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LOT 2—Alice of Hatton (Imp.)
 —2517—9125.—Brown and White, calved March, 1893, bred by Walter S. Park, Hatton, Bishopton, Scotland; imported by John H. Douglas, Warkworth, Ont.
 Sire, Baron 5th of Knockdon—1945. Dam, Emily 4th of Hatton—5994, by Clansman of Drumlanrig—459; Emily 3rd of Drumlanrig—1505, by Beconsfield—177; Emily 2nd of Drumlanrig—857, by Winton—64; Nancy, by Adins.

LOT 3—Queen May — 2815.—
 White and Brown, calved January 10 h, 1895; bred by John H. Douglas, Warkworth, Ont.
 Sire, Dominion Chief—1214. Dam, Fairy Queen of Dunjop (Imp.)—2009, by Opposition of Dunjop—660; Auchindoun (in Scotland) by Redstone (in Scotland).
QUEEN MAY (2815)—Calved January 10th, 1902; bull calf; sired by Glencairn of Burnside (8153).

LOT 36—Blair Athol of Ste. Anne's—9995.—Yellow, Brown and White; calved August 3rd, 1898; bred by Robert Reford, Ste. Anne de Bellevue, Que.
 Sire, Glencairn 3rd (Imp.)—6955 (Vol. 3 Can.); grand sire, Glencairn 2nd—2801 (in Scotland). Dam, Primrose of Holehouse (Imp.)—8300 (Vol. 5 Can.), by Traveller's Heir of Holehouse—2903 (in Scotland).

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THE FARMING WORLD,
TORONTO, ONTARIO.

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By PROF. W. G. JOHNSON

Formerly State Entomologist of Maryland

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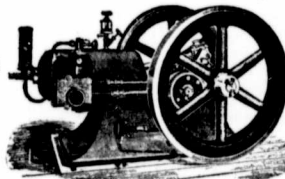
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The Farming World

For Farmers and Stockmen

VOL. XX.

MARCH 25th, 1902.

No 12

Postponed One Week

OWING to the unusually large edition of our Dairy number demanded since our first announcement and our desire to make that issue both mechanically and editorially thoroughly representative of one of Canada's greatest industries we have decided to delay publication until April 8th.

Our readers will be interested to know that among the contributors to that number will be, Prof. H. H. Dean, O.A.C., Guelph; J. A. Kuddick, Chief of the Dairy Division, Ottawa; J. W. Hart, Supt. Kingston Dairy School, G. G. Pablow, Instructor in Cheese-making, Kingston Dairy School; Miss Laura Rose, Instructor in the Home Dairy O.A.C., Guelph; H. W. Parry, Compton, Que.; J. F. Tilly, Dairy Supt. New Brunswick; J. W. Mitchell, Dairy Supt., Maritime Provinces; C. A. Murray, Dairy Supt., Manitoba. The issue therefore will be most complete, covering as it will the dairy interests of the whole Dominion.

Soil Cultivation

"The one fundamental labor of agriculture is the stirring and mixing of the soil." These words of Prof. I. P. Roberts, contain a fund of thought for every farmer. No matter how rich a field may be, or how much or how well proportioned its store of plant food may be, if the soil is not properly tilled and put in proper condition for receiving the seed the greatest success in crop production cannot be secured. This may be illustrated any day in the growing season by a drive through any part of the country. It holds true even on the Western prairie. In that part of Canada it is the farmer who pays most attention to the cultivation of his land who has the largest crops of wheat. The system in use when the virgin prairie was broken up, that of sowing the seed with as little preparation of the soil as possible, will not do to-day. And what applies to the newer portions of the country applies with much more force to the older portions.

Every experienced farmer, if he be at all observing must be convinced of the importance of proper soil cultivation. And yet how many there are who neglect this most important part in crop production. When the spring opens there seems to be such a rush to get the seeding done early that the question of having the soil in proper condition for the reception of the seed is of secondary importance. We have often heard farmers boast of being

through seeding before their neighbors, when they would have had better crop returns had they been several days later in finishing and had the land in better tilth. It is much better to be a few days later in sowing and have the land in proper condition for the seed than to sow earlier on badly prepared land. A mistake often made is that of not recognizing that certain soils require more cultivation than others. A heavy soil requires more cultivation to get it in good tilth than a light one.

In preparing the soil for the seed certain principles must be observed. The finer the soil the quicker will it come in touch with the seed and produce growth. This is an important point in crop production. And the smaller the seed the more necessary it is that the soil should be pulverized as finely as possible. In a coarse, hard, lumpy soil it is only with difficulty that seed, and more particularly small seed, can come in touch with the plant food, and often does not reach it. Small seed also does not require to be buried so deeply in the soil and consequently there is need of better preparation of the land so as to have the surface in as fine a condition as possible.

Every farmer should be familiar with the methods to adopt to get the land in good condition. There are those who advocate shallow cultivation and others who advise going more deeply and bringing up the subsoil. As to the best plan to adopt the farmer will have to be guided by the kind of soil. A strong advocate of shallow cultivation is Mr. Wm. Rennie, for several years Farm Superintendent at the Agricultural College. He certainly had splendid success from this method at the college. He claims that it is the only correct way to kill weeds and increase soil fertility, the only exception, when deep cultivation should be practiced, is when it is necessary to loosen a clay subsoil, when a green crop and farm manure have been plowed under. Prof. Roberts states that plants which throw out roots near the surface should receive shallow surface tillage, while those which root deeply may have deep tillage. The aim should be to prevent the water from rising above the earth in which the roots are feeding.

The Session's Work for Agriculture

The Ontario Legislature was prorogued last week. Out of the 116 acts passed comparatively few of them directly affected the farmer. Among those in which he is more directly interested are: An Act to amend the Agricultural and Arts

Act defining the boundaries and work of the Eastern and Western Poultry Associations; an Act to amend the San Jose Scale Act, and one to amend the Act respecting the barberry shrub.

The amendments to the San Jose Scale Act, introduced by Mr. Dryden, consist of the adding of a number of subsections, which provide that all infested nursery stock shall be either destroyed by fire or so treated by fumigation or spraying as to effectually kill the scale. The amendment also gives any township or incorporated village the right on the petition of fifteen or more ratepayers, the right to appoint one or more inspectors to enforce the San Jose Scale Act within the municipality. The Act relating to the barberry shrub, also introduced by Mr. Dryden, in brief prohibits the planting, cultivation or selling of the barberry shrub, and provides for the destruction of the shrub wherever at present grown on the petition of at least three owners or occupiers of land in the district. An Act, also introduced by Mr. Dryden, providing for protection of stallion owners, was, after being considered by the Agricultural Committee, held over for another session, awaiting further information on the subject.

Several appropriations were made for agriculture, the estimates as brought down in connection with the budget speech, providing \$212,176 for this purpose and the supplementary estimates an additional \$18,350, making \$230,526 in all. The chief new items are: \$3,000 towards an Eastern Ontario Winter Fair, conditional upon suitable buildings being provided; \$4,000 for special dairy instruction; \$5,000 to enlarge the Winter Fair buildings at Guelph; \$1,000 for sugar beet experiments, and \$2,000 towards the payment of expert judges at agricultural fairs. This last appropriation is to be used in connection with the forming of the local agricultural fairs into circuits, and the employment of expert judges. The plan for special dairy work has not yet been decided upon, but we hope to be able to give full particulars in our Dairy number.

How Chickens Will Pay the Farmer

At an East Simcoe Institute meeting, Dr. Alfred Boulbee, manager of the Canadian Produce Co., gave an address on poultry for export, from which we take the following:

"Eastern Canada is fitted to be the grandest poultry country in the world, we have a splendid climate

Our Western Letter

American Broncos. Canadian Wheat in the United States.
Cattle Embargo.

Winnipeg, March 17th, 1902.

for raising chickens, our summers are warm, dry, and suitable for young birds to grow in, and during our winters it is a case of the survival of the fittest, for the cold weather kills off all weaklings, if the farmer has not done so already, leaving the robust only, which gain vigor, vitality and stamina from the cold, so that when breeding season arrives the stock left for that purpose is in grand shape and the result is strong, robust chicks. The second advantage we have, is that we are near the sea coast, and therefore, convenient to shipping, which is a great point in both expense and safety in the export trade. Now why should chickens pay? My answer is an Irish one, in certain cases they won't, particularly if too much is attempted. I must caution very strongly in this matter, for I never knew or heard of a poultry farm paying. It is impossible where large expensive buildings must be erected, heavy wages paid for skilled labor, a quantity of expensive food bought, to make poultry profitable even on a large scale. The expenses eat up the profit, and whenever the numbers are large, disease, rats, hawks, including those that fly and those that walk, eat up what expenses leave. Poultry raising is for every farmer on a moderate scale, to the farmer who does mixed farming, grows his own feed, has sheds and barns for other stock, some spare time to give to his poultry, with lots of room, and a good wife or some bright boys and girls to look after what he has not time for, there is not a single branch of the farm that can touch poultry in the matter of profit. This is especially the case where opportunities for getting some of the many things chickens can be fed on in the way of waste product can be procured. For instance, if you are near a mill where rolled oats are manufactured, the oat dust off them is absolutely the finest fattening food chickens can be fed on; if you are near a creamery, skimmed or butter milk, sweet or sour, is invaluable, especially mixed with oat dust; if you are near a starch factory the refuse, so I have been told, can be profitably fed to chickens, though I have never tried it myself; if you are near a town or city get all the leavings, or waste from any hotel, butcher shop, boarding house, or college, and feed it to your chickens, it is grand food, and when in the near future every county has its beet sugar factory, the pulp from these will be sufficient to feed all our chickens, and it is said to be unequalled as chicken food. But to come nearer home, don't waste a scrap from your table or kitchen, or of the food left over from feeding other stock; the chickens will relish it and this change in food is what brightens them up, remember chickens can eat everything that you can, and a good deal that you cannot. This using up of waste products is the secret of most success and money making."

Not the least interesting question that came before parliament during the past week was the suggestion to increase the customs' valuation of the cheap horses brought into Canada from the Western United States. Mr. N. Boyd, M.P., himself a horse-breeder, fairly presented the views of the horsemen of Manitoba, and as shown by Mr. Walter Scott, the breeders of the Territories are heartily in accord with the movement. Quite aside from the matter of giving protection to our breeders against this competition there is an important reason for restricting the importation of these range horses from the States. They are a constant menace to the health of our stock. The Provincial Veterinarian of Manitoba has for years been raising his voice in protest against this trade. He claims that nearly every case of glanders occurring in Manitoba is traceable, directly or indirectly, to an imported cayuse. This alone is enough in our opinion to justify every possible restriction on this trade, since a forty dollars cayuse may communicate his disease to horses worth a dozen of himself. The question of giving the breeder a protective tariff may however be looked at from more than one point of view. The farmer asks for free implements; can he consistently demand protection for his own industry. But viewed from the standpoint of existing conditions the farmer has a perfect right to protection since the protective tariff is the rule in other industries of the country. It, however, this means of protecting the breeder from these inferior importations is considered impracticable, at any rate there should be an extended quarantine, the longer the better, to avoid the importation of disease, perhaps if the quarantine were long enough the necessity for a protective tariff would disappear. Ontario suffers from this trade as much as Manitoba and the Territories. Surely our combined efforts should effect something in the way of relief.

Grinding Canadian wheat in bond in the United States has at last reached a practical working basis. A formal application has, we are told, been made for the bonding of a mill for this sole purpose, at Minneapolis. The U. S. customs regulations require the payment of duty on the wheat or the export of all the products thereof, flour, bran and shorts, when ground. The difficulty hitherto has been the disposal of the by-products but, evidently, a market abroad has been found for these. The regulations require that such mill shall be used solely for grinding wheat in transit in bond. We have been looking for an expansion of the milling industry of Western Canada, but scarcely expected any

such development as the present. The fact that such a large part of our wheat is exported unground indicates that there is more profit in that line of trade than in milling. The expansion of the beet and dairy industries will, by increased consumption of by-products, tend to restore the balance in favor of the millers, and the competition of the American millers for our wheat may make its export unground less profitable and further encourage milling, all of which may be regarded with satisfaction by the farmer.

The British embargo on Canadian cattle has been so thoroughly discussed that we can add little or nothing to the Canadian argument of the case. The Board of Agriculture declares that their mind is made up to stay. They are not in the habit of changing their minds. The time has passed when any other view can be taken of the embargo than that it is a measure of protection to the British agriculturist, in lieu of a tariff protection, which latter the British consumer would not tolerate for a moment. Only some drastic measure can bring these gentlemen to our views of this matter. They have declared their intention of listening to no reason and we have very little to hope from any such movement as that set on foot by the Montreal Board of Trade. But once let the British consumer learn that this embargo is increasing the price of beef and he will raise such an outcry as will speedily lead to its removal. Let the agitation begin at Manchester and Birmingham instead of Montreal and Fortiarsshire and favorable results will be more probable. The gospel of Free Trade is strong in the hearts of the British workingmen; open their eyes to the real nature of the cattle embargo and you have given the Board of Agriculture a stronger opponent than the Scotch feeders and Canadian exporters combined.

Hon. A. G. V. Bulyea's efforts to secure relief for the farmers of the Territories have at last been rewarded with a measure of success, and there is now some chance of a large portion of the wheat moving at an early date. The commissioner has been untiring in his efforts and is to be congratulated on having at last aroused the officials of the railway companies to a sense of their responsibility to the country.

We regret that by a slip of the pen in a recent letter the mistaken impression was conveyed that the breeders of this Province were divided on the question of a stock commissioner. Mr. G. H. Greig was the unanimous choice of the Cattle, Horse, and Sheep and Swine Breeders' Associations. The dissenting associations were the Dairy and Poultry organizations.

England's Foreign Meat Supply

The food supply of Great Britain is not only a matter of interest to the people of the United Kingdom, but to the surplus food producers of every country in the world. Of the foreign food supply of Great Britain, that of meat is one of the most important, and it is becoming more so as the years go by. The increase in live stock in the United Kingdom does not keep pace with the increase in population. During the past ten years, cattle have increased only some 133,000 head while sheep have decreased to the extent of 3,200,000 head. In the face of this the population has increased 3,720,000, and in addition the tastes and requirements of the people demand more and better food, and they live better than they did twenty years ago. They are eating more meat, and that of a better quality. A large share of this meat supply is made up of frozen mutton. In 1885 the Australian frozen mutton trade began by a receipt of 300 carcasses. To such large proportions has this trade grown that in 1901 7,094,000 carcasses of frozen lamb and mutton were received from Australia, New Zealand and the Argentine Republic.

CHILLED BEEF AND LIVE CATTLE.

In supplying the British market with both chilled beef and live cattle the United States is far ahead of any other nation. An English correspondent of the Chicago Live Stock Report gives some figures relating to this trade, in a recent issue that are of interest to every cattle raiser in Canada. Taking the figures from the Board of Trade returns it is found that in 1892 the United States sent to Great Britain 1,951,887 cwt. of chilled beef as against a total of 127,750 cwt. from all other countries. In 1901 this had increased to 3,180,291 cwt. from the United States, and 1,328,455 cwt. from other countries.

