemingly fairy tales in the light of what has taken place in the Canadian West in recent years. The following item from a Western paper certainly disproves all these fallacies and puts Eastern Canada in the shade in so far as early seeding is concerned:

The Canadian Northwest Irrigation Company last week received a telegram from Bishop Brandley, of Stirling, Alberta, stating that Mr. Romeril sowed ten acres of wheat on Feb. 28 on land prepared in the fall at that place."

Co-Operative Pork Factory.

A Company Being formed at Bowmanville.

On March 14, a numerously attended meeting was held in the Town hall, Bowmanville, to hear the report of the committee appointed two weeks previously to make inquiries respecting the establishment of a pork-packing industry in town.

Mr. W. J. Bragg read the report from which we take the following extracts. They think that they can get English capital invested to the amount of \$25,000 to \$60,000.

The Ingersoll and Brantford factories are both too extensive for models to suit the requirements of Bowmanville, and they consider the

Palmerston factory one which could be more safely copied and which has a capital of \$100,000; capacity per week 2,000 hogs, now killing about 1,000.

Complete cost of buildings, \$25,000; of machinery, \$25,000; total cost, \$50,000. The report closed by recommending the meeting to take steps towards securing the establishment of a similar pork packing industry for Bowmanville. After a number of practical farmers and hog raisers had spoken, strongly endorsing and promising their support, Mr. James moved, seconded by Mr. Stevens, that Messrs. Thos. Baker, J. D. Hoar, W. J. Bragg, R. H. Gouch and D. J. Gibson, be a committee to draft conditions on which stock be subscribed, and to collect further information on the formation of pork-packing factories.

A Remount Depot.

The Hon. Mr. Dryden on Thursday last moved the following address to his Excellency the Governor General of Canada respecting the establishment of a remount depot in Ontario:

"The memorial of the Legislative Assembly of the Province of Ontario humbly sheweth:

"(1) That for many years prizes have been awarded for horses of different grades and classes at Exhibitions held in the principal centres of the Province, resulting in a great improvement in the horses now placed on the market, and that for several years army remounts and artillery horses have received the special attention of the Canadian Horse Breeders' Association.

"(2) That the experience of the officials of the British Government in selecting horses in Ontario for army purposes warrants the belief that the quality of our Canadian horses is of the highest order, and that for strength, endurance and sound constitution they are not excelled in any country. That by actual trial in the field during the conduct of the war in South Africa it was seen that these qualities were characteristic of Canadian horses.

"(3) That the establishment of a remount station in Ontario would so encourage our horse breeders to produce the best horses for army purposes that large numbers of choice animals would always be easily obtained for use in the British Army in cases of emergency.



"What we have we'll hold"
As every man who has purchased Page Fence knows he has the best Fence on the market.

"What we hav'nt we're after"
and if you are in the market for fencing we would like to have you consider the merits of the "Page" Fence. Coiled Wire, made in our own Wire Mill, woven by ourselves. Shipped already to put up.

The PAGE WIRE FENCE CO. (LTD.)
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GREGORY'S Warranted Seed

It matters not how rich the land,
Or hard the labor on it,
Vexation is the only crop
Bad seed will raise upon it.

All seed warranted to be pure and reliable, as per page 2 of catalogue. Our trade with market gardeners is immense; and market gardeners buy none but the best of seed. Write for our new Vegetable and Flower Seed catalogue—free to every body.

J. J. H. GREGORY & SON,
Marblehead, Mass.

"VEGETABLE GARDENING" FREE

Prof. S. R. Green's book, 340 pages, 120 illustrations, regular price, \$1.25, sent to all leading colleges, free to every one buying Seed Drill.

NEW UNIVERSAL HAND SEEDERS and CULTIVATORS



All styles. Only combination 1 and 2 wheel cultivator and drill made. Every way adjustable. All our tools have tough oak bent handles and are made of best material throughout. Popular prices. Send for catalogue, complete list and suitable book.

AMES PLOW CO., 32 Market St., Boston.

Farms For Sale

Rate—One dollar per inch each insertion.

150 Acres, half-mile from Royalton; Churches, High School and station, a fine two-storey house, 15 rooms, extra well finished, 3 barns, never-failing running water at the house and barns, 2 good orchards—a fine locality. Address E. W. W., Royalton, Vt.

FOR SALE FIFTY-ACRE FARM

North half of lot 7, on 6th concession, Barton, two miles from Hamilton. House of seven rooms; barn, with stone basement, cement floors. Five hundred pum and 50 apple trees; 10 acres wheat.

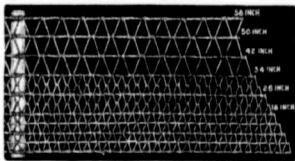
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TO RENT

For a term of years, farm of over 300 acres; first-class house and buildings, with modern improvements; suitable for dairy or stock raising.

Mrs. E. C. ATTRILL,
Ridgewood Park, GORDERICH, ONT.

Stand the Test of Years.



Ellwood Standard Style.

AMERICAN STEEL & WIRE CO., Chicago or New York.

ELLWOOD

Steel Wire Fences

Best at the start, but making them better every year. Hard steel wire heavily galvanized. ELLWOOD FENCES do all that is required of them. Six styles, 18 to 58 inches. Every rod

FULLY GUARANTEED.

Agents sell them everywhere, but if you cannot find an agent write to the makers.

"Your memorialists therefore pray that you will be pleased to cause this their petition to be laid before the proper authorities of the United Kingdom, and that in any other way that may be considered expedient by your Excellency the attention of the Imperial Government be called to the advantages to the British service as well as to Canada that would be likely to accrue through the establishment of a station in the Province of Ontario for the purposes herein set forth. And your memorialists, as in duty bound, will ever pray."

Good Prices for Jerseys.

The auction sale of the Spring Valley herd of Jerseys, the property of Mr. R. Reid, Berlin, Ont., took place on February 15 last, and was very successful, some tall prices being realized. The foundation of this herd was laid in 1893, utility being the first consideration.

