

THE FARMING WORLD

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FOR FARMERS AND STOCKMEN

CONFEDERATION LIFE
TORONTO



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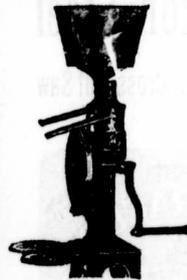
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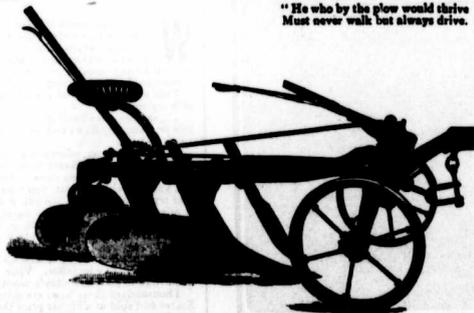
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If Fleming's Lump Jaw Cure saves one head of stock for you, it is worth ten times its cost. But one bottle usually cures one to three cases, and if it ever fails, your money will be cheerfully refunded. This same positive guarantee applies to the removal of all lumps and swellings, including Spavin, Curb, Splint and Ringbone on horses. Price \$3., or three bottles for \$5. Sent prepaid, if your druggist does not handle it.

Arkwright, Ont., Aug. 29th, 1890.

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JAMES A. FLETCHER.

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	10	"	5 to 7 "
Patented Steel Roller Bearings.	12	"	7 to 9 "
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Improved Steel Frame	16	"	11 to 13 "
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The repeated misrepresentation of the VERMONT FARM MACHINE Co. (manufacturers of the so-called "U.S." separator) in this regard, culminating with the malicious falsehood that no such award was made and that the De Laval Company is guilty of 'lying' in so claiming brings the matter to a point where common business self-respect demands that some radical action be taken.

We have, therefore, this day instructed counsel to at once take such legal steps as may be justified and proper in the circumstances against both the VERMONT FARM MACHINE Co., and, where practicable such papers as may have given advertising publication to these false and libelous statements.

THE DE LAVAL SEPARATOR CO.

NEW YORK, Nov. 17, 1901.

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EDDY'S PARLOR MATCHES

Are put up in neat sliding boxes convenient to handle. No sulphur. No disagreeable fumes. Every stick a match. Every match a lighter.

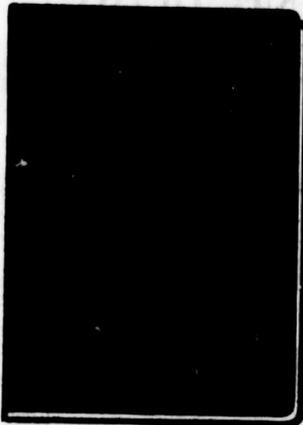
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BELLEVILLE, ONTARIO

We teach full Commercial Course
Full Shorthand Course
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Our graduates in every department are to day filling the best positions.

Write for Catalogue. Address,

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for the NEW PICTORIAL STOCK DOCTOR AND LIVE STOCK CYCLOPEDIA, revised to 1901 with the assistance of the Professors of the Ontario Agricultural College, Guelph. The finest illustrated, cheapest and best book of its kind ever published. Large wages for agents. Particulars mailed free. Address—

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Secret Temper, Cross-Cut Saw



WE take pleasure in offering to the public a Saw manufactured of the finest quality of steel and a temper which toughens and refines the steel, gives a beaver cutting edge and holds its longer than by any process known. A saw, to cut fast, "must hold a keen cutting edge."

This secret process of temper is known and used only by ourselves. These saws are elliptic ground thin back, requiring less set than any Saws now made, perfect taper from tooth to back.

Now, we ask you, when you go to buy a Saw, to ask for the Maple Leaf Razor Steel, Secret Temper Saw, and if you are told that some other Saw is as good, ask your merchant to let you take them both home and try them, and keep the one you like best.

Silver Steel is no longer a guarantee of quality, as some of the poorest steel made is now branded silver steel. We have the sole right for the "Razor Steel" brand.

It does not pay to buy a Saw for one dollar less and lose five per day in labor. Your Saw must hold a keen edge to do a large day's work.

Thousands of these Saws are shipped to the United States and sold at a higher price than the best American Saws.

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The Farming World

For Farmers and Stockmen

Vol. XIX

JANUARY 6th, 1902.

No. 28

A Splendid Gift to Agriculture.