The wholesale prices of this chilled beef at Smithfield have averaged during the past three years about 12c. per pound, running as high as 15c. and as low as 9½c. per pound.

As to the future development of this trade, the correspondent says: "The American chilled beef trade promises to assume larger proportions than ever in the future, although the shortage of the corn crop of 1901 may have the effect of lessening supplies this year. However, the companies engaged in the trade are looking ahead. They have gained a firmer hold on the British markets by securing control of additional premises at Smithfield, and reorganizing their provincial distributing agencies. As far as the importation of live cattle is concerned the United States has had matters very much her own way. She sent us in 1901 403,946 head, her only competitor be-

ing Canada with a total of 88,000 head. The total receipts of live cattle in 1901 were lower than they have been for six years. This is owing to our ports having been closed in 1900 to live cattle from the Argentine Republic consequent on the prevalence of foot and mouth disease in that country. In 1898 the imports from the Argentine Republic amounted to 89,000 head, but the loss of this source of supply has been partly offset by a substantial increase of receipts from the United States. Efforts were made by Argentine exporters in 1901 to have this restriction on their cattle removed, but there seems just now no more prospect of this being done than there was a year ago. The United States has also a very big lead in the imports of live sheep; in 1901 the receipts were 298,039 head as against 83,442 from all other sources."

Is there not food for thought for the Canadian cattle raiser in all this? Why is it not possible for Canada to secure more of this trade both in chilled beef and in live cattle? We can produce as good cattle here as in the United States, and if the leaders in this trade are as persistent and as energetic as were those who promoted the cheese industry in its earlier days, there is no good reason why Canada should not replace the United States in supplying Great Britain with beef to as great an extent as she does at the present time with cheese.

FROZEN MEATS.

Referring to the mutton and lamb trade, this correspondent states that the receipts from Australia during 1900 and 1901 show a falling off as compared with the years immediately preceding, due to the numerous shipments to South Africa. Notwithstanding, this division of trade, Australia sent last year 1,126,558 carcasses. From New Zealand, however, the receipts in 1901 beat all previous records, with one exception, and amounted to 3,234,119 carcasses. Prices for New Zealand mutton and lamb all through the year were considerably higher than for Australia, and more so in the case of mutton than of lamb.

As regards frozen beef, the receipts from Australia amounted to 243,348 cwt. and from New Zealand to 228,126 cwt. This is a considerable falling off in both cases from the previous year. But receipts from the Argentine Republic show a very large increase, the figures being 771,929 cwt. in 1901, as compared with 411,962 cwt. in 1900. Referring to the Argentine trade, the Live Stock Report's Correspondent says: "This business began about ten years ago, and while the offerings at first were rough and could not compare with United States or Canadian meat, the difference has been gradu-

ally lessened, until now we are receiving some beef from South America which compares favorably with any on the market. The breeders of the Argentine Republic early realized that having such an important market to cater to, the only way to compete successfully with their rivals was to import fresh blood from England for breeding purposes. This they have done, buying liberally of the first prize stock we could supply them with. Their cattle each year are improving in quality, and the meat is getting closer to the standard required on the English markets. As regards mutton and lamb, the same large increase occurs as in the case of frozen beef. In 1900 receipts amounted to 2,332,837 carcasses, and in 1901 to 2,634,105 carcasses. In prices throughout the year the Argentine mutton has been almost identical with the Australian, and the figures range from 2½d to 3½d per pound."

Don't Make Fodder Cheese

The cheese buyers are again to the front with a strong admonition to dairymen not to make fodder cheese. While we sympathize with this view and gladly give their communication space, we at the same time believe that this matter is largely in the hands of the exporters and buyers of cheese. If they would refuse to buy this fodder stuff which they claim to be so much inferior to the make later on, there would be little of it made. We have known cases, and not so long ago either, where buyers went to factorymen and urged them to begin making this fodder cheese promising very high prices for it. Where such inconsistency prevails there is not much use in trying to educate patrons to the view that it is in their best interests not to make fodder cheese at any time.

The communication we have been asked to publish is as follows:

The Montreal Produce Merchants' Association again desires to draw the serious attention of the Canadian Dairymen to the undesirability of manufacturing in Canada any cheese at all from fodder milk, either at the beginning or the end of the season, believing this to be in the interests of all classes, from the farmer to the exporter, connected with the manufacture of full grass cheese.

It requires no argument to prove that if our cheese is to be sold at remunerative prices during the season of production, it is essential that there should be no large quantity of the previous season's production left over at the commencement of the new season. It must, therefore, be in the common interest of all concerned, to see that no impediment is placed in the way of the free sale and free consumption of existing stocks of cheese during the whole of the period up to the arrival of full grass goods on the market in Canada, even at the cost of some immediate loss of

money. Now, the experience of recent years proves that the average world's production of full grass cheese, which is sold on the English markets, consists chiefly of Canada, United States and New Zealand makes, besides the English home make, and is as large as can be consumed in one season at profitable prices.

In advocating this policy, this Association does not forget the difficulty the farmer is faced with in disposing of his stable-fed milk. It would be better, if necessary, to throw this class of milk away rather than manufacture it into cheese; but such a sacrifice is not necessary. While it seems impossible to manufacture first-class cheese from stable-fed milk, it has been proved that by scrupulous clean-

liness and scientific methods, a very fine butter can be made from this milk, for which there is always a good demand for export, at good prices. This Association, therefore, strongly recommends the factory-men, as far as possible, to provide themselves with alternative machinery for making both butter and cheese, and where it is not possible for the farmer to work up his fodder milk into butter, it is strongly recommended that he should put it into stock. There is a substantial profit to the farm in feeding to the stock the skim milk from the creamery, or even the full milk where necessary, in the consequent enrichment of the soil, besides the price obtainable from the stock itself.

P. W. McLagan,
President.

The Movement for Good Roads

The Good Roads Convention at Ottawa, a short report of which appeared last week, was a fairly representative gathering, the attendance being made up of those directly interested in municipal affairs in the Province. We have not the space to give more than a few extracts from some of the important addresses delivered.

ROAD MAKING IN EARLY DAYS

Mr. A. F. Wood, ex-M. P. P., of Madoc, in showing what had been done in Hastings County in fifty years, gave one of the most interesting addresses of the convention. The following extracts from his address, as reported in the Weekly Sun, are of interest:

"It was in the latter part of the fifties, that the agitation for good roads in Hastings was begun. Up to that time, no attempt had been made to provide good roads by the county governments. There was no county, perhaps, to which permanent highways were of more vital importance to the people than to the County of Hastings. We had a front of forty miles along the Bay of Quinte, and our boundaries extended fifty miles to the north. This gave us an area double the size of Rhode Island and half the size of the State of New Jersey. All this immense territory found its market outlet on the bay. Even when the Grand Trunk was built it brought but little relief to our people, because it simply skirted the front of the country. The people who lived twenty, thirty, forty, and fifty miles to the north still had to cart all their produce to the front, and this carting was done over mud roads maintained by statute labor. The wonder is that the people of the north part of the country stayed with the work they had begun. A greater source of wonder is found in the fact that we have today one of the wealthiest counties in Ontario, and that we have no less than four hundred miles of excellent roadway, and which is year by year being improved in condition."

"Before these roadways were built there was a very wide difference in the values of lands at the front and rear of the county. Land was worth \$100 an acre at the front, while at the rear, land quite as good, was worth but \$10 per acre. How is it to-day? Last week a farm twenty-eight miles back from the front, containing one hundred acres, with ordinary farm buildings, was sold for \$7,000 cash. The owner of another farm near by, with brick buildings on his place, refused \$8,000. The value of land at the rear of the county has increased in value in the last half century at the ratio of ten to one, as compared with the front of the county. Why this change? It is true that of late years there have been built railways running north and south, and the C. P. R. crosses our county from east to west twenty miles from the front. But before these railways came the good roads had done their work, and they were the chief factor in causing the enormous increase in the value of property in the northern part of the county. This statement is sustained by the agent of the Canada Company, who tells me that he values land at the rear end of our county at double the price of lands at the rear of the adjoining Counties of Addington and Peterboro, this difference in valuation being due to the fact that we have good roads, while the adjoining counties have not."

MAINTAINING ROADS IN WELLINGTON

Mr. James McEwing, Drayton, discussed the building of roads in Wellington County. "Nearly fifty years ago a number of road companies secured charters and built roads. These were not for the public convenience, and as the years went by it was felt necessary that some better system should be established to enable people to reach the markets. The county council decided to purchase these roads and issue debentures for the cost running from ten to twenty

years. The total cost of 145 miles which they bought and built, was \$271,000, or in round figures, \$2,000 per mile. That was large as compared with \$500 and \$600, but a considerable portion covered the cost of bridges, culverts and all that sort of thing. Some of the townships had borrowed money and built roads some few years before, and the county also assumed these and the liability of the townships.

"The matter of maintaining these roads in the years which have gone by since varied somewhat, but taking a period of ten years, the last ten, there have been expended on these county roads an annual sum of \$10,727. That is what the county spent on that 147 miles, including bridges, of which there were several in their county, culverts, wire fences and everything else in connection with the expenditure on these roads."

COST OF BAD ROADS

Mr. Andrew Pattullo, M. P. P., dealt with this subject in his practical way. The Province and the municipalities of the Province combined have given \$16,000,000 towards the building of railways in Ontario. But of what avail are the big arteries of commerce, created at such enormous cost, if the little arteries are wholly neglected? Remember that, despite the building of railways, 19-20ths of the farm produce of Ontario still finds its way to market over the ordinary rural highways. We are making \$25,000,000 a year out of our export of dairy products, but \$1,000,000 is lost by the extra cost, owing to bad roads, of carrying the milk to the factory and the cheese and butter to the station. A good deal is heard to-day of the beet root sugar industry. It is inconceivable that this industry can be made a success in the present condition of our rural highways. Towns that are giving bonuses to this industry could spend their money to better advantage in improving the highways leading into the country. They would thus benefit themselves and the farmers on whom they depend.

The Hon. Mr. Fisher also spoke on this subject. He stated that the price of that which a farmer has to sell is based upon delivery at the point at which it is sold. Every dollar added to the cost of delivery means, therefore, a dollar less in the farmer's pocket. In dairying, which, in a large part of Canada, is the greatest of our industries, the condition of the roads is a matter of special consideration. Good roads are important to this industry now; the importance will be increased if, in addition to hauling milk to factories, we are soon to see cheese, after making, hauled to central depots to be cured in cold storage. As it is now, five per cent. could be cut off of the cost of assembling the milk by an improvement of 10 per cent. in the condition of the roads, and if the roads were improved by 50 per cent., the relief

in transportation would be consequently increased. You can form an idea of how much that would add to the profits of an industry which is profitable even under present conditions.

COST OF BUILDING ROADS

Mr. A. W. Campbell, Deputy Minister of Public Works, Toronto, delivered several important addresses. His address on the building of roads was most practical. He referred to the good work done along this line in the United States. There the good roads train had originated. This feature was copied in Eastern Ontario to some extent, last year.

"We started out," said Mr. Campbell, "what we called good roads trains and demonstrated in several localities exactly what a good road cost, but we found the cost to differ largely in different counties. We found this under three different heads—first, the character of the soil and whether or not it required more than ordinary surface draining; second, the distance we had to haul the material; and third, whether gravel or stone should be used in construction. As a general thing, we expect to use the material most available.

"In the central counties gravel is abundant, and where good clean gravel is available I believe it will make as good a road for ordinary rural purposes as it is possible to construct. In other places gravel is scarce, but stone in the form of boulders and rocks is abundant, and it is cheaper to crush that than to haul in gravel. The availability of material, character of the land, and the cost of labor in different sections, has much to do in fixing the cost of the work. So it will be useless for me to try to mislead you by saying what I thought the cost of material for a road should be, but I have prepared a schedule showing the quantities of material for roads of different widths and depths from which any one can compute what the cost per mile would be. Of course the widths and depths vary according to conditions. A mile of road in the vicinity of Ottawa will of necessity cost much more than a mile of road 25 miles in length in one of the distant townships where the traffic is not nearly as great as it is here. I have prepared this schedule to show these dimensions, and they will be verified, I fancy, by gentlemen who have favored us with their presence to-day. It is useless for me to read this schedule in its entirety, but copies may be obtained from me. I give the dimensions in depth from 7 inches to 18 inches, and in width of material from 7 feet to 18 feet, giving for each of these dimensions the number of yards of material that will be required for the road.

"Now taking a road with an average width of 9 feet and an average depth of 8 inches, which means about ten inches at the centre and

6 inches at the side, it will require 1,100 cubic yards of either stone or gravel to the mile. Taking the average haul as we found it at about two miles, the cost per yard would be about 65 cents. This means \$710 per mile. Now the average cost of grading a road under ordinary circumstances (an old road), that is re-shaping it and putting it in proper form to receive the material, is about \$50 per mile—that is including cleaning ditches and the amount of tile required to properly drain the road. This makes up the cost to about \$750 per mile. That is for a new road out and out; but our main roads, as a general thing, have been receiving an application of gravel and stone for years, and many of them have sufficient on their surface to make a good road if it was put in proper shape. I know many roads which would be good roads to-day if only provision had been made for carrying off the surface water, which is the ruination of a road. A clay road is an ideal one in summer, and when the water is dried off can be built at possibly \$60 to \$75 a mile and kept in good shape, simply by properly grading it, making outlets and discharging the water through the natural channels properly by under drains, where springy, mossy, or boggy, and then in the spring after the frost has gone out and the road-bed has become rutted by passing wheels, run the planer or grading machine over it, filling in depressions and re-crowning it. Then you have a first-class clay road for the remainder of the year, and in a few years it will have become serviceable for the average requirements of the average municipality.

"We have many roads in the Province which are main leading roads, subject to all the traffic to large towns, and therefore, there is a great expense in keeping them up. We must place on their surface something more substantial and durable than clay and must put on gravel or stone. Here the cost varies according to the number of yards of material required by varying depths and widths. To give any average cost would be misleading. This schedule will show that the cost of a road of the dimensions I gave just now will be \$750 per mile, but at the same time a stone or gravel road of the same strength constructed near the material might be built for \$350 a mile. The average for a crushed stone road of these dimensions would be \$850. I do not wish to confuse you by quoting a lot of figures nor taking up time by reading this, but would simply say that by taking them as a margin you will be helped to compute the cost yourselves. Many roads are higher at the sides than in the centre. In such cases the shoulder should be shaved off, in this way restoring the crown and at the same time preserving the material already there, which possibly measures 12 inches deep, and which is a good road only that the crown is not

sufficient to shed the water. Then all that is necessary is to lay a coating of two or three inches over the centre, filling the ruts with good broken stone or screened gravel, and that can be done for from \$100 to \$150. I can easily drive over any road and give you a nearly exact estimate of the cost but it would be absurd for me to try to estimate costs here. I cannot tell Mr. Anderson what his 300 miles will cost, but if his council will ask me to go with them, over the road, I will undertake to say within a few dollars what the aggregate cost will be. There is no use in telling you things that are not reliable—that is not what I am paid for—but when I do give you an estimate I will stake my reputation on it. Without local knowledge I cannot give you any information. This applies whether it is a case of telling you the cost of a new road or estimating what it will cost to keep a road in repair."