The highest priced animal was the cow, Duchess of Berlin—127751—A.J.C.C., calved Aug. 13, 1896 which sold to Robt. Davies, Toronto, for \$245. Twenty-five animals were offered, and all sold at good figures. The following is a list of the more important sales made together with the purchaser:—

Heir of Berlin = 56000 = A.J.C.C., calved March 29, 1898, bought in at \$100.

Lucy of Glen Rouge = 100291 = A.J.C.C., calved July 16, 1893. Robt. Davies, Toronto, \$155.

Bashy Rose = 128410 = A.J.C.C., calved March 1, 1896, Robt. Davies, \$115.

Sweet Fairy = 128511 = A.J.C.C., calved Feb. 28, 1897, Robt. Davies, \$180.

Duchess of Berlin = 127751 = A.J.C.C., Aug. 13, 1896. R. Davies, \$245.

Princess Bonnie Bird = 142824 = June 20, 1897. H. G. Clark, Norval, Ont., \$50.

Lily of St. Lambert = 133984 = A.J.C.C., Oct. 10, 1897. B. H. Buel & Son, Brampton, Ont., \$50.

Bugle's Milkmaid = 124666 = A.J.C.C., Feb. 3, 1897. John Fennell, Berlin, \$75.

Luta of St. Lambert = A.J.C.C., Sept. 14, 1898. John McGugan, Rodney, Ont., \$40.

Princess Luta = 127752 = A.J.C.C., March 27, 1897. A. Lehman, Elmira, \$75.

Favorite Girl of Berlin = 152361 = A.J.C.C. June 9, 1899. Jno. McGugan, \$50.

Miss Bobs = 152834 = A.J.C.C. Nov. 26, 1898. R. Davies, \$180.

Heifer calf, A.J.C.C., Nov. 8, 1900. T. Porter, Mt. Dennis, Ont., \$30.

Heifer calf, Nov. 26, 1899. Geo. Brenner, Berlin, \$30.

Heifer, A.J.C.C., Jan. 29, 1900. H. G. Clark, \$75.

Heifer calf, A.J.C.C., Jan. 15, 1900. T. Porter, \$30.

Heifer calf, A.J.C.C., Oct. 22, 1900. Jno. McGugan, \$10.

Heifer Jessie, Sept. 1899. Geo. Wanless, Berlin, \$45.

"Flossy" = 15853 = A.I.H.B., Jan. 10, 1898. John McGugan, \$45.

Heifer, A.J.C.C., Jan. 31, 1900. R. Davies, \$55.

Bull calf, A.J.C.C., Jan. 23, 1901. B. H. Bull & Son, \$19.

Bull, Famous Pogis of Berlin. A.J.C.C., June, 1898. H. Smith, Mannheim, Ont., \$47.

Importing Farm Help.

The Department of Immigration for Manitoba has appointed Mr. Robert Adamson, of Virden, to proceed to

Scotland with a view to bringing out a number of experienced farm hands to Manitoba. The men will enter into a year's engagement with farmers throughout the province. The average rate of wages to be paid will be about \$170, but thoroughly experienced hands will receive \$180. Applications for men, accompanied by \$25 on account of passage money (which will be deducted out of the first three months' wages), will be received by Mr. Adamson, who will visit the following points on dates given, for that purpose: Portage la Prairie, March 11; Carberry, March 12; Brandon, March 13; Souris, March 15; Glenboro, March 16; Hartney, March 18; Napinka, March 19; Deloraine, March 20; Boissevain, March 21; Killarney, March 22; Morden, March 23. Applications mailed to Mr. Adamson at Virden will receive attention. It is expected the men, about fifty in number, will arrive here the third week in June.

Two hundred bushels of potatoes remove eighty pounds of "actual" Potash from the soil. Unless this quantity is returned to the soil, the following crop will materially decrease.



We have books telling about composition, use and value of fertilizers for various crops. They are sent free.

GERMAN KALI WORKS,
93 Nassau St.,
New York.

The Butter Scoring the Highest 98 POINTS

At the National Creamery Buttermakers' Convention at St. Paul
Minn., Feb. 18 to 22, 1901, was the

Product of the U.S. Separator

The butter was made by Edw. H. Webster, Ames, Ia., and scored One Point Higher than the butter entered by Mr. Quensvold, which received a Gold Medal.

Mr. Webster's butter was entered for scoring only, therefore could not compete or the prize, which explains why the Medal was given to the butter scoring the second highest and not to the butter that really was the Best.

Our "would be" competitor claims to have had 35 times as many entries at the convention as the U.S.; and for all the latter had so few chances, in comparison of winning, yet the Judges reported its product the Best out of 829 packages, another proof of the

Superiority of the Improved U.S. Cream Separator.

We also call attention to the

Gold Medal in the Gathered Cream Class

which was awarded W. C. Noble, So. Waterford, Me., whose butter was the product of The Improved United States Separators and Cooley Creamers.

Remember we are the pioneers in the Cream Gathering System and lead in that the same as everything else in the Dairy and Creamery line.

When you see our "would be" competitor claiming everything at the convention, just bear the above facts in mind, also that

The Butter Scoring the Lowest 75½ Points was The Product of the DeLaval Separator.

BUY THE U.S. AND HAVE THE BEST

Made in all sizes from 150 lbs. to 3,000 or more lbs. per hour. Write for illustrated circulars giving full particulars.

Vermont Farm Machine Co.

BELLOWS FALLS, Vt., U.S.A.

There is no duty on Improved U.S. Separators shipped into Canada.

When writing to or purchasing from our advertisers, it will be to your advantage to mention THE FARMING WORLD.