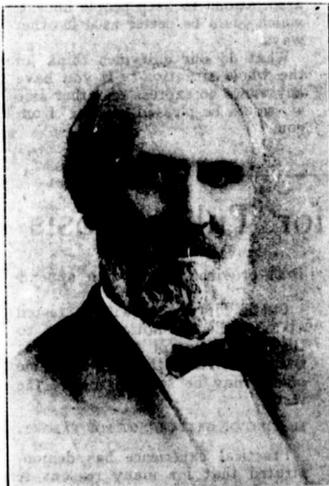
IT is just about one year since the trustees of the late H. A. Massey gave to the Ontario Agricultural College a sufficient sum to erect a new library and convocation hall. That was, perhaps, the first bequest of its kind ever made to Canadian agriculture. Last week the announcement was made that Sir Wm. Macdonald, through whose liberality the manual training movement has been so successfully introduced into this country, had placed at the disposal of the Ontario Government the sum of \$125,000 to be used for the erection of buildings in connection with the college at Guelph for the purpose of giving instruction to teachers in the elements of nature study and domestic science, the latter for women and especially as it relates to agriculture.

The Government has been pleased to accept the offer and will take immediate steps to carry out the project. Dr. Mills and Mr. Miller, Government Architect, will leave in a few days to collect ideas in the United States for the architectural designs of the new buildings. A site has already been selected. The new institution will be, as is the Ontario Agricultural College, under the direct control of the Department of Agriculture, though it is possible that the Minister of Education may have some connection with it under the new regulations. The details as to length of term and as to whether it will be compulsory on teachers to take the course or not have not yet been decided upon. The general outline of the scheme has been under consideration for several months back, and Prof. Robertson, who represents Sir Wm. Macdonald in the matter, has had several conferences with the Government and the management of the college in regard to it.

No extended argument is needed to show the value of these new buildings and these new courses of study to the agricultural interests, not only of Ontario but of the whole Dominion. A beginning has been made in the teaching of agriculture in the public schools of this province and a text book authorized for the purpose. But the movement, from some cause or

other, has been hanging fire and very little progress has been made during the past year or two in promoting the teaching of agriculture in our public schools. It is to be hoped that this new movement, and we believe it will, will give a renewed impetus to the study of agriculture in rural schools. It provides, as nothing yet has done, for reaching the fountain head in the matter of agricultural education by training teachers for this work.

The domestic science course will be of distinct advantage to the women of the farm. We have contended for some time that domestic science should be taught at the college and should form part of the college curriculum. We are there-



SIR WM. MACDONALD.

fore very pleased indeed to know that such training as will enable the farmers' wives and daughters of the country to perform the duties of the household in an intelligent and skilful manner, as Sir Wm. Macdonald's munificent gift will enable the Government to provide, will be forthcoming at no distant date. We believe that such a course will be greatly appreciated by the women of Ontario, the workers in the homes, upon whom the welfare and well-being of every citizen so much depends.

Sir Wm. Macdonald's generosity is a striking tribute to the importance of the agricultural interests of

this country. His splendid gift, if properly utilized and taken advantage of, as we believe it will be, supplies the means for greatly advancing the agricultural interests of Canada and bettering the position, both socially and intellectually, of every son and daughter of the farm.

The Cheese Industry.

SOME THOUGHTS OF VALUE TO
MAKERS AND PATRONS.

In our correspondence column this week appears a letter from Mr. Bruce E. Johnston dealing with the farmers' or patrons' duty in relation to improvement in the quality of our cheese. He points out, and rightly so, that the quality could be greatly improved if every farmer would give special attention to supplying a pure, clean and wholesome quality of milk to his cheese factory. Mr. Johnston is evidently a patron himself and therefore his advice to his brother patrons all over this Dominion has more force than it would perhaps, if it came from one connected with the manufacturers' or makers' end of the business.

While it is of the utmost importance that more modern factories and equipment must be provided in many parts of the country, the patrons' end of the concern must not be neglected. The most modern buildings and equipment with the most skilful maker thrown in cannot produce a first-class article of cheese from a poor, inferior, bad flavored milk, a not uncommon commodity at many a Canadian cheese factory. The patron must either be educated to supply good milk of his own free will or be compelled to do so by lessening his dividends from the factory where he delivers inferior milk. We have every faith in educational methods and believe that a thoroughly organized propaganda among the patrons of our cheese factories during the next year or two will accomplish wonders in the way of securing a better quality of milk at our cheese factories.

To put this educational work on a good footing, however, the services of the maker must be enlisted. He should be thoroughly informed as to the best methods of caring for the dairy cow and the

milk she gives so that he can go among the patrons of his own factory and educate them as to the best methods of caring for milk for cheese-making purposes. Too many of our makers shrink from work of this kind and prefer to have nothing to do with the business outside of the factory walls wherein they have control. In our opinion makers make a serious mistake when they assume this attitude. How are the outlying patrons of factories to be reached and educated to better methods unless the maker takes a hand in the game. There is too much of a tendency in these days for makers to hold themselves aloof from what are considered the patrons' duties and for patrons to ignore entirely the duties of the maker. There should be an intermingling of interest and knowledge in these particulars, not that the maker may take over the responsibility that devolves upon the patron or vice versa, but that by each familiarizing himself with the duties of the other they may both be able to help each other. We understand that one of the Dairymen's Associations of this province, whose annual convention takes place this month, is arranging for a two-day meeting for makers and a one-day gathering immediately after for farmers. While there may be advantages to both the maker and farmer by such an arrangement it has the effect of drawing too distinct a line as between the duties of the maker and the patron. At this convention it will do no maker any harm to listen to every address on the programme set down specially for farmers, while it will not be unprofitable for the farmer or patron