Simcoe County Roads

There is considerable agitation in Simcoe County for better roads, and the county council's plan for taking over and reconstructing the main roads of the county is receiving much attention. The Centre Simcoe Institute has taken the matter up and is holding a series of meetings to discuss the question. Legislation introduced into the Legislature this session simplifies the financial side of the scheme. By it county councils are empowered to raise by debenture the whole sum necessary for the construction of county roads, and to spread the payment over thirty years. This is the same plan as advocated by R. H. Jupp, of Simcoe County, as the best for that district. There is a great saving by this plan.

Taking Bees from Winter Quarters.

Mr. R. F. Holterman, Brantford, Ont., in a recent issue of "Gleanings from Bee Culture" discusses in a practical way the taking of bees from winter quarters. He says:

"To know the best time at which to set out bees requires very careful observation, and is, in a measure at least, partially guess-work. The purer the air of the cellar, and the better the bees are wintering, the longer they can be left in the cellar. If I find certain colonies restless I aim to set these out, also others necessary to move to reach those restless. When are these to be set out? Just as early (in our latitude in March) or quickly as the bees can get a good cleansing flight. Activity exhausts vitality. When the intestines of the bee are charged with excrement, and it becomes diseased, it can not rest; and the longer that condition prevails, the more vitality is exhausted. Under these circumstances the sooner the bees get a flight the better. Even should it be very cold afterward, the bee has disposed in flight of the matter which keeps it

restless, and it can settle down quietly in the hive. I have seen colonies so treated do fairly well when those in apparently the same condition left in the cellar perished. However, I gave the bees a warm cushion on top. Top protection is important."

After dealing with the conditions that might make it necessary for bees to be set out early or later, Mr. Holterman says:

"To recapitulate briefly: Set bees

out as early in March as they can get a cleansing flight, if they become diseased. If quiet and healthy, leave them in the cellar until the first pollen appears. The poorer they winter, the fewer should be set out at one time. Set out when the indications are that it will be warm and fair, but before it is. Keep in, by means of shade, or even close up those that have had a flight, and might rob those having a first flight."

Correspondence

Experimental Union Tests in Agriculture.

Editor THE FARMING WORLD

The Ontario Agricultural and Experimental Union is prepared to distribute for experimental purposes good seed of leading varieties of farm crops to an average of sixty-five farmers in each County and District of Ontario. Each person 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 directly after harvest should select the exact experiment desired and apply for the same as soon as possible. The material will be forwarded in the order in which the applications are received until the limited supply is exhausted. Although material for not more than one experiment will be sent to each person, it might be well for each applicant to make a second choice for fear the first could not be granted.

LIST OF EXPERIMENTS FOR 1902.

1. Three varieties of oats.
2. Three varieties of six-rowed barley.
3. Two varieties of Hulless barley.
4. Emmer (Speltz) and two varieties of spring wheat.
5. Two varieties of buckwheat.
6. Three varieties of field peas for Northern Ontario.
7. Two varieties of bug-proof 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 feeding purposes.
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 thousand headed 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 early corn for husking.

26. Fertilizers with Swedish turnips.

27. Growing potatoes on the level and in hills.

28. Two varieties of very early potatoes.

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 25 or number 26 experiment will be forwarded by express, and for each of the others it will be sent by mail.

C. A. Zavitz,

Agricultural College,

Guelph, Ontario.

Guelph, March 15th, 1902.

Plan for Dairy Test at St. Louis.

Editor THE FARMING WORLD

Every owner of pure-bred dairy cows should wake up to this subject, especially if he owns a valuable cow that may be sought after for this test. He should endeavor to have the plan such as he is willing to submit his cow to. If he fails to do so he should not withhold his cow, however objectionable to him the plan may be.

I was a member of the committee for securing cows for the Chicago World's Fair test. Our experience was fruitful of lessons. We visited thirty-eight states, travelled thousands of miles and put in seven weeks of hard work. Many of the leading breeders of that day, directly, or indirectly, refused their cows. They gave as a reason that cows of great value ought not to be submitted to conditions that endangered their future usefulness.

I quote from an address of President Horr, at the annual meeting of the Holstein-Friesian Association in 1893. "Many of the breeders living in the east refused absolutely, and so did many of the Western breeders, to furnish any cows, or else they had none that were coming in at the right time. We had in charge a campaign which it was our duty to see prosecuted to a successful termination, and we found that we had to go to the Chicago Exposition with inferior animals and cows that were not fairly representative, or else stay away. We also found that the expense of taking these cows there and of hiring suitable superintendents was very much larger than we had anticipated, and that

our treasury was hardly in the condition to make it prudent and conservative for us to commit this Association to such a large expense."

Every one will agree with me that such experiences ought not to be repeated. The remedy is in securing a plan on which our breeders will generally unite.

To this end there should be free discussion of the subject. I know of no better place for it than in the columns of agricultural press. The breeder who is not free to use his influence for the best possible plan, should not be excused for that reason in withholding his cows from the test. "Silence gives consent" is an adage in common use. I venture to open such a discussion and hope that others will follow.

The best plan for the test, in my opinion, would be one modeled after the form of the Ohio State plan. This plan has been successfully used for several years under the auspices of the Ohio State Board of Agriculture. Its leading features are, testing of each individual cow at the home of her owner, by representatives of the State Experiment Station, and finally the exhibition of all the cows together for a fixed period at the State Fair.

There would have to be widely different details at the St. Louis Exposition. I will suggest a few details tentatively.

First, the period over which the test should be extended ought to be a long one—probably ten months.

Second, that at least three tests of two weeks each should be made at intervals during such a period. I will suggest that the first should be commenced sometime between 14 and 28 days after freshening, the second between 114 and 128 days after and the third between 214 and 228 days after.

Third, all the tests be made under the supervision of two representatives of an experiment station who should watch the cows day and night, note the care, weigh the food, etc., that the results should be subject to confirmation by re-testing in every case that the authorities of the Exposition requested.

Fourth, that prizes be offered for net profit, for value of total solids, for value of butter fat, etc.

Fifth, that the number of prizes be at least one hundred, but that no one breed be awarded more than twenty-five.

Sixth, that after the completion of the period allotted for testing all the winning cows be exhibited on the grounds of the Exposition, perhaps two weeks, to be seen by all and critically studied by those who desire to study their conformation.

The average cost of testing a cow thus would not exceed \$150. At this rate, twenty-five would cost \$3,750. An appropriation of \$5,000 would cover this and leave a balance of \$1,250 for duplicating the prizes of the Exposition.

S. Hoxie.

Yorkville, N. Y., March 14, 1902.

The Sugar Beet World

Devoted to Sugar Beet Culture in Canada and Allied Industries. Specially
Representing the Farmers' Interests

Edited by JAMES FOWLER

Sugar Beetlets.

The sugar beet, in its natural state, contains a very low sugar content, and its present excellence as a sugar producing plant is due solely to scientific culture and the selection of seed.

The sugar beet represents what human intelligence, science and agricultural skill can do in developing certain qualities of plants. ...

When chemically pure, cane and beet sugar are identical.

The production of sugar in the beet is practically a function of sunshine, and so the higher we can go north in the summer time, the longer the hours of sunshine and the greater the production of sugar will be. In fact, it has been shown that the beet sugar industry does best when pushed as far north as will permit the growth and harvesting of the crop before the freezing of winter sets in.

Wiaraton.

We are given to understand by the officers of the Wiaraton Beet Sugar Company, that the little differences in regard to their enterprise, were not with the Colonial Construction Co., who have the contract to build and equip their factory, but with one individual of that company, who has since retired, and that the newspaper accounts were much exaggerated, there being no difficulty that was not easily overcome; the matter simply had to go into court to protect the different interests, and allow matters to proceed without any further complications. The work of building the factory will not be delayed by the proceedings.

Berlin.

The farmers are now busy preparing for the sugar beet campaign, and those who have held back in signing acreage fearing that the factory would not be built for this season's operations are now anxious to sign contracts and many are willing to increase their acreage. The Ontario Sugar Company have ordered several car loads of sugar beet machinery, and will sell or rent to the farmers, so as to lighten and cheapen the work of raising sugar beets.

The company have secured the best beet pulling machinery to be obtained in the United States and are now experimenting with a machine that bids fair to revolutionize that part of the work. Every thing that is possible to encourage the farmers is being done by the sugar company, and the farmers appreciating that have great confidence in the growth and stability of the enterprise.

Preparations are being made for the commencement of building operations, and within a few days gangs of men will be at work putting in railway sidings, excavating for foundation, etc. Brick and stone will be put on the ground immediately, and the cement and sand will be brought in by rail, as soon as sidings are in.

1902.

The year 1902 will be a eventful one in Ontario, in so far as the beet sugar industry is concerned. Four factories are now building, having a combined capacity of converting 2,500 tons of beets per day into granulated sugar, and, should the supply of beets be sufficient for a full season's work, not less than \$1,000,000, will be paid for the raw material. Nearly \$2,500,000, will be invested in plant and buildings. Has there ever been so much money invested and paid out in the first year of any new industry in Canada. Over 250,000 pounds of sugar beet seed have been ordered to supply the needs of these factories, and 20,000 acres of sugar beets will be under cultivation. This is a remarkable development and will be an object lesson to the rest of the Dominion, and the results are being closely watched.

Time Extended.

The Dominion Government has extended the time one year, in which beet sugar machinery and structural steel for beet sugar factories will be admitted free of duty, until April 1st 1903. As it takes nearly one year to build and equip a sugar factory it will be necessary for companies intending to take advantage of the Act, to begin to arrange accordingly. The time will not be further extended and the duty added would make an additional cost of over \$125,000 on a 600 ton plant. A very large amount of money is required for the building of a first-class sugar factory, and it takes time to secure it, it is necessary therefore, to undertake the work almost immediately.

Newslets.

The American Construction and Supply Co., who are building the Dresden Sugar factory have removed their Western office from Chicago, Ill., to Detroit, Michigan.

The German Co-Operative Sugar Factory at Solzburg, Mich., built by the American Copper, Brass and Iron Works, of Chicago, Ill., has been turning out sugar at a rate to surprise the natives. Their entire output has been sold and the builders are very enthusiastic over the results. Their system of fitting

beets, was found very satisfactory and they were enabled to manufacture sugar long after the other factories had been shut down. Mr. Otto Meinshausen the genial manager of the company is looking for more worlds to conquer and has been looking over the Canadian field.

Mr. F. H. Dyer, of E. H. Dyer & Co., of Cleveland, Ohio, who are building the sugar factory for the Ottawa Sugar Company, at Berlin, is much pleased with the outlook in Ontario. They expect to be able to show a model plant at Berlin, one that will induce other sections to duplicate. They are out for business, and, are able to build complete four of five plants each year.

There are now four sugar factories being built in Ontario, by four different contracts or builders. Messrs. Kilby Mfg. Co., E. H. Dyer & Co., Cleveland, Ohio, American Construction and Supply Co., of New York, and the Colonial Construction Company, of Detroit Michigan.

Experiments.

Sections of the province contemplating making experiments in growing sugar beets, should make their arrangements at once with the Ontario Government. Seeding time will soon be on, it takes time to prepare the seed bed and get the ground in satisfactory condition. The experiments will be conducted by the government along the same lines as last year. It will be necessary when they are made, to go at it systematically. Sections will be selected and each section will be subdivided into four or five, comprising about 25 plots, each under the supervision of some practical and experienced government officer whose business it will be to instruct the farmers, in the methods of preparing the soil, planting, and during the season, instructing in the thinning, weeding, cultivation, and harvesting, etc. These experimental plots should be under the auspices of Farmers' Institutes, Boards of Trade, Town and County Councils, or some interested body who would arrange the details of the experiments. No one should be given seed who will not look after it properly and give it all the attention required. Great care should be exercised in the selection of the land, as much depends upon the results of the experiments. No factory will ever be established where the results are poor, and carelessness regarding results will condemn the section for many years. It is necessary therefore, that some corporation or body should have charge of the work in each section.

The Ontario Government will miss the services of Prof. Shuttleworth in this respect this year. Dr.

The Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep and Swine Breeders' Association, 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', \$2.

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 Swine 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 10,000 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 9th 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, Secy. ary.
Parliament Buildings, Toronto, Ont.

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.—Two men for dairy farm, must be good milkers, and of temperate habits. Wages \$200 a year. No. 934. a.

Wanted.—Three good men to do general farm work. Farm situated near Manilla. None but those having experience need apply. No. 935. a.

Wanted a good single man to take care of stock and do chores around the farm. Good wages to suitable man. Address Jas. Bowman, Guelph.

Wanted.—A good all round married man for farm work, must be good milker and have experience in feeding stock. House and garden supplied. Wages \$250 a year. Engagement to begin April 1st. Permanent job to suitable man. No. 937. a.

Wanted.—A man to work on a farm. Will pay good wages. Will hire either by month or year. Steady job and easy work. No. 926. b.

Wanted.—A man for eight months on a fruit farm, able to plough and do light farming. Wages \$145 a year. No. 927. b.

Wanted.—Middle aged man, accustomed to all kinds of farm work

and the care of live stock. Good ploughman and milker. Wages \$250 a year with board. Permanent position for a good reliable man. Farm in Eastern Ontario. No. 928. b.

Wanted.—A young unmarried man, experienced in general farm work, to work on a farm three miles from Galt. Wages \$144 per 8 months. No. 929. b.

Wanted.—By April 1st, two steady, reliable, trustworthy, single men to do general farm work. Must be good with horses and understand all kinds of farm work. No users of liquor need apply. Good wages and steady employment to the right party. No. 931. b.

Wanted.—Right away, a reliable man with no bad habits; one who can milk and be depended on to look after stock in the absence of the employer. Will give \$20 per month for the summer or \$200 a year. Reference required. No. 932. b.

Wanted.—A married man to work on farm near Brantford for 8 or 8½ months, with the opportunity of engaging for a year afterwards if suitable. Must be a first-class man, capable of doing all kinds of farm work and good with stock and with no bad habits. Good wages. No. 933. b.

Domestic Help Wanted.

Wanted.—A good reliable girl to do housework on a farm, three miles from Galt. Four persons in family. References required. No. 930. b.

The following communications have been received.

New Brunswick District.

I am looking for a position with a capital of not less than \$5,000 and as much more up to \$10,000, to go into raising thoroughbred cattle.

My farm is situated on the St. John River, and consists of 50 acres of intervals, cuts about 400

tons of hay, with good pasture, and can produce roots and crops of all kinds. It is one of the best farms in New Brunswick. There is a good opening for a purebred stock farm down here, and I would like to get into communication with anyone looking for such a chance, and I will give full particulars."

Any person wishing to communicate with this gentleman can do so through A. P. Westervelt, Parliament Buildings, Toronto.

Hamilton, Ont.