PURE-BRED STOCK

NOTES AND NEWS FROM THE BREEDERS

These columns are set apart exclusively for the use of breeders of pure-bred stock and poultry. Any information as to importations made, the sale and purchase of stock and the condition of herds and flocks that is not in the nature of an advertisement, will be welcomed. Our desire is to make this the medium for conveying information as to the transfer of pure-bred animals and the condition of live stock throughout the country. The co-operation of all breeders is earnestly solicited in making this department as useful and as interesting as possible. The editor reserves the right to eliminate any matter that he may consider better suited to our advertising columns.

Horses.

The estate of the late John Bell is offering some splendid bargains in stallions in this issue. They are offering for sale four Clydesdale stallions aged from four to ten years each. They are in first-class condition and should meet with a ready demand for breeding purposes. Those familiar with the work of the late Mr. Bell know that he was a very careful and intelligent breeder and importer, keeping nothing but the very best. Mr. G. F. Morgan, L'Amaroux, Ont., is the executor, and will be pleased to give full particulars regarding the animals offered.

Cattle.

At Ryland Farm, Taunton, P.O., Jas. Leask is breeding Shorthorns and Shropshires. His herd of Shorthorns number about forty, headed by the stock bull Allen, got by Miss Chief, dam, Maid of Strathallen 3rd. He has lately sold a yearling heifer at a long price to go to Charles E. Ladd, North Yamball, Oregon, U.S.A. This has been known as a beef and hog raising section of the country. In fact, hogs are being raised to such an extent that the farmers are considering the matter of establishing a pork-packing factory similar to that at Palmer-ton. Mr. Leask's 230 acre farm is one of the most carefully tilled and most highly cultivated farms in the section. He believes that the average farmer has altogether too much money invested in useless and cumbersome fences, and one of the first things noticed was the absence of fences and large size of his fields. He has also been very careful in making the best of all his manure, and also supplies humus and nitrogen by sowing clover seed with every grain crop. This gives a good growth of clover, even in the fields which are plowed up the next year, and well pays for the seed sown. He is very particular in the seed sown, and hand-picks the greater part of it. The results of this care are shown in the fact that he can sell his entire crop to the seed merchants at an advance of ten cents above market prices. He had just shipped a carload of Prussian Blue peas, which had yielded exceedingly well, and had another carload of mixed grains to ship, composed of White Russian wheat, duck-billed two-rowed barley and British Columbia white oats.

Our representative recently had the pleasure of a visit at Greenwood Farm, the property of Mr. Arthur Johnston, Greenwood, Ont. The first animal shown us was Cowslip 4'h, a fine, wealthy, big cow, of the late Mr. Cruickshanks' Braith Bud tribe imported in 1900. The next, Ruby 28 h, is probably one of the very best things in the herd of the same famous old family, sweet and feminine in appearance, and with the carriage of a lady. Next to Ruby 28h there is probably not a handsomer heifer in the herd than Strawberry 6'h, a true and genuine specimen of the late Mr. Cruickshanks' type, and belongs to his well-known Secret tribe and is a granddaughter of the famous Scottish Archer. Strawberry 7'h, a three-year-old, daughter of the previous cow, is a heifer of an amazing amount of wealth and substance, as perfect a Scotch type as can exist. She was sired by the show bull, Emperor. Flora 2nd, a fine, big heifer, of the late Mr. Cruickshanks' Orange Blossom tribe, has an immense spread of rib, and is of perfect color, with beautiful skin. Iris 2nd is a very fine specimen of the late Mr. Bruce's Rosewood family. Morning Sunshine, bred by Mr. Wm. Duthie, Collynie, a big, wealthy cow, got by Pride of the Morning. She is a capital breeder and has two fine sons to her credit in Mr. Johnston's herd, Lord Kintore and Great Archer, both sired by one of the very best sons of the famous

Scottish Archer. Lady Bell 4th, an immense cow, neat and smooth, in short, a show cow of a very high class, belongs to the well-known Jessamine or Jealousy family. She is probably the best cow in the herd. Lady Bell 7'h is the most beautiful animal in the herd, a perfect Shorthorn, probably the best female Mr. Johnston has ever imported or owned. Beauty 39 h, a big, handsome cow, of the well-known Kilburn Beauty tribe. Another cow of the same breed, and exceedingly like her, was sold at Mr. Ge'sugh's sale Ohio for \$1,200. Mr. Flatt, of Hamilton, was the buyer. She is at present nursing a beautiful roan heifer calf, sired in Scotland by a Marr bull, Beauty 42nd, a charming yearling heifer, daughter of the above cow and sired by Non-Pareil, a member of Mr. Campbell's most famous tribe. Beauty 43rd is also a Kilburn Beauty, a sweet, handsome heifer, full of quality and substance. Princess Thule 3rd is a most excellent member of Mr. Marr's famous Princess Royal tribe. She is a breezy looking cow, and Mr. Johnston assures us that she is one of the best breeders he ever owned. Princess Thule 4th, a daughter of the former cow, with as much Shorthorn character and cow character as we have ever seen in an animal. She is at present nursing a charming four months' bull calf by the imported bull Merryman, one of the stock bulls at Greenwood. Craibstone Beauty 3rd is another member of the Kilburn beauty tribe, sired by Great Craibstone, one of the most famous sires of recent days in Scotland, and a son of the great William of Orange. Lady McBeth 3rd, another very handsome specimen of the grand old Kilburn family, though only exactly two years old, she is nursing a perfect gem of a roan heifer calf nearly a month old, sired in Scotland. Maritana, a true cow, a true Shorthorn, and beautiful as a picture, belongs to Mr. Bruce's well-known Mayflower tribe. She is the dam of what is probably the best young bull in the herd at the present time, Keith Baron, by Prince of Archers, one of the greatest sons of Scottish Archer. She is within one month of calving to the same sire. Fortuna, a solid cow, a solid, red, big, thick, massive and short legged, thoroughly Scotch, and thoroughly Shorthorn, and a right good one. She was the dam of Robert of Bruce, recently sold at a very long figure, to head a herd in Wisconsin. She is within a month of calving to the same sire. Fortuna 2nd, a true cow of the genuine milking stamp and character, and a fine breeder. Her last calf went to head a herd in Kentucky in February. Bright Light was the first choice of all the Duke of Buccleuch's calves next to Lady Bell 7'h, probably the finest female in the herd, a big, handsome, good one, deep, massive, smooth and neat, with the gayest possible carriage and appearance. Of the home-bred females Fanny B. 33rd is certainly among the best; wide, deep, massive and beautiful, of the very finest of forms, a show heifer of the highest standard. The famous old Crimson Flower tribe is represented by no less than ten very fine specimens, of which Crimson Victoria 6'h is one of the very best of the tribe ever owned at Greenwood. She is a show heifer in just moderate condition. Crimson Fuchsia 17th and 18th are little less attractive. The fine old Cecilia family is represented by five excellent specimens. These, with many other almost equally well known standard tribes, make up the females of the herd to something over one hundred head, all in very nice breeding form and condition. There are at present over twenty bulls in the herd, including imported Royal Sovereign, of the well-known Kineller Claret tribe. Merryman is a show bull of very high quality of the grand old Marigold tribe, a pure Scotch, and almost a pure Cruickshank. Caesar is a roan yearling