to hear the makers' part of the convention. In our opinion therefore, it seems rather unfortunate that the association in question should accentuate the breach between the patron and the maker by drawing too decided a line between the two in the arrangement of the programme. The patron and maker should come into closer touch one with the other. From this alone can come a great share of the improvement necessary in the quality of the milk supplied to many of our cheese factories.

But we have digressed somewhat from the thought in our mind when we began this article. Mr. Johnston suggests that the quality of the milk delivered may be greatly improved by paying for milk according to the percentage of fat. This is quite true, though the paying for milk by this plan is a dead letter seemingly in connection with Canadian dairying. But is there any good reason why it should be a dead letter? We fail to find any. It is admitted by dairy authorities everywhere to be the fairest way of paying for milk supplied for either cheese or butter-making purposes. If so, then it should be the method adopted by every cheese factory in the land. Not only will it induce a better quality of milk but it will do away with the necessity for expending a large amount of public money every year by the dairy associations to keep people honest, which could be better used in other ways.

What do our dairymen think of the whole situation? If you have any views to express on either side we would be pleased to hear from you.

Testing Cattle for Tuberculosis

The Department of Agriculture at Ottawa has issued the following, regarding the tuberculin testing of cattle for export and for local uses:

In consequence of dissatisfaction having been expressed by the Bureau of Animal Industry of the United States Government at Washington with the results of testing of animals purchased in Canada for importation into the United States, an agreement was entered into in February, 1901, between Secretary Wilson, of the United States Department of Agriculture, and the Honorable Sydney Fisher, Minister of Agriculture for Canada, whereby all testing of cattle intended for the United States must be done by permanent official veterinarians duly appointed and paid by the government. This necessitated the cancellation of a large number of nominations of veterinarians throughout the Dominion for the purpose of testing, as well as increasing the number of permanent officials, who alone are authorized to test for export to the United States. A list of these in

each province is herewith appended.

Cattle for export will be tested at any time due notice is given to the Department of Agriculture at Ottawa, so that the first available officer may be sent to make the test.

TESTING OF CATTLE NOT FOR EXPORT.

Practical experience has demonstrated that for many reasons it is undesirable to test dairy stock from March to October. Many cannot be tested, owing to being advanced in pregnancy; the disturbance of the cattle in removing them from the fields into byres, change of food, heat, flies, all interfere with the reliability of the test; besides, much valuable time is lost by owners and inspectors, when the work is done during the busy season. Therefore, no testing will be done of dairy stock or of any stock not for export, except from October 1 to March 1, or at the period of the year in which the cattle are regularly housed. Applications should not be sent to inspectors direct. When so sent,

delays and disappointments occur, whereas, when sent to the department, a proper disposition is made. Should it be found that more applications are sent than can be complied with by the permanent staff, a sufficient number of qualified local veterinarians to test animals not intended for exportation to the United States will be temporarily employed.

TESTING IN GREAT BRITAIN.

It was considered necessary for the protection of Canadian cattle, to take special measures to prevent tuberculous animals being imported, and for this purpose an official veterinarian was appointed and located in Glasgow. The United States government took similar action, their inspector being located at London, and, for mutual convenience, it was agreed that each country would accept the certificates of either inspector, and cattle arriving accompanied by a certificate of test signed by either of the inspectors need not be retested before leaving quarantine. When not accompanied by these certificates, they will be tested by the quarantine superintendent before being allowed to leave the quarantine.

OFFICIAL VETERINARIANS TO TEST FOR EXPORT.

Prince Edward Island.—W. H. Pethick, V. S., Central Bedeque.

Nova Scotia.—William Jakeman, D. V. S., Halifax.

New Brunswick.—J. H. Frink, V. S., St. John.

Quebec.—J. A. Couture, D. V. S., Quebec; V. T. Daubigny, D. V. S., Montreal; A. E. Moore, D. V. S., Montreal; C. H. Higgins, D. V. S., Montreal.

Ontario.—Wm. Stubbs, V. S., Toronto; J. H. Tennent, V. S., London; Geo. H. Higginson, V. S., Rockland.

Manitoba.—Chas. H. Little, V. S., Winnipeg.

Northwest Territories.—J. C. Hargrave, D. V. S., Medicine Hat.

British Columbia.—J. B. Hart, D. V. S., Vancouver.