Dear Sir,

I am writing you a few lines to thank you for your kindness in inserting an advertisement in the Gazette. I am pleased to say that we are both suited with places through your assistance, and I must thank you very much for the trouble you have taken.

Yours respectfully,

(Signed) G. Davenport.

Situations Wanted.

Wanted.—A situation in creamery or city dairy, making delicious butter, ice cream and cheese, clarify and pasteurize milk and cream. Ten years experience, Dairy school graduate and winner of two gold medals. No. 984. a.

I wish to communicate with some person having a farm of 160 to 200 acres to rent, suitable for mixed farming. The farm should not be more than five miles from a railway station.

A. P. Westervelt.

Wanted.—A position by a married man who has had a good deal of experience in farming, dairying and taking charge of pure bred stock. Wife is willing to work on farm work. Could commence work any time. No. 983. b.

Wanted.—A position by a farm manager, life experience with all kinds of stock, soils and machinery, age 36, married, good references. No. 982. 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. CRAWFORD,
Superintendent Farmers' Institutes.

Manitoulin Farmers' Needs.

BY W. S. FRASER.

In an address given at the evening meeting of the Farmers' Institute, Mr. W. S. Fraser, of Bradford, spoke of "Farmers' Needs." After a few preliminary remarks, he said: "Farmers ought to take pleasure in their occupation; have a modest pride in 'being a farmer.' If he takes no pleasure in doing the work on the farm, but is merely hanging on, looking for something to turn up that will lift him, as he imagines, in the social scale, he is not likely to make a success of it. He needs to take pleasure in seeing his farm improve under his management, meeting difficulties with cheerfulness and determination to overcome them.

"He needs to think there is no other occupation more honorable. Is he not a co-worker with divinity in the support of mankind?"

"The farmer who makes two blades of grass grow where but one grew before is a public benefactor. He who by cultivation and development brings a plant that is wild and of very little use and makes of it first, perhaps, a luxury and then a necessity, is conferring an inestimable blessing on his race. Farming, because of its great service is of great honor.

"It is the most healthful of all occupations and consequently one of the happiest. A farmer needs to know something of the independence of his occupation. What professional man can afford to express his opinion as freely as a farmer and his practice not suffer? A farmer's crops grow and the market is not seriously affected by the fearless expression of his opinions.

"Farmers do not know the leisure of their lives as compared with others earning an equally good living. In the winter season, especially, few have such opportunities for self improvement. The quiet of farm life is envied by business men, who often, when they have made enough money, buy a farm and enjoy what we do not appreciate.

"Farmers need to know that there is no place so good for the upbringing of children as the farm. Its wholesome food, fresh air, employments furnished, freedom from bad companionships, go far to make it the ideal place.

"Farmers need more knowledge about their profession than they once did, and of a much broader kind. He must know his soil, its adaptability, how to cultivate that it may produce to the best advantage, what his crops remove from the soil and how to replace this, how to develop his crops to the highest degree, how to harvest and turn them to the best account. He must be well informed regarding horses, beef cattle, sheep, swine and dairy products.

"Farmers need more system about their business, more cultivation of the social side of their nature, giving the young people chances for enjoyment, more at-

tention to the appearance of their farm, its adornment with trees, etc.

"Farmers need to realize that they are the mainstay of the nation, physically, morally and intellectually, that with scarcely an exception men who have been leaders of men and mighty to do and dare have sprung from their ranks."

Report of Farmers' Institute Meeting in Algoma.

W. S. Fraser, Bradford, in speaking of the "Home Dairy," said that the first requisite to success was "good performing" cows, that is, cows that give a good quantity of milk of good quality, containing a light percentage of butter fat. Cows that do not make over 200 lbs. of butter in a year should not be kept. A large percentage of cows that are kept for dairy purposes are eating their heads off.

Cows must be kindly treated, not merely that they be not abused by boys and dogs, but their wants must be anticipated and supplied. They should have abundance of good food with plenty of clean water and access to salt at all times, and during scorching weather shade should be supplied to them or they should be stabled during the day. They should also be protected from the flies by using some of the many mixtures for that purpose. Coal oil, 1 gal.; crude petroleum, 1 gal.; fish oil, $\frac{1}{2}$ gal., and crude carbolic, $\frac{1}{2}$ pint, mixed and sprayed on the cows twice a week will relieve them and more than pay for the trouble and expense.

Corn planted in a convenient place for cutting and fed when pasture is scarce, will keep the cows from failing in their milk. In the fall when nights are cold and wet the cows should be housed in comfortable quarters. Their winter quarters should be warm and well ventilated, and kept clean so that the milk will receive no taint.

If given a daily ration of ensilage or roots (40 lbs.) with chaff or cut straw moistened with water, 8 lbs. of meal and a feed of clover at night they will do their very best.

The milking should be done at regular times. The milk should be strained immediately, and if a separator be not used, set at a temperature of 90 degrees in deep cans, in ice water at a temperature of 40 degrees. With these conditions an almost perfect separation is effected.

Keep the cream in a closed can at an even temperature of about 50 degrees, and each time fresh cream is added stir thoroughly. Twenty-four hours before churning the temperature should be raised to about 62 degrees in summer and 70 degrees in winter. In cold weather this is best done by setting the cream can in a large vessel containing hot water, set on the stove, stirring the cream constantly while being warmed. The cream should be kept at this temperature until ripe.

After being warmed a little buttermilk, or butter culture should be added. If the latter, it may be made by putting away a pint of ripened cream in a glass sealer and adding this amount to about ten gallons of the sweet cream. This will hasten the ripening process and improve the flavor.

Churn at a temperature of not more than 60 degrees in summer, and 68 degrees to 70 degrees in winter. If barrel churn, which is the best, be used, the churn should not be more than half full. In winter use Wells, Richardson's butter color. Butter should come in half an hour. When the grains of butter are about as large as wheat draw off the buttermilk and wash thoroughly in churn, with good, clean water. Use only the best dairy salt, using not more than $\frac{1}{4}$ oz. per pound. Much good butter is spoiled by using too much coarse salt. Print in oblong pounds, wrapped in good parchment paper, wetting before using. Do not sell your butter to store keepers, as they cannot pay a good price for a superior article. Be scrupulously clean at every stage. Secure good customers and do not be afraid to ask a good price.

A Tour Through Halton, Wentworth, Lincoln and Welland.

To the Superintendent:

As two of the delegates having been recently engaged in lecturing at the supplementary meetings in February through the above named counties, we submit the results of our experiences and observations to readers of The Gazette, hoping they may stimulate and incite to improved methods of agriculture in its various phases, viz: "Silos," "best methods of utilizing manures," "soil cultivation," especially the value of "good stock," "stock raising," and especially the great advantage of manufacturing the first or primary products of the farm into "beef," "pork," "butter," "cheese," "eggs" and "poultry," and by that means obtaining two profits, the profits of the raw material be supplemented by the finished and generally more lucrative profit of the manufactured product.

We began our work in the County of Halton, which we found above the average in their methods of work. The meetings were well attended, although at the time the roads were almost impassable with snow, the people well educated and intelligent, which was in evidence by their enquiries as to the most improved methods of farming in general. In the evenings the meetings were largely attended by farmers' wives and daughters. The evening meetings all through our tour partook more or less of a recreative character, but we always introduced subjects of instructive character to the young men. Miss Linton, of Guelph, was present with us part of the time, giving instruction in sanitary science, etc., The country we

passed through was evidently very prosperous, large barns of the most approved construction with every convenience for the care of stock, wind-mills for power to cut fodder and crush grain. Much care was given to save labor and also to conserve the health of stock, that again produced a large quantity of the best manure and so kept up the fertility of the land. Those things are all evidences of good and profitable farming. On one concession, I think, in the Township of Trafalgar, we counted fifteen silos in sight at one time. Taverns are scarce in Halton, which is a sign of the thrift of the people, in that case we were hospitably entertained at farmers' houses. The bill of fare and the furnishing of some of these houses were good enough for the Duke of York, had he stopped on his late tour at them. I can here state that the other sections were equal to Halton in these respects.

In North and South Wentworth we had equally good meetings, although the roads were blocked with snow. We often had to take the fields to get to our appointment in driving from Mount Hope to Hamilton to take the trolley-car, we passed through a section near Hamilton where the roads were cut out and at intervals cut out of the sides for teams to pass. The cuttings were so deep that the snow on each side reached to the horses' backs. Still the people turned out to the meetings; even at night we had our best meetings. The two Wentworths are engaged more in mixed farming such as fruit farming, the producing of milk for the cities and towns such as Hamilton, Brantford, St. Catharines, etc.

Lincoln County is largely interested in fruit farming, and whilst there is some fine farms in the country and splendid stock, yet where fruit farming is carried on so extensively there is a scarcity of manure and in all fruit sections the same conditions exists. Green manures are grown and turned in and so far supplement the humus of manure. If clover could be grown it would be the best equivalent for barnyard manure, but unfortunately it is difficult to get a catch in orchards. Crimson clover is also uncertain. Peas are so badly injured by the pea aphid and bug that they are not grown. Rye, buckwheat, etc., are the surest to grow, but they are not equal to the legumes in manurial value, although they serve as cover crops in the orchards.

Welland County, whilst farmed by a sturdy and industrious class of men, is much handicapped for want of drainage. There is apparently no outlet for the large quantity of flat land, which is very heavy. There is much Kentucky blue grass grown, which remains unbroken for several years in pasture, and the milk, butter and cheese, the product of the stock grazing, is not returned, or if re-

BIBBY'S CREAM EQUIVALENT FOR CALF REARING

It has the largest sale of any article of its kind.

Its sale is steadily increasing.

It is superseding other articles which had previously been used for the same purpose.

Price, 50-lb. bag, \$2.00; 100-lb. bag, \$3.50, freight prepaid to nearest railroad station. To be obtained from local dealers or direct from

J. BIBBY & SONS

10 BAY STREET, TORONTO

turned, only in part to the soil. The result must be a slow impoverishment of the land. The soil being stiff, dries out in summer and is being gradually depleted of its humus. Underdraining and breaking up by cultivation is what is needed. Whilst there is systematic farming in most sections we have visited, there is also good business methods. In some instances farmers with large dairies and cheese makers, had kept account of the milk of each cow and knew the money value of each cow. We remember the old adage that "comparisons are odious," so we will not make them. We will note one stock farm which we visited, and it was certainly a surprise. We refer to the farm of Mr. Flatt, near Waterdown. There was about 60 head of imported pure and grade in his large barn, every convenience for breeding and the health of the stock. We understand Mr. Flatt and Mr. Greenway swept nearly everything at Buffalo at the "Pan." They are certainly a magnificent herd. But the monster white bull which took first prize in the United States, was a magnificent beast. We understand, Mr. Flatt refused \$17,000 for him from the Americans. An imported cow from the Royal Dairy at Windsor, England, was sold for \$6,000 and a three year old heifer for \$5,600, out of the imported cow. The bull was imported from the south of England. Not far from Mr. Flatt's place there was a batch of 50 steers finishing for market, also some large hog breeding establishments. The fruit sections are so well known by visitors to the Falls in summer, it is needless to say much as the record at the "Pan" at Buffalo is a more efficient record as to the industry and skill of our Canadian fruit men than anything we can write. In conclusion, any one seeing so many people as we have seen on our tour must be struck with the fact that industry, thrift and intelligence in farming are associated with morality and honesty, which go to make up a stable and sound national com-

munity. We could not but be struck how often we were recognized at church on Sundays, showing that the people of Ontario, at least in the agricultural districts, are not tainted with that moral looseness of character and lawlessness which characterize many agricultural sections in the United States, and which is founded in atheism, anarchy and all its disorder, can only so exist.

John Barton,
Weston.

Sheep and Swine Sales

We understand that the Live Stock Associations are arranging to hold a sale of 100 Yorkshire swine and one of 100 rams of the various breeds at Guelph, about the 20th of August. At all these sales, only animals that have been carefully inspected and that are of good quality and breeding and in good condition, will be offered. Catalogues will be prepared for distribution several weeks previous to the dates at which the sales will be held.

The recent sales of cattle at Guelph and Ottawa, looked at in a general way, have been very satisfactory. The average of the 233 head of Shorthorns sold at the Ontario Provincial auction sales of last year and this was a little over \$100 a head. This is a good average and little behind the large bull sales of the north of Scotland.

The recent Shorthorn sale at Perth shows an average of £22 7s, 3d, on 138 head. The Aberdeen Angus sale at the same place shows £25, 17s, 9d, on 116 head, and that at Aberdeen £22, 5s, 4d, on 258 head.

Cornmeal wet with water is not good food for the ducklings.

In breeding for color, always select birds a shade darker than the color you want to breed.

An abundance of whitewash in and around the house and pens are conducive to health.

The Farm Home

Wearin' of the Green.

Had ye ever a glimpse of a slim
little snake
That slips like a shadow the grass-
blades between,
Threadin' together the dew-drops
to make
A necklace of beads on a ribbon of
green?

Acushla Machree, now just let him
be,
For the poor little heart of him's
over the sea.
'Tis the green that he's wearin'
whenever he's farin'
For love of old Erin,—but nobody's
carin'!
They drove him away one beauti-
ful day,
And now he has nowhere to go or
stay.
Och hone! Yet still to the bone
He's Irish, Acushla, so leave him
alone.

Had ye ever a sight of an elderly
frog
That sits by the side of the pond
in the spring,
And calls to his brothers: "Come
out o' the bog";
Come on out o' that an' get ready
to sing!

Acushla Machree, now just let him
be
For the poor little heart of him's
over the sea.
'Tis the green that he's wearin';
whenever he's farin',
For the love of old Erin—but no-
body's carin'.

They drove him away one beauti-
ful day,
And now he has nowhere to go or
stay.
Och hone! Yet still to the bone
He's Irish, Acushla, so leave him
alone.

Harriet F. Blodgett.

Cooking Lesson at the O.A.C. Dairy School

No. X.

As this was the last of the series of lessons, Mrs. Joy reviewed briefly the work she had gone over during the course.

Food is divided into different classes, all of which are required for the various purposes of the body.

Foods may be broadly divided under two headings—those which build tissue and those which furnish heat and energy. Nitrogenous foods are the muscle or tissue-builders. Four-fifths of the air is made up of nitrogen, but it is not available to animal life in such a form. Nature draws it from the air and stores it up in plant life, and in such a form it enters largely in maintaining animal life, for without nitrogen no muscle or tissue could be built.

Milk is the first and most perfect food, as it contains all the elements necessary for the develop-

ment of the body. Eggs are a splendid muscle-building food. Fish are very easily digested, the white-fleshed ones more so than the red-fleshed varieties.

Beef contains the most iron of any meat, and is especially good for people with anemia, as it builds up the blood. The Biblical saying, Milk for babes and strong meat for men, is very true.

There is also a number of vegetables which furnish nitrogen, the principal ones being beans, peas, and lentils.

The carbohydrates and fats furnish heat, energy and fat. A person would starve to death on arrowroot alone. All the different elements must be so combined in our food as to properly supply the various wants of the body, or, in other words, our meals should furnish us with a balanced ration.