Horses



The Estate of the Late
JOHN BELL.

4 CLYDE STALLIONS

2 four-year old
1 seven-year old
1 ten year old,

All in first class shape. Prices reasonable. Address, **G. F. MORGAN,** Station Agric urb, on C.P. & G.T.R. Executor, L'Amaroux, Ont.

Clyde Stallion For Sale

Five years old. No. 3099. Canadian bred, from imported stock. Also a number of SHETLAND PONIES. Terms reasonable. Apply to

W. T. PRANGLEY, Dresden, Ont.

CLYDEDALES FOR SALE



1 Stallion, 6 years old ;
1 Stallion, 2 years old ;
3 Yearling entries, 9
brood mares in foal to
good sires. Also several
fillies and a few young
Shorthorns. Farm a
quarter of a mile from
Burlington. Station on
G.T.R.

I. DEVITT & SON
Freeman, P.O., Ont.

Men Wanted.

Wanted two men, experienced with live stock and all kinds of farm work, must be good ploughmen, of temperate habits, careful workers and able to milk. Will engage by the year or for eight months. Prote-tant preferred. State wages and age.

Robert Emerson, Singhampton, Ont.

WRITERS, CORRESPONDENTS or REPORTERS

Wanted everywhere. Stories, news, ideas, poems, illustrated articles, advance news, drawings, photographs, unique articles, etc., etc., purchased. Articles revised and prepared for publication. Books published. Send for particulars and full information before sending articles.

The Bulletin Press Association, New York.

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GOMBAULT'S

Caustic Balsam

The Great French Veterinary Remedy.

A SAFE, SPEEDY AND
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SUPERSEDES ALL GAUTERY OR FIRING

Impossible to produce any scar or blemish. The safest best Blisters ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, Etc., it is invaluable. **WE GUARANTEE CAUSTIC BALSAM** will produce more actual results than a whole bottle of any liniment or opium cure mixture ever made.

Every bottle of Caustic Balsam sold in Warrick is given satisfaction. For both the Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
THE LAWRENCE-WILLIAMS CO., TORONTO, ONT.

Poultry

**S.C.W. Leghorns.
Pekin Ducks.**

Large, vigorous, great layers, breeding stock for sale. Single settings \$2.00. Two settings, \$3.00. Incubator lots, \$8.00 per 100. Duck eggs, 15 for \$1.00.

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**WHITE WYANDOTTES
SILVER WYANDOTTES
EGGS FOR SALE
W. H. MONKMAN, - Bond Head**

MR. JOHN G. HAMILTON

Breeder of
Barred Plymouth Rocks
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Black Minorcas.
Winners at the leading exhibitions.
Poultry and eggs for sale.

J. G. HAMILTON,
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BARRED PLYMOUTH ROCKS

(Exclusively)

Pens mated for pullet and cockerel breeding.

Eggs \$2 per setting.
J. W. PORTEOUS,
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CRYSTAL SPRING POULTRY YARDS

ELIAS SNYDER, Prop.,
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Barred Rocks exclusively.
A few choice cockerels for sale.
Eggs from prize-winning stock.
Correspondence invited.

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**Ideal Poultry
For the Farm.**

Eggs for hatching, \$2 per setting of 15.
Chicks, newly hatched, each 25 cts.
Breeding and Laying Stock at special quotations.
L. H. BALDWIN,
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SEED GRAIN

Lygovo Oats.
Beardless Barley Success.
As nice and clean to handle as wheat,

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95 PER CENT. hatches are often reported by those who use these incubators. One reason for this record is absolute uniformity of temperature in egg chamber. Correct instructions for operating; has fire-proof lamp. A great mistake it would be to purchase an incubator or brooder without first getting a copy of our 148-page Catalogue. Send 6 cents for Illustrated Catalogue of Incubator, Brooder, Poultry and Poultry Supplies. The Poultry's Guide, New Edition, 15c.

O. ROLLAND, Sole Agent for the Dominion
4 St. Sulpice St., Montreal

Our market reports are reliable and up-to-date. They are written specially for The Farming World and are of inestimable value to every farmer.

of the late Mr. Campbell's Fair Queen tribe. Novar is also a yearling of the Duke of Buccleuch's great Cherry tribe, a very promising young bull, which Messrs. A. & J. Chadbourne, of Ra'phton, Man., after visiting the leading herds of the province, purchased at a high price to lead their herd. Lord Kintore is probably the best bull in the herd, and certainly the highest priced. The sire and dam were both bred by Mr. Wm. Duthie. He is a son of the well known Prince of Archers. Meadow Lord is probably the best young bull in the herd, sired by the massive bull, Lord of the Meadow, out of Craibstone Beauty 3rd. He is a very promising show bull. Keith Baron, also by Prince of Archers, and out of the beautiful cow, Maritana, of Mr. Bux's Mayflower tribe. This young bull Mr. Johnston counts one of the best of his age he has ever imported, and he divides the honors of the show bull with Lord of the Meadow. Great Archer, full brother to Lord Kintore, also sired by Prince of Archers, and out of the Duthie cow, Morning Sunshine, an exceedingly promising calf, together with many others of almost equal merit and breeding, completes a list of animals

You Needn't be Without an Incubator

Natural Hen Incubator Plan \$1.00. Its \$10.00 short of a plaything too. A practical necessity. Circular free.—Wilbert B. Stevens, Shetland, Ont.