OFFICIAL VETERINARIANS FOR TESTING IN GREAT BRITAIN.

J. G. Rutherford, V. S., care of Canadian Government Agency, Glasgow, Scotland; Toole A. Geddies, V. S., care of U. S. Consul General's Office, London, England.

May Locate in Canada.

We had a pleasant call last week from Mr. Henry Arthur Justice, chief agent of the Right Honorable Lord Tredgar. Mr. Justice is visiting Canada to gain information regarding agricultural matters with a view to settling in this country. He will visit several points in Western Ontario during the next week or two. He reports considerable interest in Canadian agriculture in the old land, and stated that a friend of his had only a few days ago decided to locate in Sussex County, New Brunswick.



J. A. RUDDICK.

Hints and Suggestions for Improving the Dairy Industry

Extracts from an Address by J. A. Ruddick, Chief Dairy Expert, Before the Ontario Experimental Union, on December 10th, last

We have heard a good deal about the deterioration in the quality of Canadian cheese. A gradually declining market may have had something to do with it during the past season, but it is no new thing, and the complaints which have come from our customers in England, for two or three years past, are too serious to be ignored.

It would be a difficult thing to prove that the quality of our cheese has actually deteriorated, but I do know that a large quantity of very inferior cheese has gone forward during the past two seasons. I speak with some assurance on this point, because during that period I have had exceptional opportunities for getting the information by constantly visiting the Montreal warehouses, and examining large numbers of cheese. There is no other way by which this information could be got so accurately. Whether there is more poor cheese now than there was three years or four years ago I am not prepared to say, but it does seem as though we had not made the advancement for some time past that one would naturally expect to follow the excellent work of the dairy schools and travelling instructors, to say nothing of the great prominence given to dairy matters by all sections of the press, but particularly by the papers de-

voted exclusively to agricultural matters.

SELF-SATISFIED FEELING.

It seems to me that one of the things which has been retarding progress in Ontario is the self-satisfied feeling which has been all too common for several years past. We have been patting ourselves on the back and depending on past achievements rather than on future exertions; we have been justly proud of the fact that Ontario was among the very first countries to employ travelling cheese instructors, and that many of our boys are now filling important positions as instructors in different parts of the world, but these facts in themselves do not improve our cheese. It would have been more to the point to have kept these instructors in Canada instead of allowing them to leave for the purpose of assisting our competitors to win against us. Every Canadian was proud of the splendid victory which our cheesemakers won at Chicago in 1893, and the advertisement which Canadian cheese received on that occasion was worth a great deal, but to hold the position attained called for redoubled efforts and increased vigilance all along the line. Having earned such a high reputation, more was naturally expected of us. The very beating which we gave our competitors

has ever since been an incentive to them to employ every possible means to overtake us, and if we are to judge by recent events their efforts in this direction have not been without effect. I do not think Canadian cheesemakers are apt to have their heads swelled very much by the results of the competitions which have taken place during the past summer at Buffalo, with our friends in New York State claiming the victory for October, unless it may be from the ridiculously high scoring of the cheese.

TOO MANY SMALL FACTORIES.

But there are other and more concrete causes which are working against the advancement of the cheese industry at the present time. I believe the most serious one is the existence of so many small factories, a condition which brings in its train a whole string of evils.

In the first place, the competition for milk is so keen that the cheesemaker is often prevented from exercising his judgment in rejecting any which is not in proper condition, and the patrons realizing that if one factory does not take their milk another will, become indifferent and careless in their methods of handling it. The price for manufacturing is cut down to the lowest possible limit, which means poor buildings, poorly equipped in every respect. Given these conditions, along with the inferior milk, it goes without saying that the most skilful cheesemakers cannot turn out an article that will meet the present day demands of the market.

WAGES TOO LOW.

The Canadian cheesemakers, as a body, are the best trained of any in the world to-day, and if they were given half a chance there would be very little cause to complain of the quality of our cheese, but any calling in which the wages are sometimes screwed down as low as thirty and even twenty-five dollars a month, and that for only about half the year, is sure to number within its ranks men who are not of the right class to make any industry a success.