Mrs. Joy next spoke of beverages, which she called food adjuncts. She classified them thus: 1st, tea, coffee, cocoa; 2nd, alcoholic drinks; 3rd, mineral waters. The first two groups are stimulating, and the last largely medicinal.

The alkaloid contained in the tea plant is called theine, which acts on the surface of the nerves. It is chemically identical with the caffeine of coffee, but the latter is said to act on the nerve centres.

The quality of tea depends on the youngness of the leaves—the finer the leaf and the nearer the bud the better the quality.

Tea is largely adulterated. Leaves from other plants are substituted.

Tea that has been used is dried and mixed with fresh tea. Tea, in steeping, loses one-third of its weight, and so a mixture of such leaves would have greater bulk than a pound of genuine leaves.

The difference between black and green tea lies in the mode of preparation, and is not due to a separate species of plant. Green tea is dried in the sun, and is not infrequently adulterated with coloring to make it a brighter green.

Black tea is usually considered more wholesome.

Besides the theine, there is an astringent called tannin in tea, and it is this that is so harmful.

The theine is solvent in boiling water, but the tannin takes from four to seven minutes to become solvent. To properly make tea, allow one small teaspoon of tea for each person; put it in the tea drainer, allow it to stand not more than five minutes, then drain off into a hot teapot and keep warm with a tea-cosy. A tin teapot should never be used. The tannic acid coming in contact with the tin makes ink, and causes the tea to look so black. Such tea is injurious to the health.

Coffee, to be of the best, needs to be freshly roasted and ground each morning. Allow one tablespoon for each person and boil for fifteen minutes. When infused or steeped it is considered slightly more digestible, but is more extra-

vagant on coffee. The oil in tea and coffee gives each its particular aroma. The only food value they have is in the milk and sugar which is usually added.

Cocoa is a food as well as a beverage. It is made from the seeds of the cacao tree, which are rich in oil. In its preparation starch and sugar are used. Many people in making cocoa do not boil it, but it is better to do so. When made with all milk or part milk and water it is a nourishing drink.

Mrs. Joy next prepared a white fish for baking.

Remove the scales and thoroughly clean. Take out the eyes. Make a little dressing with 1 cup bread crumbs, ½ teaspoon grated lemon rind, 1 tablespoon butter, 2 teaspoons chopped parsley, a little salt and pepper. Lay the dressing inside the fish-skewer with toothpicks, cut the opening at the eyes larger, draw through the tail, and hold in place with a toothpick. Make several incisions in the skin to prevent it from cracking in an unsightly manner; place in the baking-pan, add a small cup of milk. Cook 20 minutes for the first pound and 10 minutes for every other pound, in a moderate oven, basting frequently with the milk.

Serve with white parsley sauce and garnish with sliced lemon.

SCALLOPED SALMON.

Remove skin and bones from a can of salmon. Fill a well-buttered baking-dish two-thirds full. Season with pepper and salt. Pour over white sauce until the fish is covered. Spread on a layer of buttered bread crumbs (one tablespoon butter to one cup crumbs) and cook until a golden brown.

In buying any kind of a fresh fish see that the eyes are bright, the flesh elastic, and the tail not limp.

Dr. Mills was present and spoke of the great importance of just such work as Mrs. Joy had been demonstrating. He referred to the Macdonald building, which is to be erected for nature studies and domestic science purposes, and briefly outlined the good work that institution proposes doing.

A very hearty vote of thanks was tendered Mrs. Joy by the ladies present. They felt they all had benefited by her kind and thorough teaching.

Mrs. Joy gives one more lesson, especially arranged for the ladies living on farms in the vicinity of Guelph.

Laura Rose.

O.A.C., March 18.

An Easy Way to Clean Silk Waists.

Clean your silk waists with naphtha, using a soft piece of flannel to apply it with. Take every precaution while using the naphtha, as it is dangerous if used near artificial light or fire.—March Ladies' Home Journal.



Caring for the Little Ones

One of the grandest, most remarkable, and far-reaching movements of the nineteenth century is the work of child-saving; caring for the little ones who, through stress of circumstances, misfortune, or vice, are thrust into the streets. In the past we have been, to a great extent, occupied in the work of reclamation, in endeavoring to lift the fearful burdens imposed upon

in Ontario, the keeping of the records of children placed out in homes, the explanation of points of law, etc., and the securing of homes for children.

The plan of placing children in

homes are all Canadian children. It may also be said here that very few of these children, especially those adopted while of tender years, turn out badly, and in nine cases out of ten the influence of good, sound training will overcome that of heredity.

The conditions in taking children are made as simple as possible. The child's traveling expenses and an agreement that the little one



society by vice and criminality, and those engaged in this service have been forced to the conclusion that the only solution of the problem is in the application of radical remedies in the period of childhood.

Thoughtful minds who have looked into the question of the prevention of vice tell us that we do not get hold of the children of the vicious soon enough. A neglected childhood is almost a sure prophecy of a miserable or hurtful life for what can be expected from minds nurtured in degraded and debasing surroundings?

In Ontario, the Children's Protection Act passed by the Legislature about ten years ago has accomplished untold good for the rising generation, and thousands of boys and girls have been helped, encouraged and protected. This Act provides for the organization of Children's Aid Societies, which, when formed, shall have power to bring cases of child neglect or cruelty, etc., before the courts, and when sufficient evidence of neglect is adduced the guardianship of such children shall be transferred to the society. The Act also arranged for the establishment of a department in connection with the Government, presided over by a provincial superintendent, whose duties include a supervision of the work done by the various Children's Aid Societies

foster homes was endorsed by the Government as being the best and most productive of good results for the little ones in every case. It may be remarked here that the children taken charge of by the Provincial Superintendent and the Aid Societies and placed in foster

will receive the kindness of a true home life, good moral and spiritual training, and the advantage of a common school education is all that is required. Two officials are constantly engaged visiting the children and reporting to the superintendent as to their progress, in order to see that no injustice is done. The results of this personal visitation are highly gratifying, and it safeguards the work.

Homes are wanted for these little unfortunate ones. There are many homes in our land where there are no children and the husband and wife would be infinitely happier and better with the presence of a bright young life in the household. Again, there are other families where the children are grown up and gone out from the old home, or there is the vacant chair and the silent sadness left by the passing of the angel of death. In all these homes the presence of children must bring brightness and sunshine. Then there is the loftier motive of service done in the name of Christ. Remember how He who was once a little child among men spoke of the children, "Whosoever receiveth one such little child receiveth me."

Information regarding this work will be cheerfully given by the superintendent of the department, Mr. J. J. Kelso, Parliament Buildings, Toronto.



Hints by May Manton

WOMAN'S GIBSON SHIRT WAIST NO.
4073. 32 TO 40 BUST.

The "Gibson" Waist, in all its variations, makes a conspicuous feature of the season and gives just the broad-shouldered effect that is so fashionable. This attractive model is one of the latest shown and includes the continuous plaits over the shoulders that make the distinctive characteristic of the style. As illustrated, the material is white mercerized madras, and the waist is unlined, but all cotton and linen waist materials are equally appropriate, made in the same way, while taffeta, peau de soie, louisine and similar silks and such wools as albatross, veiling flannel and the like, are admirable over the fitted foundation.



4073 Shirt Waist. 32 to 40 bust.

The lining is snug, smooth, and extends to the waist line only, but fronts and back of the waist are laid in deep plaits, after the shoulder seams are closed, that extend over the shoulders from the belt at the front to the waist line at the back and which fall over and conceal the arms-eye seams and are stitched to simulate pointed straps. At the centre front is a regulation box plait, through which button-holes are worked. The sleeves are slightly full with the new deep, pointed cuffs that are buttoned over at the inner seam. At the neck is a stock of material worn with an embroidered turn-over.

To cut this waist 4 yards of material 21 inches wide, $3\frac{1}{2}$ yards 27 inches wide, $2\frac{1}{2}$ yards 32 inches wide, or $2\frac{1}{2}$ yards 44 inches wide will be required.

The pattern, 4073, is cut in sizes for a 32, 34, 36, 38 and 40-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.

"I want a dog-collar," said the customer. "Yes, sir," replied the absent-minded man behind the counter. "What size shirt do you wear?"

Selecting Flowers for the Summer Garden.

The lover of flowers will find it a difficult matter to select from the seedsman's catalogues for next summer's garden. Every flower mentioned is described so attractively that it will seem as if the garden must be sadly incomplete without it. But do not let enthusiasm get the better of your good judgment. Make up your mind to have only as many flowers as you can grow well, and having done this select such kinds as will adapt themselves most readily and most fully to the care you can give them. Do not experiment with "novelties."—Eben E. Rexford, in the March Ladies' Home Journal.

Why Easter is a "Movable" Feast.

During all of March the sun is coming farther north. About the twentieth it shines directly on the equator, and the day is just as long as the night. The time of the old Jewish Passover, and hence of our Easter, depends on this date. This latter always comes on the Sunday following the first full moon after the sun crosses the line. This accounts for its being so "movable" a feast.—March Ladies' Home Journal.

What Women are to Wear.

ADVANCE SPRING FASHION NOTES.

The first early blouses made in wash materials for this spring are in pique, crash, drilling and the heavier cotton and linen fabrics, in white and colors.

A new material for blouses—new of course only for this purpose—is poplin. It comes in a lovely line of colorings, and with its rather heavy cords does not require much trimming beyond plaits.

The use of ribbon as a trimming and a garniture for all kinds of gowns seems to have taken a new lease of life, and it is introduced in one way or another upon countless gowns and bodices.

Homespun, which was so popular during the past season, will be much worn this spring. It is a particularly nice material, being light in weight and shedding the dust easily, besides having most excellent "staying qualities." The new weaves show a glossiness of surface new in homespun.

For softness of tone the new colors have never been surpassed. Ecrú, ranging from the palest biscuit shade, bids fair to be more fashionable than ever, which is high praise indeed. In cloth materials this coloring will make the smartest possible kind of tailor suits. Really, after black, there is nothing one can wear in so many different ways with so many kinds of blouses, hats, etc., as the varying shades of tan, ecru and biscuit.—Mrs. Ralston, in the March Ladies' Home Journal.

**HAMMOND'S
EARLY MICHIGAN
POTATO**

This Marvelous, Extra Early Potato originated by
HARRY N. HAMMOND SEED CO. Ltd
Box 220 BAY CITY, MICH.

Largest growers of seed potatoes in America, 30 best varieties. Northern Crown always best. Bright proof, enormous yields, highest quality. Lowest price for the bulk, or casual. Elegant postage Bargain Seed Catalogue FREE. Write for it today.

**Brains
on
the
Farm**

As much needed there as anywhere to be successful. Don't plod; learn to farm intelligently through our home study course in **MODERN AGRICULTURE**. Treats of soils, tillage, drainage, fertilizers, crop rotation, stock feeding, dairying, etc. Wm. F. Brooks, Ph. D. (Mass. Agr. College), Head of Dept. Text-books FREE to our students. Send for 36-page booklet telling all about it. **THE HOME CORRESPONDENCE SCHOOL, TEMPLE BUILDING, TORONTO**

FARMER WANTED

We want a reliable man with a horse and rig in every township to take subscriptions for THE FARMING WORLD in connection with our New Cabinet Sewing Machine at half price. If you are in a position to work hard for two or three weeks, write us today, name the township you wish reserved for you, and at the same time give us the names of two good men as references. We will name terms that will surprise you.

See advertisement of machine on another page. Write to-day. Address

THE FARMING WORLD,
Confederation Life Building, TORONTO

**CANADIAN
PACIFIC RY.**


**SETTLERS'
One-Way
EXCURSIONS**

To Manitoba and Canadian North-West will leave Toronto every **TUESDAY** during **MARCH** and **APRIL, 1922**.
Passengers travelling without Live Stock should take the train leaving Toronto at 1.45 p.m.
Passengers travelling with Live Stock should take the train leaving Toronto at 9.00 p.m.
Colonist Sleeper will be attached to each train.
For full particulars and copy of "Settlers' Guide" apply to your nearest Canadian Pacific Agent, or to
A. H. NOTMAN, Asst. Genl. Passr. Agent,
1 King Street East, Toronto.

CONSTIPATION INDIGESTION TORPID LIVER

These are the great curses which afflict three-quarters of the present generation. Sufferers from either one or all of them must always feel miserable, and sooner or later become chronic invalids, useless to themselves and a burden and nuisance to friends and family. There is one sure, safe and absolute cure which you can test without any expense. Our remedy is Egyptian Regulator. Yes, a trial package of which we will send you free and prepaid on request. Unless you find our claims are true, we must be the losers by this liberal act. Shall we send you the trial package, and lead you to perfect health and happiness? Address,
THE EGYPTIAN DRUG CO., New York.

Blood will tell



When an animal is all run down, has a rough coat and a tight hide, anyone knows that his blood is out of order. To keep an animal economically he must be in good health.

DICK'S BLOOD PURIFIER

is a necessity where the best results from feeding would be obtained. It tones up the system, rids the stomach of bots, worms and other parasites that suck the life blood away.

Nothing like Dick's powder for a run down horse.

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Write for Book on Cattle and Horses free.

The Farming World.

A PAPER FOR FARMERS AND STOCKMEN.

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.

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Letters should be addressed:

THE FARMING WORLD,
CONFEDERATION LIFE BUILDING,
TORONTO.

QUESTIONS AND ANSWERS

Remedies For Pea Weevil.

J. A. Myles, Heathcote, writes:

"Sometime ago I saw some articles in The Farming World regarding the pea bug.

I would like to ask a few questions.

1. Is there any chemical that will destroy the bug in the seed peas?
2. How does it get spread over the country?
3. Does it fly from field to field,

or does it have to be sown with the peas to get the start?

4. What time of the season and how does it deposit the egg?

I don't think we ever had a bug on the farm till this year and I am certain we sowed clean seed and I notice quite a few in the peas this year. Any information you can give will oblige.

Answered by Professor Wm. Lockhead, Ontario Agricultural College, Guelph.

In reply to the inquiries of Mr. Myles, I may say that the standard chemical that is used to destroy the "Pea Bug", or pea weevil, in seed peas, is carbon bi-sulphide. The peas are placed in tight boxes, and a shallow pan, in which is some carbon bi-sulphide, is placed on top. Then the whole box is covered over tightly with boards, or blankets, and the carbon bi-sulphide allowed to evaporate. Being heavier than air, it sinks gradually downwards through the peas, and kills the bugs that may be in the peas. The amount of carbon bi-sulphide is generally placed at one pound to one pound and a half to 100 bushels of peas.

It is almost certain that the pea bug is spread over the country in two ways; first, by peas used for seed being infested with the bug; and, second, by the flight of the bugs themselves. A great many of the bugs come out of the peas in September and October and hibernate under clods of earth, and in other protected places; but the majority of the peas in early spring and are ready to deposit their eggs as soon as the first pea blossoms appear. The eggs are deposited on the very young forming pods, and the young grubs which hatch from the eggs bore their way in through the pod to the young peas. These, they enter, usually one bug to each pea. The grub eats and grows within the pea, until it becomes full grown when it assumes a resting stage in early fall, and hibernates in the adult form, as above stated.