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IS THE POULTRY ON YOUR FARM A PAYING DEPARTMENT? IF NOT, WHY NOT?

We all know that it is absolutely necessary to continually bring in new blood if we wish to make a success of breeding any live stock on the farm. This rule applies to your poultry just the same as any other department; and for this purpose we make a special offer to farmers by offering them settings of eggs from our magnificent stock of White Wyandottes, Barred Plymouth Rocks and White Leghorns at very reduced prices. All our original stock was imported from the best breeders in the United States, and our present stock is second to none in Canada. Good healthy thoroughbred birds improve the look on the farm, bring more money into your pocket, and they mature earlier, lay many more eggs and demand a far greater price either dead or alive, and they do not cost a cent more to feed than mongrel stock.

Wyandotte Eggs, per setting . . . \$1.50
S.C. White Leghorn Eggs, per setting . . . \$1.50
Barred Plymouth Rocks (Hawkins' Strain) . . . \$2.00

We are willing to give farmers any information that we can in reference to their poultry, and all letters will be willingly answered. Address—

The Toronto Poultry Company
LIMITED
J. M. WILSON, Manager.
Davisville P.O., Ontario

SHOEMAKER'S POULTRY BOOK

and Almanac for 1901, two colors, 160 pages over 100 illustrations of Poultry, Incubators, Brooders, Poultry Houses, etc. How to raise Chickens, successfully, their care, diseases and remedies. Diagrams with full description of Poultry houses. All about incubators, brooders and thoroughbred Poultry with lowest prices. Price only 15 cents. G. C. SHOEMAKER, Box 190 PERRYPOLY, ILL.

BUFF LEGHORNS: CANADA'S BEST.....

My birds won at Johnston, N. Y., Ontario, Guelph, Woodstock, Stratford, Petrolia, Goderich. I believe I have as fine a lot of Buff Leghorns as were ever bred in Canada. Eggs \$2; two settings \$3; express paid.
P. H. ROSE, Waterloo, Ont.

Yorkshire Hogs; White and Barred Rocks;

Rouen Ducks and Bronze Turkeys.
Eggs from White and Barred Rocks and Ducks, \$1 per setting; Bronze Turkey eggs, \$3.50 per setting. T. J. COLE,
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Drumbo Poultry Yards

Offer Eggs at \$2.00 per setting from the following varieties:—Light Brahmas, Barred and White Rocks, Golden, Silver and Buff Wyandottes, Silver Spangled and Golden Pencilled Hamburgs, White and Buff Leghorns, Golden Seabright Bants, and White Crested Ilk Polish. See Poultry Notes in FARMING World of March 12, description of above.

J. J. PICKARD, Secretary.

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Eggs for hatching from high-class poultry. Ideal types of table fowl with great laying and exhibition qualities.

Barred and White Plymouth Rocks, Silver Laced and White Wyandottes.

Selected matings from noted breeders in the United States and Canada, including A. C. Hawkins, Lancaster, Mass. Prices, \$1.00 and \$1.50 per setting. Liberal reduction on incubator lots.

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The Safety Incubators AND BROODERS

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Shorthorns

SHORTHORN BULLS

Two choice bulls about a year old

FOR SALE

JOHN McNAB,
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Shorthorn Bulls For Sale, from 8 to 17 months old. Color, red. **JAMES BROWN,** Thorold, Ont.

GLEN CRESCENT SHORTHORNS AND OXFORDS.

A few shearing rams by imported "Royal Windsor" and one two-year-old bull for sale.

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SHORTHORN BULLS

Four **Bulls**, eleven months old, and a few **Heifers** for sale. All eligible for registration in American Herd Book.

Also **25 Yearling Grade Rams,** and 6 registered **Cotswold Lambs.**

JOHN SOCKETT, Rockwood, Ont. P.O. and Station.

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Breeders of

SCOTCH SHORTHORNS

(100 head to select from)

Offer for sale 14 young bulls, and cows and heifers of all ages, of the most approved breeding, bred to (imp.) Diamond Jubilee—28861—, at head o' herd. Farm one mile north of town.

Shorthorn Bulls For Sale

Three strong lusty sons of Aberdeen Jock 245031.

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ARTHUR JOHNSTON,

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Offers for sale at Moderate Prices:

11 Imported Bulls and Bull Calves.

36 Imported Cows, Heifers and Heifer Calves.

45 Home-bred Cows and Heifers.

13 Home-bred Bulls.

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R.R. Stations:

Claremont on the C.P.R.
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22 Miles East of Toronto

Lake View Farm OSHAWA, ONT.



1 Bull, 11 months, Color Red.
1 Bull, 12 months, Color Red.
1 Bull, 10 months, Color Red.

All Shorthorns. These Registered bulls were sired by Grand Sweep, an imported bull and half brother to the

noted British Statesman. He was got by Royal James. Terms on application.

THOS. ALLIN & BROS.

Lake View Farm, OSHAWA ONT

whose equal would be hard to find on the continent.