Many bright young men take up cheesemaking, and fit themselves thoroughly, only to find when they want a situation that the man who will work the cheapest is usually given the preference, regardless of his qualifications. The result is that scores of the most likely makers quit the business in disgust and take up some other work. Of course there are many notable exceptions of men who have made cheesemaking in Ontario a life's work, and who have succeeded in making a name for themselves and for the factories which they have managed, but it has not been done in a factory belonging to the class which I have described. I do not wish to be misunderstood. I know that there are hundreds of first-class cheesemakers in Ontario, and I know also that there are hundreds of good factories where the conditions which I have outlined do not prevail. If it were not

so the cheesemaking industry could never have succeeded as it has. But I am trying to deal with the defects in the business. Therefore, I desire to show up its weak spots in the strongest possible light. Nor is it to be supposed that all cheese which is made in small factories is of inferior quality, for there is nothing to prevent the very finest cheese from being turned out of a factory which does not make more than five or six cheese a day, providing the conditions are what they should be. The point I want to make is that such a small business means cheapness, and although a good factory may be put up to start with, lack of funds will prevent it from being kept up to the mark, the necessity for increasing the milk supply encourages the patronage in sending milk which is not in good condition, and if by any chance a capable maker is secured, he is not likely to remain long in a place which has so little to give him in return for an intelligent, skilful service. I know as well as any person that good cheese is often found in very small factories, but the general tendency is demoralizing, and can only have one result in the end.

Then there is the comparative cost of manufacturing in small factories as compared with larger ones. The actual cost at many factories is over one cent per pound, not counting the cost of hauling the milk, and this, notwithstanding the fact that everything is done in the cheapest possible manner, and starvation wages paid to the cheesemaker. At other and larger factories where everything is first-class, and managed by a well paid cheesemaker, the cost of manufacturing, including the hauling of milk, has been reduced to less than one cent per pound of cheese. The money lost to the dairymen of Canada through this source amounts to an enormous sum annually.

THE BUTTER TRADE

Turning our attention now to the buttermaking branch of the industry, we find some features of it in a somewhat different position from the cheese branch. The most gratifying feature of our butter trade is that the quality of our butter continues to improve and give better satisfaction to the consumers. Much of the improvement is due to better transportation facilities, which enables us to place our butter on the English market with less deterioration in transit than there was formerly. The refrigerator car system, with routes subsidized by the Dominion Government, reaching nearly every part of the country, the cold storage warehouses and refrigerated space on the steamships have made a successful export trade in butter not only possible, but capable of almost indefinite expansion. If we continue to improve as we have done for some years past, it is quite possible that our export of butter will grow to a very large extent. But we shall not win a foremost

place on the markets of Great Britain with our butter as easily as we did with our cheese, because the competition is much keener. . . . The only hope for the future is to make a superior article, and then see that it is transported to the customer under such conditions as will ensure its arrival without deterioration. The market is now more than ever supplied with under grade butter since Russia has entered the field. Let Russia supply that second class article, for that is not good enough for the product of Canadian intelligence and skill properly applied.

It is a good thing for our butter business that those engaged in it have not been given to self laudation so much as the cheesemakers have, but realizing their deficiencies, they have, with the help of the dairy schools, made an earnest effort to improve.

TO REMEDY DEFECTS.

It is obvious that if large factories are to take the place of the smaller ones, that the patron must be convinced that it will pay him to send his milk to the larger one. He will never do so for the sake of the industry as a whole. Something might be done by giving prominence to annual statements of large and flourishing factories. The lower cost of manufacturing would appeal to the average patron as no other argument would.

I would have more edge put on the work of the travelling instructors. These men have done excellent work, and I have no fault to find with them, but they have been hampered a good deal by not being entirely independent of the factories. This applies perhaps more particularly to Eastern Ontario than it does to the western part of the province. The instructors should give more attention to the milk supply, and to the general condition of the factory, and then be in a position to state the bare facts to those concerned without prejudice to their own interests. I am afraid there has been too much tendency to gloss things over for the sake of peace and popularity. If the true state of affairs were better understood by patrons they would not be so ready to support the poor factories where such indifferent work is done.

IMPROVE SANITARY CONDITIONS.

It would be a good thing if some means could be devised for compelling the proprietors of many cheese factories and creameries to improve the sanitary condition of their premises. The remarks which one hears concerning the offensive character of the surroundings of the average factory are often so pointed as to make a man feel almost ashamed of being connected with such an industry. We might very well follow Denmark's example in this respect, where they have a law which lays upon every cheese factory or creamery the obligation to provide proper drainage. It is specified that all waste and slops must be conveyed in a closed tile

drain to a certain distance from the factory. With the floors of cement concrete or stone flags there is then no danger of a nuisance being created or the water supply being contaminated as is too often the case in this country. If the general appearance of the factories and their surroundings were improved it would not only raise the general tone of the business, but it would be bound to have an influence on the patrons by encouraging them to do their part better. Cheese and buttermakers are a good deal to blame in this matter, for I have seen many places where the makers were so untidy in their work and personal appearance that for them to complain of tainted or unclean milk would be an absurdity, if not an impertinence, and not very likely to have much effect in any case.

THREE CHIEF DEFECTS IN CHEESE

There are three prominent defects in Canadian cheese as landed in Great Britain, viz., "heated flavour," "weak open body," and "poor condition of boxes."