In the case of Mr. Myles, it is difficult to state definitely whether the introduction of the "bugs" to his district was brought about by the sowing of bug-infested peas, or by the flight of the pea-bugs themselves from one district to another.

In the pea-bug infested districts the farmers should co-operate in the matter of the destruction of the pea-bug, for very little can be done unless co-operation is secured. As soon as the peas are harvested, they should be threshed, and treated immediately with carbon bi-sulphide. This early treatment would prevent the escape of all the fall bugs, and kill all those that intended hibernating.

Horse Show Prospects Bright.

As the time for holding the Canadian Horse Show draws near, it becomes more evident that 1902 will have the biggest show of its kind ever held in Canada. The entries are coming in much earlier than usual. There are a number

Poor Soils



are made richer and more productive and rich soils retain their crop-producing powers, by the use of fertilizers with a liberal percentage of

Potash.

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Machines may be seen at the store of our Agent,
C. J. DANIELS, 196 River St., Toronto, Canada.

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(Patented Can. & U.S.)




The only nest in the World which positively prevents hens from eating their eggs.

Simple—Effective—Durable

No springs—Eggs cannot break. The inclined nest gathers them safely in lower section. Prevents fleas, or parasites, etc. Everlasting, never failing, comfortable. Thousands now in use. Ask your dealer for it or write to E. F. McCorin, Inventor, Mfr., 13 Antoine St., St. Hyacinthe, Que.

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And Family Almanac for 1902. 100 pages 128 engravings; the finest work of its kind ever published. Gives recipes for making condition powders; remedies for all diseases of fowls; plans and diagrams for building poultry houses; tells you how to raise chickens profitably; gives description with illustrations of 45 leading varieties of pure bred fowls; also

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and poultry supplies at lowest prices. It is an encyclopedia of chicken information, worth many times its cost to anyone interested in poultry. You positively cannot afford to be without it. Sent postpaid, on receipt of price, 35 cents. Address:

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Toronto Incubators



Absolutely self-regulating. Supply their own moisture.

Will hatch every hatchable egg.

Used by largest breeders.

Catalogue Free

T. A. Willett
514 DUNDAS ST., TORONTO

of new exhibitors in the heavy classes. Several changes have been made in the prize list this year that will be of interest to exhibitors. In Shires there will be two classes, one for mares, three years and upwards, and the other for mares under three years. The same division is made in the Clyde section. In the harness section, there will be a class for teams, geldings or mares, any breed, and also one for single animals, mare or gelding shown to cart or wagon. This change will admit of an exhibitor who has one good animal, showing it singly, and not as formerly, being compelled to show it in the team class or not at all.

Selling Re Acting Stock.

At some of the recent stock sales in Britain a number of animals were sold that were last year purchased by outside buyers subject to passing the tuberculin test and were afterwards rejected on account of their having reacted to that test. The complaint is made that these rejected animals were put up and sold without any warning being given. In the old country there is no law to compel a breeder to have his animal tested and the only reason they are tested at all is in order that they may be sold for exportation to countries where the regulations at the port of entry require that all animals shall be tested before being admitted. The same condition of affairs exists in Canada. While a breeder cannot import an animal to build up his herd without having it tested he can go to his neighbor and buy a dozen tuberculosis animals if he so desires and no one will prevent him.

The Ottawa Fair.

EARLIER THIS YEAR. LARGER PRIZE MONEY.

As announced a few weeks ago, The Central Canada Exhibition Association, have decided to hold its exhibition for 1902 from August 22nd to 30th. This change of date has been made largely because it is hoped that better weather will prevail. Formerly the Ottawa fair followed that of London, which brought the date well on in September when the weather is more unsettled. Mr. E. McMahon, secretary, in writing us in regard to the change in date adds the following in regard to the prize list:

"The directors for various reasons were compelled to reduce expenses last year, and in doing so had to cut down the prize list, (which we may say they very reluctantly did.) With the early dates selected for this year we hope for better results and with this object in view are pleased to inform you that the Prize List will be restored by at least 50 p.c. of the amount reduced last year, and we hope to be in a position to restore it to the full amount next season."

The Mutual Life of Canada

(Formerly The Ontario Mutual Life)

32nd ANNUAL MEETING

The Company Solid and Progressive.—Another Year of Substantial Gains.

The Thirty-second Annual Meeting of this popular and prosperous life company took place at its Head Office, Waterloo, Ont., on Thursday, March 6th, 1902, at 1 p.m. The Company's spacious Board Room was well filled with policyholders who evinced deep interest in the proceedings which were throughout both harmonious and instructive.

The President having taken the chair, on motion, Mr. W. H. Riddell, Secretary of the Company, acted as Secretary of the meeting, and at the request of the President read the

DIRECTORS' REPORT.

Your Directors submit for your consideration and approval their report, with financial statement for the year ended Dec. 31st, 1901.

NEW BUSINESS

They are pleased to inform you that the business of the year in all respects has been of the most satisfactory character, enabling them to make the same liberal distribution of surplus to policyholders as in the past. The volume and character of new business were all that could be desired; the death rate was much below the expectation, and the lapses and surrenders, in proportion to business in force, very moderate. Amount of applications for new assurance received was \$4,403,000; accepted and policies issued \$4,071,669, all of which with the exception of \$36,500 was secured in Canada.

CANADA FIRST

The Board of Directors have not seen any reason why they should depart from the rule hitherto followed of confining their operations to our own country and Newfoundland.

INSURANCE IN FORCE

The number of policies in force was 21,785, assuring \$31,718,031, the reserve on which, based on our own standard, Actuaries 4 per cent., on all business previous to 1900, and H.M. 3½ per cent. on all business taken since then, is \$5,301,100.41.

ASSETS AND INCOME

The cash assets are \$5,439,541.65, and the total assets \$5,757,822.17. The surplus on Government standard, over all liabilities, is \$605,470.00; on the Company's standard \$379,970.53. The net premium income was \$998,619.06; interest and rent \$255,817.02; annuity premiums \$23,250.00; total income \$1,277,686.08.

PAID TO POLICY-HOLDERS

The amount paid to policyholders was \$493,532.45, of which sum \$305,021.95 was paid to living policyholders. The Death Claims paid were \$188,510.50; Matured Endowments \$163,480; Purchased Policies \$52,523.37; Surplus \$82,255.51; Annuities \$6,763.07.

INVESTMENTS

During the year the demand for money has been active, and the funds of the Company have been fully employed. The rate of interest has been good, and payments on both instalments and interest have been promptly met, the interest overdue being much less than in any former year.

The Manager, officers and staff continue to discharge their duties to the entire satisfaction of the Board, and in the best interests of the Company.

The Executive Committee have carefully examined all the Securities, and compared them with the entries in the ledger, and found them to correspond therewith.

You will be called upon to elect four Directors in place of Rt. Hon. Sir Wilfrid Laurier, Alfred Hoskin, K.C., E. P. Clement and Hon. J. T. Garrow, whose term has expired, all of whom are eligible for re-election.

WATERLOO, March 6th, 1902.

ROBT. MELVIN,
President.

ABSTRACT OF ACCOUNTS FOR 1901.

	INCOME.
Premiums, Net.....	\$ 998,619.06
Interest, Rent and Annuities	279,067.02
Total.....	\$1,277,686.08

How to Prevent Oat Smut.

From a Press Bulletin of date, March 17th, issued by the Ohio Experiment Station, we take the following:

Farmers who grow oats know how much grain is at times destroyed by smut; the amount of smut ranges from almost nothing to one-third, or in extreme cases, even one-half, the entire yield. This loss is practically all preventible by a simple method of treating the seed oats to kill the smut spores that are sown with the seed only, and the Experiment Station has proved this method to its entire satisfaction. This is known as the formalin method of Bolley. Formalin is a clear liquid, a solution of formaldehyde in water, and may be purchased at drugstores for about fifty cents per pound. Each pound is sufficient to stir into 50 gallons of water and will treat 50 bushels of seed oats; 1 ounce is enough for three gallons of water, and will treat 3 bushels of oats. The amount purchased will be determined by the number of bushels of oats to be treated. The formalin is not poisonous, though not wholesome; it is well to avoid smelling of the strong solution as purchased, because it is irritating to the nostrils. The very dilute solution used for oat smut is not objectionable.

TO TREAT SEED OATS FOR SMUT.

Having the solution made at the rate of 1 ounce of formalin to three gallons of water, well stirred, and a gallon of solution to each bushel of seed to be treated, apply this with a sprinkling can to the oats in piles on a tight floor. Grain piles should not exceed about 6 bushels and the number of piles will follow from the amount of seed. Sprinkle each pile in turn, shoveling thoroughly, knowing how much solution is applied; continue in each case until the solution tends to run out on the floor despite the shoveling. Usually a half gallon or more per bushel may be sprinkled on the first round, when the one pile is passed for a few minutes while another is handled in the same way. Upon a second sprinkling of each pile as much solution is used as will be held; then with a third or fourth repetition the gallon per bushel may be used. After this shovel over and leave in low flat piles over night, or for not less than 4 hours. The seed may then be spread thin on a floor and shoveled over occasionally to dry out for drilling, or it may be sown wet if broadcasted. If in weather when proper drying of the seed is secured, the treatment of the seed may precede the time of sowing by some weeks. Seed treated in this manner is not poisonous, though scarcely suitable to be fed to horses.

The shell of a good egg is porous and the oxygen of the air gets through it.

DISBURSEMENTS.

Death Claims, Endowments, Profits, etc.....	\$ 493,532.45
All other Payments.....	215,676.94
Total.....	\$ 709,209.39

ASSETS.

Loans on First Mortgages and Bonds.....	\$2,650,566.61
Municipal Debentures and Bonds.....	2,012,449.03
Loans on Company's Policies.....	643,361.93
Real Estate, including Company's Office.....	123,729.01
Cash in hand and in Banks.....	14,312.25
Other Assets.....	313,403.34
Total.....	\$5,757,822.17

LIABILITIES.

Reserve, 4 and 3½ per cent.....	\$5,301,100.41
All other Liabilities.....	76,751.23
Total.....	\$5,377,851.64

SURPLUS.

On the Company's Standard, 4 and 3½ per cent.....	\$ 379,979.53
On the Government Standard, 4½ and 3½ per cent.....	605,470.00

In moving the adoption of the Directors' and other reports submitted to the meeting, the President ably reviewed the business of the Company during the fiscal year ending December 31st, 1901, showing that steady progress had been made in all that denotes strength and stability, while the ratio of expense to income was the lowest in the history of the Company, being \$23,951 less than the previous year. It was gratifying to find that the interest and rents from investments exceeded the amount paid for death losses in 1901 by \$67,307, and that the large sum of \$305,021 was paid to living policyholders during the same year for endowments, annuities, dividends, etc. On the whole the business of the Company for 1901 was in all respects most satisfactory and if every one interested in its welfare will do his duty the year upon which we have entered will be still more successful than the one just passed.

Mr. A. Hoskin, K.C., First Vice-President, having supported the motion at some length, the reports were adopted unanimously.

The scrutineers reported the unanimous re-election of the Right Hon. Sir Wilfrid Laurier, Hon. J. T. Garrow, A. Hoskin, K.C., and E. P. Clement, as Directors for the ensuing term of three years. The full Board is now composed of the following members:—Robert Melvin, President, Guelph; Alfred Hoskin, K.C., 1st Vice-President, Toronto; the Hon. Mr. Justice Britton, 2nd Vice-President, Kirgston; Right Hon. Sir Wilfrid Laurier, P.C., G.C.M.G., Premier of Canada, Ottawa; Francis C. Bruce, M.P., Hamilton; J. Kerr Fiske, B.A., Toronto; E. P. Clement, Berlin; W. J. Kidd, B.A., Ottawa; Geo. A. Somerville, London; Hon. F.W. Borden, M.D., Minister of Militia and Defence, Ottawa; Hon. J. T. Garrow, K.C., Goderich; and Wm. Snider, Waterloo; and the officers of the Company are:—Geo. Wegenast, Manager; W. H. Riddell, Secretary; T. R. Earl, Supt. of Agencies; J. H. Webb, M.D., Medical Director; and Millar & Sims, Solicitors.

**Kills the Bugs.
Feeds the Plant.**



**Insure
Your Crop**

Against destruction by bugs or worms by using

"BUG DEATH"

It kills potatoe, squash and cucumber bugs; current, gooseberry and tomato worms, and all bugs and worms that eat the leaves of plants.

Bug Death increases yield. It pays to use in every way.

Send for free booklet.

BUG DEATH CHEMICAL CO., LIMITED
ST. STEPHEN, N.B.

Pat. in Canada Nov. 2, 1897, Jan. 25, 1900.
NON-POISONOUS. PREVENTS BLIGHT.

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.

Cattle

Mary Marshall the leading Guernsey Cow at the Pan-American last summer has been sold to Mr. Albert C. Loring, of Minneapolis, Minn., for \$1,000. Mary Marshall was bred and raised by Mr. Ezra Michener, Carversville, P.A. She was calved April 29, 1891, so that she was just ten years old at the beginning of the model dairy test. She has had six calves, the last being a heifer which Mr. Michener sold when young for \$200.

When the test closed and the final balance was struck on November 1st last, it was found that Mary Marshall had during the six months eaten 1,010 lbs. hay; 4,456 lbs. silage; 1,285 lbs. bran; 45 lbs. oats; 795 lbs. gluten; 47 lbs. corn meal; 89 lbs. cottonseed meal; 3,577 lbs. green clover, at a cost of \$29.14. In return for this she had given 5,611 lbs. of milk with an average test of 36 p.c. butter fat. This showed she had given 301.13 lbs. butter fat, and the record of churned butter credited her with 354.26 lbs. The value of her butter fat was \$88.57 leaving a profit of \$59.43. This was the largest profit for butter production of any cow in the herd and \$7.65 greater than that of the 2d. best cow. From the standpoint of milk production it was seen that she had produced milk worth (in accord with the test rules) \$75.49 leaving a profit of \$46.35.

Swine

Mr. J. E. Brethour, of Burford, begs to announce that owing to the extensive demand for breeding stock from his celebrated herd, that he will not, in future, make an exhibit of his breeding stock at the large Canadian Exhibitions. The Oak Lodge herd of large Yorkshires has made a record in the show ring, which has been approached by no other herd. For the last 13 years this herd has been very successful in the Canadian and American show rings, having captured every medal and silver plate that has been offered for this breed of hogs, besides winning first prize on herd every year during that period with the exception of two years. It might also be mentioned that a pen of Oak Lodge Yorkshires has won the championship for the best pen of export bacon hogs against all breeds, both alive and in dressed carcass competition at the Pro-

BRITISH COLUMBIA FARMS

If you are thinking of going out to the Pacific coast, try British Columbia. A delightful climate, no extremes of temperature, fertile land, ample rainfall, heavy crops, rapid growth, and splendid market for everything you raise at good prices. The celebrated valley of the Lower Fraser River is the garden of the province. Write for farm pamphlet telling you all about it and containing a descriptive list of farms for sale. The Settlers' Association of B.C. Box 540, Vancouver, B.C.

vincial Winter Fair for four successive years.