Upon arriving in Bradford we were driven out to his farm by Mr. W. D. Monkman, Bond Head, Ont., where he is breeding Ayrshires, Shrops and Berkshires, while in fowl he is raising White and Silver Wyandottes. The foundation of his Ayrshire herd was obtained from the College Farm at Guelph, and also from Mr. McCormick, of Rock on. In sheep he has been an especially careful breeder, and has had his reward in sweeping everything at the county fairs. His flock is headed by an especially good ram of Alfred Mansell's breeding. He has also been very successful at the leading exhibitions with his Berkshires, of which he has a number of exceedingly good individuals. He can also supply customers with eggs from both White and Silver Wyandottes. Within a few minutes' walk of Mr. Monkman's is the pioneer Shorthorn herd of the county, that of Messrs. E. Jeffs & Son, which was established in 1867. These gentlemen are breeding Shorthorns, Leicesters, Southdowns and Berkshires, and have young stock from the different breeds on hand for sale.

Poultry.

Hillsdale Farm Poultry Yards.—We recently had a very pleasant call at Mr. Bell's poultry yard at Angus, Ont. Mr. Bell has been breeding Bronze Turkeys, Rose Comb Leghorns and Bronze Plymouth Rocks for years. He has sold all over Canada, to many places in the United States, and also has sent a number to Ireland. The first-prize cockerel at New York poultry exhibition was of his breeding, also this bird's sire was first at the same show and was of his breeding. Though Mr. Bell's success is due principally to the intrinsic value of birds, still he attributes it in a large measure to his advertisements in THE FARMING WORLD, which he has used for the last thirteen years and it has never failed to sell his stock for him. Mr. Bell has been instrumental in organizing a turkey club for Ontario, of which he has been elected to the important position of secretary.

SHROPS.

I will sell a small flock of registered Shropshire sheep, now at Eastwood village, 4 miles east of Woodstock, cheap. **T. C. FALCON,** F.M., Toronto.

JERSEYS AND TAMWORTHS Young Stock For Sale

A. ELLIOTT & SON, Inglewood Farm
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YORKSHIRES and BERKSHIRES

Yorkshire boars and sows 8 weeks o'd from large sows of bacon type. Berkshire sows ready to breed. Barred P. Rock eggs also for sale.

JAMES A. RUSSELL,
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ROCK SALT for horses and cattle, in ton and car lots. **Toronto Salt Works, Toronto**

OAK LODGE YORKSHIRES



are acknowledged to be the best type of bacon hog to produce the ideal carcass for the best English trade. **CHAMPIONSHIP HERD AT TORONTO INDUSTRIAL EXHIBITION FOR NINE YEARS** also sweepstakes on Dressed Carcass at Provincial Winter Show. We have on hand now a large herd of different ages. Our prices are reasonable and the quality is guaranteed to be choice. Write

BRETHOUR & SAUNDERS,

Burford, Ontario

Shorthorns

Shorthorn Bull For Sale

"BARON BOBS"

Got by imported "Grand Sweep," out of "Lady Glamis 3rd"; by imported "Lord Rosebery," grand dam "Lady Glamis," by imported "Lord Glamis."

Fitted to head any herd. For particulars, apply to—
E. E. COOPER, OSHAWA, ONT.

MAPLE LODGE STOCK FARM.

Shorthorns For Sale.

A few choice young bulls, and some excellent heifers and young cows. Our cows were awarded first prize at Prov. Dairy Test, 1899 and 1900. Imp. Knuckle Daster, and Imported Sir Wilfrid, at head of herd. Leicester sheep, imported and home bred. The best. **A.W. SMITH,** Maple Lodge P.O., Ont.

HEREFORD BULLS

Four bulls fit for service this spring. Bred from Imported Stock.

R. J. Mackie, Oshawa.

Sheep

FARNHAM FARM

OXFORD DOWN SHEEP

All ages and sexes for Sale. Can spare a few ewes in lamb to imported Bryan.

HENRY ARKELL, - Arkell, Ont.

SHAWANOO HILL FLOCK

We breed for Mutton and Wool

Have for Sale

50 shearing rams, 30 shearing ewes, and 100 lambs, good quality and excellent breeding.

of **Oxswolds**

JOHN RAWLINGS,
Forest, G.T.R. **RAVENSWOOD P.O. ONT.**

THE MODERN WAY TO DESTROY SHEEP TICKS

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INSTANT LOUSE KILLER

It is not a dip, but a powder, that can be applied in zero weather. No lops, no muzz, no danger.



There is no profit in letting ticks sap the life out of your sheep during winter, and there is no longer any call for it. With **INSTANT LOUSE KILLER** the weather cuts no figure. Examine your sheep at once, and you will probably find ticks and lots of them. Don't wait on the weather, wait on the sheep with a package of **Instant Louse Killer**. Guaranteed.

Put up in one-pound packages, with perforated top, ready for use, very convenient.

PRICE 35 CENTS. Sold by dealers generally, or address

The Greig Manufacturing Co.
Canadian Agents, Montreal

Market Report Forecast

Office of THE FARMING WORLD,
Confederation Life Building,
Toronto, March 25, 1901.

The bad roads in some places and the big snow blockade in some of the northern counties has interfered with trade and is causing a little dullness in wholesale lines. Things are not likely to improve until more settled spring-like weather comes. However, notwithstanding this seasonable lull, prospects are bright for the general spring and summer trade. Money continues ample for all legitimate purposes at $4\frac{1}{2}$ to 5 per cent. on call, and commercial paper is discounted at the banks at 6 to 7 per cent.

Wheat.

The general trend of the wheat markets continues about the same. A Chicago despatch reports the war gossip as having a deadening effect on the wheat market, and that damage by the Hessian fly is already commencing to be recognized near the southern limits of the winter wheat belt. Should this prove correct it might serve to advance prices, but this is doubtful. The Cincinnati *Price Current* published near the southern limit of the winter wheat belt gives crop conditions of last week as follows:

"The wheat crop condition is good, with but few complaints coming in. Farmers' stocks of wheat on March 1 were 174,000,000 bushels and warehouse stocks 102,000,000 bushels."