We have plenty of evidence of late to prove that the natural temperature of the curing rooms is too high during the summer months to secure good results. Cheese go off flavour and the body becomes rough and mealy, whereas if these same cheese were cured at a lower temperature they would be preserved in a better condition and suffer less loss in weight. At what temperature the cheese should be cured to secure the best results, quality and profit both considered, has not yet been clearly established. Cheese have been taken direct from the press and held at a temperature below the freezing point of water for eighteen months, showing at the end of that time very desirable qualities as regards flavour and body. Prof. Dean and others report experiments in curing at a temperature of 38 to 40 degrees with similar results. This, of course, means cold storage from the time the cheese is taken from the hoops. Earlier experiments, some of which I conducted myself, have shown that even a temperature of 60 to 65 degrees as compared with an uncontrolled temperature, going as high as 90 degrees, produced a cheese free from the very objectionable effects of heating, and further that there was a saving in shrinkage which, added to the increased value of the cheese, would in a year or two pay for such improvements in the curing room as would enable the manager to control the temperature to the extent mentioned.

When cheese have a "weak, open body," the blame may be laid entirely upon the cheesemaker. It is the result of insufficient development of acidity in the curd before salting and putting to press. Lack of judgment and haste to finish the day's work are responsible for this defect in the quality of our cheese. Makers who are not well grounded in the principles underlying their work are not able to readily ad-

just their manipulations to meet the changed conditions of the milk following a change of weather.

That much of the Canadian cheese reaches the English markets with the boxes in a disgraceful condition cannot be denied by anyone familiar with the facts. The steamship companies have adopted improved methods for loading and unloading cheese since representations were made to them on the subject by Prof. Robertson, but the facts remain that there is still a very large percentage of boxes arriving in a smashed and broken condition, detracting very much from the appearance and value of the cheese. The agents of the department stationed at London, Liverpool, Bristol and Glasgow reported as many as 10, 20, 30 and even 50 per cent of the boxes in a whole cargo as being landed in a damaged condition.

The main reason for this state of affairs is that the boxes are too flimsy, and not well enough made to stand the handling. Many boxes are made of too light material, and some are not sufficiently nailed. It is said that the price of boxes has been beaten down until the manufacturers cannot afford to make as good a box as they might make if paid a reasonable price. Through lack of management on the part of the cheesemaker or factory owner, many boxes do not fit the cheese properly. It is a common thing to find boxes fully one inch larger in diameter than the cheese which they contain, and it is among these that the largest proportion of breakages occur. There are some cheese which carry to their destination with a very small percentage of broken boxes, notably those from Prince Edward Island and from some of the factories in the Brockville district. It is because the boxes are well made and fit the cheese snugly. The factories in the Ingersoll and Listowel districts also have a reputation for attending well to the matter of boxing their cheese, and they are well paid for doing so. It is regrettable that all factories cannot avoid mistakes of this kind, for it is a simple thing to get a box which fits the cheese properly without the slightest extra cost. More attention should also be paid to the branding of the boxes and marking of the weights. To mark weights with a pencil is a slovenly and unsatisfactory method, which should not be tolerated in any factory. A stencil for the purpose costs only a few cents.

DEFECTS IN BUTTER.

It is safe to say that the principal defect in the quality of Canadian butter, as in the butter from any other country, is in regard to the matter of flavour. The causes which give rise to this defect are many and not always easily located, but the buttermaker has a great advantage over the cheesemaker inasmuch as he has it within his power to control the flavour of the butter to a very great extent by the use of good flavoured fermentation "starters" and by

proper attention to the ripening of the cream. His failure to do this is one reason why the butter is often inferior in flavour. Butter-makers must study this question of ripening cream and the use of "starters." The trouble is that very often the "starter" produces a bad flavour instead of a good one. It is not possible to get fine flavoured butter where bad starters are used any more than it is to get a crop of wheat from the mustard seed. The difficulty is that many buttermakers apparently do not know the difference between what is a proper starter and what is not. This is where the necessity for study comes in. Another great need is for a better understanding of the principles underlying refrigeration and cold storage. Creamery managers do not appreciate the importance of keeping butter at the lowest possible temperature. If a creamery cold storage cannot be kept at a temperature as low as 36 degrees by the use of ice and salt in cylinders there is something wrong either in the construction or in the management of it. I have a thermograph record from one of the Northwest creameries which varies only between 38 and 34 degrees for a period of one week during very hot weather. The refrigerator never should be used for retail butter or for holding between workings. That means opening the door too often, allowing warm, moisture-laden air to get in, causing dampness and higher temperatures. An ante-room should always be provided where butter may be chilled or held for short periods. Butter is often damaged between the creamery and the refrigerator car by being carried in the hot sun without protection. I have seen it left for hours on a station platform

exposed to the same injurious influence. That is one reason why butter is sometimes delivered from the refrigerator cars in a soft condition. These cars are only intended to hold butter in the condition it is in when delivered to them.