Mr. Brethour feels that he will be in a better position to furnish pigs of a superior quality by withholding from exhibiting his breeding stock. As none will be reserved for show purposes customers will be in a position to secure the very best class of stock for breeding or show purposes.

Poultry

D. A. Graham & Son, Widder P. O., have moved to another farm, and have erected all new poultry buildings and yards of the latest design and also hog pens. They are now better prepared to furnish their many old customers and as many new ones as may see fit to deal with them than ever before. All stock is sent out as represented. They will be pleased to give any information desired in regard to their announcement which appears elsewhere in this issue.

Northern Grown Farm Seeds

During the past ten years there has been an enormous demand for Michigan Grown Farm Seeds. The wonderful yields that have been secured from Hammond's select varieties of seed potatoes, oats, corn, Japanese and other millets, barley, speltz, spring wheat, rape, spring rye, soja beans, bromus inermus, grass and clover seeds are something phenomenal.

The Hammond Seed Co., Ltd., do an enormous business in seed potatoes, probably the largest growers and shippers in America. Their crop the past season aggregated 274 carloads, which would make about eight good solid train loads. At an average planting of ten bushel per acre their seed will plant 13,540 acres. On farm seeds another large train would be required to haul the above named seeds, to say nothing of the tons and tons of vegetable seeds sold, such as onion, radish, lettuce, beet, mangel, peas, beans, sweet corn, carrot, cabbage, etc. It is simply marvelous the reputation this house has built up on the superior quality of its seeds. And they have sold at such low prices they have drawn an immense trade from all parts of the United States and Canada. Any one wanting seeds, either vegetable, field or flowers, should not fail to write to Harry N. Hammond Seed Co., Ltd., Bay City, Mich., for their handsome 100 page seed catalogue. It is mailed free for the asking.

W. R. BOWMAN

Mt. Forest, - Ontario

Is offering 2 richly-bred Shorthorn Bulls at \$80; one Polled Angus Bull \$85; Plymouth Rock eggs 5 settings for \$2; Yorkshires always on hand.

HORSEMEN! THE ONLY GENUINE IS

GOMBAULT'S CAUSTIC BALSAM.

Just genuine without the signature of Dr. Lawrence Williams Co. Sole Agents of preparations for the U.S. & CANADA. CLEVELAND O.

The Safest, Best, BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Hemorrhoids from Horses and Cattle. SUPERSPICES ALL CAUTERY or FIRING. Impossible to produce scar or burn. Every bottle is warranted to give satisfaction. Price \$1.50 per bottle. Sold by Druggists, or sent by Express, charges paid, with full directions for its use. Send for free descriptive circulars. THE LAWRENCE-WILLIAMS CO., Toronto, Ont.

FISTULA AND POLL EVIL

Fleming's Fistula and Poll Evil Cure is non-scorching. It cures in 15 to 30 Days. NO COST IF IT FAILS. Write today for important circular No. 552 FLEMING BROS., Chemists, 38 Front St., West, Toronto, Ont.

ALVA FARM GURNSEYS

The Typical Dairy Breed



Good Animals of Both Sexes for Sale

SYDNEY FISHER, Knowlton, Que.

DAVID McCRAE, Jansfield, Guelph, Canada. Importer and Breeder of Galloway Cattle, Clydehead Horses, and Cotswold Sheep. Choice animals for sale.

JOHN DRYDEN BROOKLIN, ONTARIO

BREEDER OF CRUICKSHANK SHORTHORNS and CHOICE SHROPSHIRE SHEEP

Choice Young Bulls and Ram Lambs for sale. Write for prices.

IMPERIAL HOLSTEIN-FRIESIAN STOCK FARM

A few choice HOLSTEINS, both sexes, bred from Pan-American prize-winner. WM. H. SIMMONS, New Durham, P.O. Ont.

Glen Crescent Shorthorns and Oxfords

Two Young Bulls by imp. "Precious Stone" and imp. "Blue Ribbon" for sale. Can spare a few more Oxford females. J. W. WIDFIELD, Uxbridge, Ont.



ROCK SALT for horses and cattle, in ton and car lots. TORONTO SALT WOKKS, Toronto

"WOODBINE FARM HERD" of Holstein Friesians

Offers a few choice bulls now fit for service, sired by Homestead Albino Paul De Kol out of dams sired by Dora Bee's 3rd Pieterje, Netherland.

For particulars and prices address, A. KENNEDY, Ayr, Ont.

Market Review and Forecast

Office of the Farming World,
Confederation Life Bldg.

Toronto, March 24, 1901.

The trade outlook continues bright. People generally are buying more and better goods, and there seems to be a larger supply of money among the masses than has been known for sometime. More extensive buying is noticeable north and west. Money continues at about 4½ to 5 per cent. on call, the latter ruling.

Wheat.

On the whole the wheat situation is weaker than week ago. Prices at Chicago last week were 10c less than in January. Wheat receipts seem to be ample and at the moment there is little prospect of any marked advance, though on Friday English cables were slightly higher. The price current of last week says:

"The wheat market lost about 1½c during the week, the most of the weakness being the past two days. Cash trade was quiet, and the speculative demand was not active. May wheat at Chicago declined ½c more than cash wheat, and a little more than other markets. Prices are now on a lower level than a year ago. Crop news the past week, though not generally favorable, did not seem to have much effect upon the market."

Locally the markets have ruled steady, the most business being done in Manitoba wheat and it is expected that the stocks at lake ports in Ontario will all be shipped out before navigation begins, the business being chiefly in Nos. 1 and 2 northern. Quotations here are, 72c to 73c for red and white at outside points, 67c for goose, and 72½c for spring east. On Toronto farmers' market, red and white bring 76c to 80c, goose 67c to 67½c and spring file 68c to 72c per bushel.

Oats and Barley.

The oat market has weakened some during the week. Quotations here range from 41c to 41½c at outside points. On the farmers' market oats being 45c to 47c per bushel.

The barley market is quiet and lower at 49c to 55c per bushel as to quality and point of shipment. On Toronto farmers' market malt barley brings 54c to 60½c per bushel.

Peas and Corn

Peas rule steady at about 80c at outside points. On the farmers' market here they bring 85c per bushel.

The American corn market has weakened somewhat during the week in sympathy with wheat. Ca-

UP LATE NIGHTS, endless engagements, generally run down? Take "The D. & L." Emulsion of Cod Liver Oil. It will tone up your system and make you feel yourself again. Made by Davis & Lawrence Co., Ltd.

4 PER CENT.
DEBENTURES

Debentures for \$100 and upwards are issued for terms of one, two, three, four or five years. Coupons are attached for interest from the date on which the money is received at four per cent. per annum, payable half yearly.

INVESTIGATION SOLICITED

The CANADA PERMANENT and WESTERN CANADA MORTGAGE CORPORATION

Head Office, Toronto Street, TORONTO

nadian yellow is quoted here at 61c to 62c per bushel in car lots.

Grain and Shorts

Ontario bran is quoted at Montreal at 18.25 to \$18.50, and shorts at \$21.50 to \$22.00 in car lots. City mills here sell bran at \$18.00 and shorts at \$20.00 per ton in car lots f.o.b. Toronto.

Potatoes and Beans

Potatoes continue to decline at Montreal. Car lots are quoted at from 75c to 80c per bag in car lots.

The demand here continues good with light offerings, and car lots are quoted at 62c to 68c. On Toronto farmers' market potatoes bring 75c to 80c per bag.

A little steadier feeling is reported in beans at Montreal, car lots of primes selling there at \$1.10 to \$1.12 laid down. On Toronto farmers' market beans bring \$1.00 to \$1.25 per bushel.

Hay and Straw

The hay situation generally speaking is not as strong as it was. While receipts are plentiful at country points east the shortage of cars has prevented supplies from going forward. The Department of Agriculture at Ottawa announces that no hay will be bought for shipment to South Africa during April. It is likely buying will be resumed in May. Montreal quotations for baled hay in car lots are: No. 1 timothy, \$9.50 to \$10.00; No. 2, timothy, \$8.00 to \$8.50, and clover mixture, \$7.50 to \$8.00. The market here is reported steady at \$10.25 for No. 1 timothy, in car lots on track. Baled straw is quoted at \$5.50 for car lots on track. On Toronto farmers' market timo-

thy brings \$12.00 to \$13.00, clover \$8.00 to \$10.00, and sheaf straw \$8.00 to \$9.00 per ton.

Eggs and Poultry

The low prices have greatly stimulated the demand and the market is considerably stronger than a week ago. New laid eggs in case lots are quoted at Montreal at 16c to 17c and at country points in Ontario at about 14c. The demand is good here and new laid in case lots sell at 14c. On Toronto farmers' market new laid bring 13c to 16c per dozen.

Dressed poultry continues firm at Montreal at 12c to 13c for choice turkeys, 10c to 11c for chickens, 7c to 8c for geese and 10c to 11c per lb. for ducks. There are only a few offering here. On Toronto farmers' market live and dressed chickens bring 45c to 90c and ducks \$1.00 to \$1.25 per pair and turkeys at 11c to 13c and geese at 8c to 9c per lb.

Live poultry like dressed are scarce. The Canadian Produce Co., Ltd., 36 and 38 Esplanade St. E., Toronto, will pay until further notice for live chickens, 8c, for ducks and turkeys 11c, for geese 6c per lb.. All must be young birds. For hens 5c per lb. Dressed poultry, dry picked (except hens) ½c lb. higher. These prices are for weight on arrival. Crates for live poultry supplied free, and express paid up to 50c per 100 lbs. of chickens. No thin birds will be taken.

Seeds.

The demand for seeds continues good. Montreal wholesale quotations are \$14.00 to \$17.00 for al-sike, \$9.00 to \$10.50 for red clover

Trees! Trees!! Trees!!!

We have a full line of Fruit and Ornamental Trees for Spring, 1902, at lowest possible prices. Headquarters for packing dealers' orders.

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.

WINONA NURSERY CO., Winona, Ont.



WANTED—BUTTER, POULTRY, EGGS

We have a large outlet, having Twenty-one Retail Stores in Toronto and suburbs.
Payments weekly. Established 1854.

The WM. DAVIES CO., Limited
Head Office—Retail Dept.

Correspondence invited. 24 Queen St. West
TORONTO

and \$7.00 to \$8.50 per cwt. for timothy. On Toronto farmers' market alsike in a jobbing way sells at \$10.00 to \$17.00, red clover at \$7.50 to \$9.75 and timothy at \$7 to \$8.25 per cwt.

Cheese

The English market is firmer and is higher, finest full Canadian being quoted in London at 55s., line 52s. and earlier 50s. to 51s. At Montreal though business has been quiet the market is still firm. Quotations for finest Westerns 11½c to 11¾c and finest Easterns 11c to 11½c per lb. The little todder cheese that is being made is being absorbed by the local trade.

Butter

The butter market shows little change. There is a good demand for choice stuff while the poorer grades are not wanted. The Trade Bulletin's summary of last week's trade reads thus:

"For finest creamery, which is scarce, dealers quote 21½c as an extreme figure for jobbing lots of 5 to 20 pkgs, although for the same class of goods and quantities 22c to 22½c was easily obtainable a week ago. The great bulk of the goods offered, however, realize from 20c to 21c, some undergrades selling at 18½c to 19½c. Quite a number of factories are making preparations to start on new milk creamery butter, for which fairly good remunerative prices are expected. The probabilities are that the Lower Ports will not want much of our Western dairy this spring, as we know of several lots of 200 to 400 pkgs. each being offered for sale on this market from New Brunswick and Nova Scotia."

Here there is an excellent demand for choice dairy and creamery, while poorer stuff is not wanted. Creamery prints sell readily at 22c to 23c and solids at 21c to 22c. Choice dairy pound rolls sell at 18c to 19c, large rolls at 16½c to 17½c and tubs at 14c to 16c per lb. in a jobbing way. On Toronto farmers' market lb. rolls bring 18c to 22c and crocks 15c to 17c per lb.

Cattle

The chief feature of all the cattle markets both here and on the other side has been the scarcity of good cattle, there not being enough to supply the demand. Good to prime steers sold at Chicago on Friday at \$6.60 to \$7.10, and poor to medium at \$4.25 to \$6.50 per cwt.

A London cable of Friday, quot-

BRONCHIAL AFFECTIONS. coughs and colds, and quickly cured by Perry's Balm. It has no equal. Acts promptly, soothes, heals and cures. Manufactured by the proprietors of Perry's Pain-Killer.

ed live cattle at 12½c to 13½c per lb. dressed wright. Some high prices have been paid by Montreal butchers during the week in securing supplies for the Easter trade. From \$7.00 to \$7.25 per cwt. have been paid for some choice butchers' cattle. The run of cattle on Toronto cattle market on Friday was not large, comprising 817 cattle, 1,334 hogs, 485 sheep and lambs and 88 calves. The quality of the fat cattle was only medium and not as good as it should be at this season. Trade was active for fat cattle with prices firm at quotations given below. A straight lot of 13 exporters sold at \$5.85 per cwt.

Export Cattle.—Choice loads of these are worth from \$5.40 to \$5.65 per cwt., medium exporters \$5.00 to \$5.35, and light ones \$4.65 to \$4.90 per cwt. Heavy export bulls sold at \$4.25 to \$4.60 and light ones at \$3.60 to \$3.90 per cwt., choice export cows sold at \$4.00 to \$4.50 per cwt.

Butchers' Cattle.—Choice picked lots of these, equal in quality to the best exporters, weighing 925 to 1,150 lbs. each, sold at \$4.60 to \$5.12½ per cwt., good cattle at \$4.25 to \$4.50, medium at \$3.75 to \$4.15 and inferior to common at \$3.30 to \$3.60 per cwt.

Feeders.—Heavy, well-bred steers from 1,100 to 1,200 lbs. each, are worth \$4.50 to \$4.75, and other quality at \$3.50 to \$4.00 per cwt. Light steers, 900 to 1,000 lbs. each sold at \$4.00 to \$4.60 per cwt.

Stockers.—Yearling steers weighing 400 to 800 lbs. each sold at \$3.15 to \$3.90, and off colors and those of inferior quality at \$2.50 to \$3.00 per cwt.

Calves.—These are in steady demand at Buffalo. Good to choice veals bring \$8.25 to \$8.75 per cwt. At Toronto market calves bring \$4.00 to \$5.50 per cwt. and \$2.00 to \$10.00 each.

Milch cows and springers sold at \$28.00 to \$48.00 each.

Sheep and Lambs

Eirik Bros., East Buffalo, in their circular of April 20th, say in regard to lambs:

"The trade to-day was a shade stronger, the bulk of the sales of the good lambs selling on the basis of \$6.75, with the common and light thin stuff at \$5.75 to 6c. The common stuff here has been selling proportionately higher than any place in the country, and values now on this common stuff are lower than they were last week, still they are bringing a good price as compared with the West."