Local markets have ruled quiet. At some Western Ontario points business is reported at $67\frac{1}{2}$ ¢ for red and white winter and in Eastern Ontario at $68\frac{1}{2}$ ¢ for No. 1 spring wheat. Quotations are 66 to 67 ¢ here for red and white, 66 to 67 ¢ for geese and $68\frac{1}{2}$ ¢ for spring at outside points. On Toronto farmers' market red and white bring 69 to $69\frac{1}{2}$ ¢, spring 71 ¢ and geese $66\frac{1}{2}$ ¢ per bushel.

Oats and Barley.

There seems to be a good demand in England just now for Canadian oats. The market on this side rules steady at $29\frac{1}{2}$ to 30 ¢ for No. 1 white east, and $28\frac{1}{2}$ to $29\frac{1}{2}$ ¢ for No. 2 west. On Toronto farmers' market oats bring $34\frac{1}{2}$ ¢ per bushel.

There is still some enquiry for barley for export, quotations being 42 to $43\frac{1}{2}$ ¢ at Ontario points. On the farmers' market here barley brings $45\frac{1}{2}$ to 47 ¢ per bushel.

Peas and Corn.

Canadian peas have advanced a little in the Old Country market. There is a steady feeling here at 63 ¢ north and west, and $63\frac{1}{2}$ to 64 ¢ middle freights. On the farmers' market peas bring 66 ¢ per bushel.

The corn market appears to be quiet. Montreal quotations are 49 to $49\frac{1}{2}$ ¢ for No. 2 American mixed in car lots on track. No. 3 American yellow is steady here at $47\frac{1}{2}$ ¢ in car lots on track, Toronto.

Bran and Shorts.

Ontario bran is quoted at Montreal at $\$17.25$ to $\$17.50$ in car lots on track, and shorts at $\$18$ to $\$18.50$. City mills here sell bran at $\$16$ and shorts at $\$17$ per ton in car lots f.o.b. Toronto. At the mills west of here bran is quoted at $\$14.50$ and shorts at $\$15.50$ in car lots.

Eggs and Poultry.

Receipts of fresh eggs are getting more plentiful. Montreal quotations are $12\frac{1}{2}$ to 13 ¢ in case lots for fresh eggs. Some are holding for a higher figure, thinking that the break-up of the roads may advance prices temporarily. Some dealers at Ontario points are offering fresh eggs at 11 ¢ f.o.b. These figures are about 1 ¢ less than last year at this time. The market here is steady at 12 to $12\frac{1}{2}$ ¢ for fresh eggs in case lots. The supply is plentiful. On Toronto farmers' market new-laid eggs bring 13 to 15 ¢ per dozen.

Car lots on track here are quoted at 29 to 31 ¢. On farmers market potatoes bring 30 to 35 ¢ per bag.

Hay and Straw.

Though there has been a decline in the English market the market on this side keeps firm. The Government is still buying hay for South Africa, which keeps prices up. At country points east baled hay is quoted at $\$10$ to $\$10.50$ for No. 1, and $\$9$ to $\$9.50$ for good to choice. Montreal quotations are $\$11$ to $\$11.50$ for No. 1, $\$10$ to $\$10.50$ for No. 2, and $\$8.50$ to $\$9$ for clover. Prices here are unchanged at $\$10$ to $\$10.75$ for No. 1, and

the farmers' market here hay brings $\$14$ to $\$16$, neat straw $\$9.50$ to $\$10$, and loose straw $\$6$ to $\$7$ per ton.

Seeds.

These are reported steady. Red clover is selling at Montreal at $\$12$ to $\$14$ per cwt., which is an advance of $\$1$ to $\$1.50$ per cwt. over the same time a year ago. Alsike is selling there at $\$12$ to $\$15$ per cwt., timothy at $\$2.50$ to $\$3$ per bushel, and flax seed at $\$2$ to $\$2.25$. Alsike is selling here in a jobbing way to retailers at $\$6.30$ to $\$8.50$ per bushel, red clover at $\$6.30$ to $\$7.75$, and timothy at $\$2.40$ to $\$3$ per bushel.

Apples.

There are very few first-class apples offering just now, but what few there are bring fancy prices. Car lots of fine quality are quoted at Montreal at $\$3.25$ to $\$3.50$ per bbl. Prices here are $\$2$ to $\$4$ per bbl. according to quality.

Cheese.

A few factories are reported to have begun making early fodder cheese for which they have been offered 8 to $8\frac{1}{2}$ ¢ per lb. by certain buyers. Last year the first fodder cheese sold at 11 ¢, and later on was contracted for at 10 ¢. It is hard to understand why buyers will take this stuff at any price, especially when they are crying down the making of it as they are doing this year. The *Trade Bulletin* sums up the situation as follows:

"There has been a better enquiry from the other side during the past few days, and to-day sales were reported to us of 1,000 boxes of finest Western white at $9\frac{1}{2}$ ¢; 500 do. at $9\frac{1}{2}$ ¢, and 500 do. at $9\frac{1}{2}$ ¢. A sale of choice Western white was also made at 10 ¢. Quite a lot of finest white and colored, however, has changed hands at $9\frac{1}{2}$ to $9\frac{3}{4}$ ¢. A lot of 1,000 boxes of margarine cheese was shipped through to England during the past week from Chicago. Several factorymen who refused $11\frac{1}{4}$ to $11\frac{1}{2}$ ¢, have recently sold in 500 and 700 box lots at $9\frac{1}{4}$ to $9\frac{1}{2}$ ¢."

Butter.