Referring again to protection for butter when being carried in the hot sun. I would point out that a tarpaulin made impervious by means of linseed oil should never be used. The oil seems to absorb heat, and anything lying immediately under such a covering with the sun shining upon it will be at least ten degrees hotter than if exposed to the direct rays. A canvas cloth without any oil is all that is necessary, and it will be more effective if held a few inches above the top of the load in order to allow the air to circulate freely underneath.

The agents of the department have reported some cases of mould on Canadian butter during the past season. This may be caused by unseasoned timber in the boxes, but it more often is the result of the boxes or parchment paper being infected with mould at the creamery. A great deal of carelessness is displayed in these matters, and if you go into some creameries you will find the parchment paper lying about without any protection, when it ought to be handled as carefully as the butter itself. As a preventive measure, the paper should be soaked for 24 hours before using, in a strong brine made with boiled water and to which formalin is added at the rate of one ounce of formalin to 3 gallons of brine. We have never been troubled with mould in the government creameries since this practice was adopted.

Our Western Letter

The Car Famine in the West—Half of Wheat in Producers' Hands

Nothing could bring us to a better realization of the immensity of the grain crop of Manitoba and the North-West Territories than the fact that, up to date, the railways have moved less than one-half of it. The transportation is the last point upon which the farmer would expect to stick. It seems so natural and so commonplace for the grain and other produce to come and go by trainloads that few had ever speculated upon the possibility of that happening which has come to pass.

To realize the situation it is necessary to have an insight into the farming methods of this country. The farmer's usual plan is to raise as much wheat as possible and market it as rapidly as his facilities will permit. Very few farmers have storage for the average amount of grain they grow. There is probably not one in five hundred who has storage for his crop of 1901. The vast bulk of the crop is drawn from the thresher to the

elevator. Where the distance is too great to permit the hauling to keep pace with the threshing, various kinds of temporary storage are attempted. The situation may be summarized in the statement that the farmer depends on the elevators for his storage.

The elevator capacity of the Province of Manitoba and the grain-growing sections of the North-West Territories may be roughly stated at 20,000,000 bushels. The amount of grain they are capable of handling, i.e., receiving and shipping, is practically unlimited. An elevator of average capacity and equipment can load cars as rapidly as they can be placed beneath the spouts and removed. Receiving, weighing, grading and sorting the grain from the farmers' wagons requires a longer time, but it is a mild way of putting it to say that a 30,000-bushel elevator can ship 10,000 bushels daily if the cars for shipment are available.

The Canadian Pacific Railway handles the bulk of the wheat grown here, probably as much as 90 per cent. Their lines serve the oldest, most thickly settled districts where the grain area is greatest, and they have the only direct line to the lake ports. The Canadian Northern and Northern Pacific lines to Duluth get the balance. It was our hope to have had the Canadian Northern line to Port Arthur completed in time to help in the movement of this year's crop, and as the season has advanced with its successive developments the disappointment has increased. The railways had ample warning of the task before them in moving the present crop. As far back as the middle of July the C.P.R. Co. were urged to settle the long-standing trackmen's strike in order that the roadbed might be put into shape for the enormous traffic that was expected; but they chose to save a few dollars by letting the track go until September 1st, when the threshing was commencing and grain already being marketed. The crop statistics, published in August, were practically the same as the final returns. The number of harvest hands imported was of itself sufficient indication that unusual demands would be made upon rolling stock this season. The railway officials claim to have done their best. Perhaps they have, since they set to work. But their best might have been better had they awakened to the reality of the situation a month or six weeks earlier. Another drawback is the fact that almost all the officials in charge here are men newly brought up from the east, who have not the intimate knowledge of the country possessed by those whom they displaced.

As stated in previous letters, the winter is upon us and more than half of our wheat is still in the hands of the producer. What does this mean to the farmer and to the Province generally? First and foremost, it means that the farmer will lose perhaps five bushels in every hundred by shrinkage. If his storage is poor he may lose more again, through its being damaged by the weather. This direct loss is serious enough, but this is not all. Indirectly he suffers still more. Every farmer has his bills to meet for supplies of all kinds, groceries, dry goods, binder twine, machinery, lumber, and usually these are liquidated at this season of the year. He had his wheat and there stood the buyer, cheque-book in hand, to pay for it. But without cars to ship the exchange could not take place, and so Mr. Farmer, lacking the cash, must give his note for the debt, at seven or eight per cent. Figure as you may, the farmer who has not yet sold his wheat is bound to lose from five to ten cents per bushel, or from ten to twenty per cent of his crop—and why—because the railway management will not supply, or did not supply, the cars to carry it to the lake before close of

navigation. Threshing was far enough advanced to have permitted the export of every bushel that the elevators could not hold, before the 6th December.