At Toronto market on Friday, prices were easier at \$3.50 to \$4.00 per cwt. for export ewes and \$4.50 to \$5.50 per cwt. for yearling lambs. Spring lambs are worth from \$2.50 to \$5.00 each.

Hogs

There is no change in hogs. Best

AT ALL TIMES OF YEAR Pain-Killer will be found a useful household remedy. Cures cuts, sprains and bruises. Internally for cramps and diarrhoea. Avoid substitutes, there's only one Pain-Killer. **Perry Davis'.**

T. Douglas & Sons, Strathroy, Ont.

Breeders of
Scotch Shorthorns,
100 head to select from. Herd headed by Imp. Diam. hd Jubilee 3881 and Double Gold 37852.

March Offering
10 grand young bulls and cows and heifers of all ages.

Farm one mile north of town.

**ANNANDALE STOCK FARM
HAS FOR SALE**

4 Holstein Bulls, 1 month to 12 months
10 Improved Yorkshire Boars, 2 months to 10 months
8 Sows, 2 months

The above are eligible for registering, and certificates will be furnished.

6 Holstein Grade Bulls, 2 months to 10 months, from the best milkers in the Annandale herd.
Correspondence promptly answered. Inspection specially invited.

The Annandale Stock Farm

Tilsenburg, Ont.

8 SCOTCH BRED SHORTHORN BULLS 8

from 12 to 20 months old, combining size and quality, from \$40 to \$100.

Also several **Heifers** in calf to Golden Chief. Cullings from Pure Bred stock.

L. K. Weber, Hawkesville, Co. Waterloo, St. Jacobs Station.

Poultry and Eggs.

Advertisements under this head one cent a word. Cash must accompany all orders under \$2.00. No display type or c/w allowed. Each initial and number counts as one word.

BROWN Leghorns, Prolific early layers; Strain won at Pan-American. Stock for sale—Minorcas, Barred Rocks, Chix-test Strains, Eggs in season. **JOHN B. PETTIT, Fruitland, Ont.**

FOR SALE—Mammoth Bronze Turkeys, sired by 40 lb. imported yearling tom. **R. G. ROSE, Glanworth, Ont.**

REID'S Great Prize Winners. They have won 600 prizes in my own hands. Send for list of varieties. **W. W. REID, York, Ont.**

BARRED ROCKS. Stock and Eggs for sale from prize-winners at leading shows. Eggs by the hundred or setting. Prices right. Write stating your wants. **ELIAS SNYDER, Burgessville.**

GREAT slaughter in Andalusians. For sale, 25 Pullets, 8 Hens, Eggs from my silver plate winners \$1.50 per 13. **J. VATES, Box 218, Hespeler**

DIAMOND Poultry Yards, Freeman, Ontario. Rose Comb Black Minorcas, exclusively winners first and 2 seconds Toronto and Hamilton Winter Shows; Eggs \$2.00 per 13. **F. WOOLCOTT, Freeman, Ont.**

BROWN Leghorns and White Plymouth Rock Cockerels, \$1.00 and \$1.50 each. Worth double. **FERGUS PHEASANTRY, J. C. TEMPLE, Fergus, Ont.**

EGGS for setting. Silver grey Dorkings from splendid stock. **John Taylor, Jr., Galt, Ont.**

ENGLISH Pheasants \$5.00 per pair. Eggs \$3.00 per 13 \$20.00 per 100. **Johnston & Lee, Box 229, Galt, Ont.**

PINE HILL STOCK FARM can supply eggs from the following varieties, choice of stock: B. Langhans, L. Brahmas, Barred and W. Rocks, G. S. L., and White Wyandottes, S. G. Dorkings, W. and Brown Leghorns, Buff Cochins and Golden Seabright Bantams, \$1.00 per 13 eggs; Pekin Duck eggs, \$1.00 per 11; M. Bronze Turkey eggs, \$2.00 per 9; Toulouse Geese eggs, 40c. each. **D. A. GRAHAM & SON, Thedford, Ont.**

EGGS Three Dollars Hundred—Pitts Minorcas, E. B. Thompson; Bradley Bros. Liffell Strain; 15 eggs 75c. All birds scoring 92 to 96 points. **N. H. SMITH, Tilbury, Ont. Lock Box A.**

FOR SALE—Eggs from choice matings of Barred Plymouth Rocks and Mammoth Pheasants \$1.00 per setting. **F. C. TAYLOR & SON, Belleville, Ont.**

FOR IMMEDIATE SALE.

10 Ten pair English Ring Neck Pheasants and a number of Barred Rock Cockerels.
R. M. LEE, Box 225, Galt.

select bacon hogs, 160 to 200 lbs. each sold at \$6.00 per cwt and lights and fats at \$5.75. Unculled car lots sold at about \$5.87½ per cwt.

For the week ending March 29th, the Wm. Davies Co., Toronto, will pay \$6.12½ per cwt. for select bacon hogs, \$5.87½ for lights, and \$5.87½ for fats.

The Trade Bulletin's London cable of March 20th, re Canadian bacon reads thus:

"The market is firmer and higher the demand being good at an advance of 2s."

Horses

A lot of horses were sold at Grand's last week, there being 3 car loads sold on Tuesday. Farmers are buying quite a few work horses and merchants in the city a number of delivery horses. Good sound general purposes horses and blocks weighing 1150 to 1450 lbs. each sold by auction at from \$100 to \$170 each. All the horses offered were of good average quality. The outlook for trade is good and Grand's have arranged for regular consignments during the season and are in a position to handle small lots as well. Though trade is brisk farmers should not hold for too high prices. The season usually falls off about the middle or end of April.

Dairy Conference at Ottawa

The conference of dairy instructors previously mentioned will take place at Ottawa on Tuesday, Wednesday and Thursday, April 29th and 30th, and May 1st. Programs will be issued later when fuller particulars will be given.

Canadians Appreciate Caustic Balsam.

Berkley, Ont., Nov. 30th, 1901. The Lawrence-Williams Co., Cleveland, O.: I have been selling GOMBAULT'S CAUSTIC RALSAM for a number of years and it is giving my customers the best of satisfaction. I have also used it myself on different ailments with the best of results. Too much cannot be said in its favor.
W. T. PRICE.

FOR SALE

Shorthorn Bulls from 10 to 11 months old. Also some choice 2 year old heifers, all red and low set down.

JAMES BROWN,
Thorold, Ont.



Gramming Machines
Fattening Coops,
Incubators and Brooders
All kinds of Poultry Supplies
CATALOGUE FREE.
A. J. Morgan, Mfr., London.

**A Chain is no Stronger than its Weakest Link
and a Wire Fence is no Stronger than its Uprights.**



**The Frost
Strongest**



**Lock
Made. Frost Fence never breaks.**

No one should expect a fence to hold up of itself between the posts.

The Frost upright wires are large and strong. The Frost Lock holds them in place and each support its own share of the weight. Light tie wires give no support. Bending to tie weakens them and they are apt to break when the strain is severe.

Write for Catalogue.

THE FROST WIRE FENCE CO., LIMITED, - WELLAND, ONT.

A New Rural Library

ONLY 50 CENTS PER VOLUME OR LESS

EACH BOOK is written by a high authority and specialist, is both practical and scientific, reliable, helpful, indispensable. There is a convincing and practical tone about each of these handy books which at once assures the reader that he may safely follow the instructions given and expect to get profitable results.

Each volume is beautifully printed in large new type on nice paper, copiously illustrated, handsomely bound in cloth and boards, 5x8 inches in size, with 100 to 160 pages. Each volume sent postpaid for 50 cents or less, if so quoted.

Cabbage, Cauliflower and Allied Vegetables, from Seed to Harvest.

By C. L. Allen. A practical treatise on the various types and varieties of cabbage, cauliflower, broccoli, Brussels sprouts, kale, collards and kohlrabi. An explanation is given of the requirements, conditions, cultivation and general management pertaining to the entire cabbage group. After this each class is treated separately and in detail. The chapter on seed raising is probably the most authoritative treatise on this subject ever published. Insects and fungi attacking this class of vegetables are given due attention. 50 cents.

The New Rhubarb Culture.

A complete guide to dark forcing and field culture. Part I—By J. E. Morse, the well-known Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fiske. 50 cents.

Landscape Gardening.

By F. A. Waugh, professor of horticulture, university of Vermont. A treatise on the general principles governing outdoor art; with sundry suggestions for their application in the commoner problems of gardening. Every paragraph is short, terse and to the point, giving perfect clearness to the discussions at all points. In spite of the natural difficulty of presenting abstract principles, the whole matter is made entirely plain even to the inexperienced reader. 50 cents.

Hemp.

By S. S. Bovee. A practical treatise on the culture of hemp for seed and fiber, with a sketch of the history and nature of the hemp plant. The various chapters are devoted to the soil and climate adapted to the culture of hemp for seed and for fiber, irrigating, harvesting, retting and machinery for handling hemp. 50 cents.

Alfalfa.

By F. D. Coburn, secretary Kansas state board of agriculture. Its growth, uses and feeding value. The fact that alfalfa thrives in almost any soil, that without reseeded it goes on yielding 2, 3, 4 and sometimes 5 cuttings annually for 5, 10 or perhaps 100 years; and that either green or cured is one of the most nutritious forage plants known, makes reliable information upon its production and uses of unusual interest. Such information is given in this volume for every part of America, by the highest authority. 50 cents.

Ginseng, Its Cultivation, Harvesting, Marketing and Market Value.

By Maurice G. Kains. How to begin with either seed or roots, soil, climate and location, preparation, planting and maintenance of the beds, artificial propagation, manures, enemies, selection for market and for improvement, preparation for sale, and the profits that may be expected. 35 cents.

Hedges, Windbreaks, Shelters and Live Fences.

By E. P. Powell. A treatise on the planting, growth and management of hedge plants for country and suburban homes. It gives accurate directions concerning hedges; how to plant and how to treat them; and especially concerning windbreaks and shelters. It includes the whole art of making a delightful home, giving directions for nooks and balconies for bird culture and for human comfort. 50 cents.

Home Pork Making.

The art of raising and curing pork on the farm. By A. W. Fulton. A complete guide for the farmer, the country butcher and the suburban dweller, in all that pertains to hog slaughtering, curing, preserving and storing pork product—from scalding vat to kitchen table and dining room. 50 cents.

**The Farming World,
TORONTO, ONTARIO.**

When Writing to Advertisers mention
THE FARMING WORLD.

**Catarrh and
Consumption**

I have spent nearly 30 years in the treatment of the above named troubles and believe I have effected more permanent cures than any specialist in the history of medicine. As I must soon retire from active life, I will, from this time on, send the means of treatment and cure as used in my practice, free and post-paid to every reader of this paper who suffers from these loathsome, dangerous and disgusting diseases. My treatment will positively give prompt relief and cure in the worst cases. This is a sincere offer which anyone is free to accept. Address, PROFESSOR J. A. LAWRENCE, 114 West 34th St., New York.

FERTILIZERS HIGH-GRADE



FULLY 50% EXTRA WHEAT

W. A. Freeman Co., Hamilton.

Dear Sirs,—It affords me great pleasure to state that after using your "Sure Growth" Fertilizer for the past three years, I can say I find it everything you recommend. I used it on roots, wheat and corn. On wheat I consider that I had fully fifty per cent. extra. I was very careful in sowing, and counted the sheaves. For equal distance, I find 18 sheaves without manure and from "Sure Growth" I find 30. Roots and corn about the same proportion. The Clover and Timothy came on splendidly. While I am a strong believer in barnyard manure, at the same time I can confidently recommend your Fertilizer to any person requiring concentrated manure as one they will find gives the very best results.

Yours truly,
(Signed) ROBERT KERR,
Councillor, Ward 2, North Oxford.

Prices, Catalogue and Information on application. A good thorough farmer wanted in every section to represent our High Grade FERTILIZERS in any territory not already taken up.

The W. A. Freeman Co., Limited
Hamilton, Ontario

WILSON'S HIGH-CLASS SCALES

SPECIAL PRICES THIS MONTH

On 2,000 lb.

Diamond Steel Bearing
SCALES

Write To-day.

C. WILSON
& SON

go Esplanade St. E., TORONTO, ONT.



Purest
and
Best

WINDSOR SALT

ASK FOR IT AND
TAKE NO OTHER.

Awarded Silver and Bronze Medals,
Paris Exposition, 1900.

The CANADIAN SALT CO.
Limited
Windsor, Ont.

To Butter
Makers...

We import Genuine Vegetable
Parchment for Butter Wrappers
direct from Germany, and have it
tested at the Ontario Agricultural
College. We cheerfully send
samples.

SENTINEL-REVIEW COY. LIMITED,
Box 724 Woodstock, Ont.

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.

AUCTION SALE OF PURE BRED SHORTHORNS

TWENTY HEAD MALE AND FEMALE

An extensive Auction Sale of Stock under the auspices of the Central Ontario Pure Bred Stock Association, will be held at

Ontario Agricultural Coll "croft, Garden Hill Station, Midland Division G.T.R.

On TUESDAY, APRIL 1st.

20 head of first-class animals will be sold.

Sale at 2 p.m.

Trains from the south arrive at 11 a.m. from Toronto, Peterboro, Lindsay, and points north at 12.30 p.m.

Terms: Cash.

W. B. CAMPBELL, Sec.
JAMES KERR, Auctioneer.

CHICKENS
DUCKS
GEESE
TURKEYS

WANTED

DRESSED OR LIVE POULTRY RECEIVED—We will forward empty crates for live poultry and pay charges on all out-going crates. Prompt remittance by Express Order will be made on arrival of shipments less express charges if not prepaid. We do not purchase on commission, but pay full for all birds on arrival.

Toronto Poultry and Garden Produce Co., Limited

470 Yonge Street - TORONTO

BELL .. PIANOS ... AND .. ORGANS.



Built to last a lifetime
By the Largest Makers
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BELL is the Musician's Favorite

The BELL ORGAN AND PIANO CO. Limited, GUELPH, Ontario

Catalogue No. 41 Free



International Stud Barns

Importers of Clydesdales and Shire
Stallions

Our last importation was Sept. 6. Our next importation will arrive March 16. A few Canadian stallions for sale cheap. Write for particulars. Remember, next arrival March 16.

J. B. HOGATE, Sarnia, Ont.

OAK LODGE YORKSHIRES



Years of CAREFUL BREEDING have made the OAK LODGE YORKSHIRES the Standard of Quality for IDEAL BACON HOGS.

The championship against all breeds has been won by this herd for 4 years at the Provincial Winter Fair, on foot and in dressed carcass competition.

Prices are reasonable.
J. E. BRETHOUR, Burford, Ont.

100% a Year is Big Interest

but that is what many users of
THE IMPROVED U. S. SEPARATOR
are receiving on the money invested.

It is not unusual to receive letters from users of the U. S. stating that it has produced enough more cream in a year to pay for the machine, to say nothing of the improved quality of the product and the saving of time and labor.

The U. S. Separator is not only

"The kind that gets all the Cream."

but it also wears the longest and saves its users much by not requiring repairs like other makes. Write for our latest illustrated catalogues.—Free.

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