The butter market is quiet both in Great Britain and on this side, and prices have an easier tendency. The Australian supply keeps large, which is having a depressing effect upon the English trade. The situation at Montreal is given by the *Trade Bulletin* as follows: "The market is weak and lower, choice fresh creamery being offered from the factory at $21\frac{1}{2}$ ¢ here, and we hear of sales at 21 ¢ f.o.b. in the Eastern Townships for the best factories. There has been a little enquiry for export, sales of which have been made at 19 to 20 ¢ for creamery well kept in cold storage, and we also know of the sale of 60 packages of last fall creamery to an exporter at 17 ¢. In dairy butter further shipments have been re-

ceived from Manitoba, and the sale of 80 packages is reported at $13\frac{1}{2}$ ¢, which is the lowest price we have heard of. In former years most of this butter went to British Columbia. But things have changed. We quote Manitoba dairy $13\frac{1}{2}$ ¢ to 16 ¢ as to quality. A lot of choice fresh creamery has just been offered to a firm here from the West at $19\frac{1}{2}$ ¢ f.o.b."

Creamery butter is reported steady here at $21\frac{1}{2}$ to 23 ¢ for prints, and 19 to 20 ¢ for tubs and boxes. Dairy butter is more plentiful at 16 to 17 ¢ for pound prints, and 16 to $16\frac{1}{2}$ ¢ per pound for large rolls in a jobbing way. On Toronto farmers' market pound rolls bring 18 to 20 ¢ each, and large rolls 16 to 18 ¢ per pound.

Cattle.

The cattle markets have ruled steady during the week with some active business. At Toronto cattle market on Friday there was a large run of live stock, consisting of 1,145 cattle, 1,000 hogs, 444 sheep, and 35 calves. This large run was due to the snow blockade in the north, preventing drovers from getting their supplies in earlier in the week. The quality of the exporters offered was not as good as it might be for this season, and as a result no sales of loads of shippers were made for more than $\$4.80$, though well finished exporters are worth $\$5$ per cwt. There were very few choice butchers' cattle on hand. The demand was good and prices firm at quotations. Several dealers from outside points were on the market purchasing butchers' cattle, which influenced the market somewhat. The milch cows offered were anything but good, and prices ranged from $\$25$ to $\$45$ each. Veal calves are more plentiful, but the quality is not good. Good new-milk calves are in demand.

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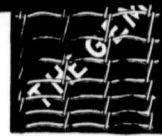
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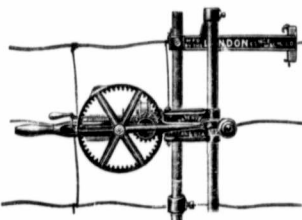
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Sheep and Lambs.

The market for sheep shows little change. On Friday prices were steady at \$3 to \$3.50 per cwt. for ewes, and \$2.50 to \$3 for bucks. Yearling grain-fed lambs sold for \$4.75 to \$5 per cwt., and barnyards at \$3.75 to \$4.25 per cwt.

Hogs.

Prices for hogs dropped a little during the week. Choice select bacon hogs, 160 to 200 lbs. each, unfed and unwatered off cars, sold at \$6.12½, light fats at \$5.75, and thick fats at \$5.62½ per cwt., with the market firm at these figures, and higher prices expected.

Montreal quotations during the week were \$6.12½ to \$6.25 for bacon hogs.

The *Trade Bulletin* London cattle of March 21st, re Canadian bacon, reads thus: "The market has been very quiet all week, under liberal supplies of home and foreign bacon under a disappointing demand. The steep decline in prices last week does not seem to have stimulated the demand, as further concessions have had to be made on the part of holders in some instances to effect new business. Canadian bacon is quoted at 52s. to 57s. for No. 1; 47s. to 52s. for No. 2, and 45s. to 50s. for fat and stout.

Horses.

The demand for horses at Montreal has been anything but active during the past week, and apart from a few casual sales of light roadsters, carriage horses and heavy draughts, there was not much business to report. A very fine dark brown saddle horse sold a few days ago for \$200. It stood 15 hands 4 inches, and was four years old. A beautiful carriage horse was also sold for \$325. Several light roadsters have sold at \$80 to \$130, although some of this class are held for \$160 to \$170. Heavy draughts range from \$150 to \$225, but the demand for this class of animals is light at the present, although the season is approaching when this class of animals should be in good demand for local requirements.

There was some improvement in trade at Grand's last week, though prices showed little advancement. There was a better demand

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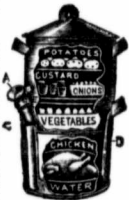
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 Between stations in Canada west of Montreal to Port Arthur and Windsor. Single First-Class Fare and One-Third to Montreal, added to Single First-Class Fare Montreal to destinations.
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 Going March 29th to April 6th, inclusive, good to return until April 16th, 1901.
A. H. NOTMAN A.G.P.A.,
 1 King St. East, Toronto.

and more horses were sold than for some weeks past. Over 90 horses, chiefly drivers, general purpose and work horses were sold at Tuesday's and Friday's sales. They came chiefly from the Ingersoll, Woodstock and Hagarville sections. Sound, young drivers brought \$80 to \$120; general purpose, \$85 to \$135, and draft horses, \$100 to \$140 each. *Statum*, a fast thoroughbred, with a record of 2.29 3/4, sold at \$217.50.

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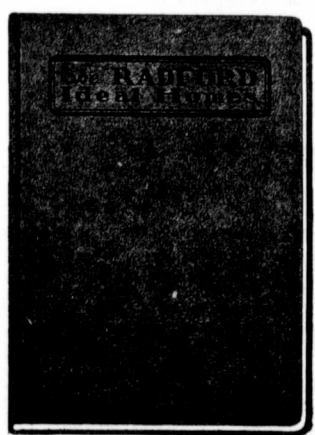
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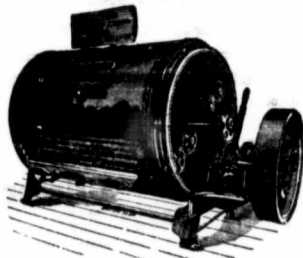
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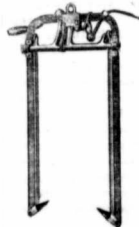
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