Now, why was this state of affairs permitted? There are those unkind enough to say that the railways consider they will make just as much if they haul the wheat in the spring as by hauling it in the fall. Therefore, why should they worry over the car shortage. The pudding is theirs—why should they hasten to devour it; let it keep till spring. To take a more lenient view of the matter, let us say that they were willing but incapable. The rolling stock is totally inadequate for the needs of this country. The line between Fort William and Winnipeg (which they claim does not pay running expenses) is overburdened with traffic. For years they have planned a double track to the lake—an admitted necessity which they must sooner or later execute. The terminal facilities at Fort William are imperfect and necessitate from one to several days' delay in unloading cars. The policy of spending as little money as possible in new equipment, in maintenance, is carried out to the letter, and this short-sighted policy, which led to the construction of the Canadian Northern, will result in further losses in future. It must be borne in mind that the shortage of cars has occurred not at one point but at almost all points; not on one day or for one week but throughout the season, and continues at present though the daily shipments are only half those of a month ago. It must further be borne in mind that wheat is not the only staple affected. Coal and flour are likewise affected, and many a farmer

has driven miles to town, day after day, to hear the same story of "Still no coal." The remarks of Hon. Mr. Bulyea, Commissioner of Agriculture for the N. W. T., graphically portray the situation in that portion of the west. "Indian Head could have shipped a train-load of wheat every day for the past month and still have plenty in sight." (Interview Dec. 20th.)

Now for the remedy—more cars, more locomotives, more confidence in the country. Smaller dividends for a year or two perhaps (there's the rub) until the railway and its equipment catches up to the times. Better terminal facilities at Fort William—better road bed—improvements all round, including a management at Winnipeg more in touch with the needs of the country and capable of estimating its future requirements.

Let them take courage from the example of other institutions who have investments in this country, banks, mercantile houses and others who are building now the foundation for future operations. Surely our "Great National Highway" will be second to none in enterprise and energy.

From all parts of the Province farmers are calling upon the Government for the extension of the Canadian Northern, since experience has demonstrated that where there is competition there is no car shortage. This means that the railways do their best for the points where farmers have a choice of routes, and neglect those where there is no such choice. This commentary on their methods may be severe but it is just and irrefutable.

There is only one alleviating possibility—wheat may go up in the spring, and then the farmer may retrieve his losses.

Correspondence

Septic Tanks for Farm Homes Editor The Farming World.

Mr. M. J. Quinn's description of a septic tank in *The Farming World* of the 10th inst., was instructive to me. If Mr. Quinn would kindly explain more in detail his ideas of a septic tank, he would confer a favor on many of your readers.

I do not understand why "pipe D with branches should be perfectly level." A slight continuous fall would appear to me better. Is the apparatus not liable to choke from papers, rags, or such material as often finds its way into soil pipes from dwellings? The tank is to be of brick, but fig. 1 shows the top flat, and not arched, an impossible construction with brick. Again, "the fresh air passes up soil pipe E to the roof." Surely a ventilating pipe not mentioned here must join E vertically and run above the roof. As the tank close to the dwelling is unsightly, then in case

of its removal to a distance from the dwelling, would not a vertical vent pipe on E close to the tank suit for ventilation?

I should like to know what are the essentials of a septic tank. Are light and air necessary? I allow the waste water from kitchen and bath to flow away from dwelling and into a small surface drain, where microbes can multiply at pleasure, but I find that said microbes do not purify the refuse. On the contrary the drain becomes putrid and offensive, wherein is the essential to success wanting? What length of time is necessary for material to remain in chamber C to undergo decomposition before discharge. Why would not a continuous flow from chamber C suit, rendering a flush valve unnecessary?

A little more light on septic tanks for homes would be thankfully received by

Wm. MacLaughlin

Victoria, B. C., 18th Dec. 1901.

The Cheese Industry.

PAYING FOR MILK BY BUTTER FAT—
THREE QUESTIONS.

Editor The Farming World:

Enclosed I gladly send you my subscription for 1902, for I believe there is no source at present available from which the farmer can get so much practical and "up-to-date" information on all subjects pertaining to his calling, as from The Farming World. And anyone who will read and heed its contents from week to week must agree that his \$1.00 subscription was the best spent \$1.00 of the year.

There is one feature of our cheese factory interests which I beg to bring to your notice, with the desire to obtain more light on the subject.

We realize that if we are to increase the demand for Canadian cheese in our home or foreign markets, or even to hold our own, it must be by sending to the factory, milk of a superior quality, rich in butter-fat. And we believe that the "Babcock Test" is the best means at present available to ascertain the percentage of butter-fat in milk.

But we believe also, that since uniformity of quality in milk is practically impossible, the system in vogue in some factories of ascertaining the price of butter-fat by dividing the total price obtained for the month's cheese, less the cost of manufacturing, by the total lbs. of butter-fat found in the entire milk supply of that month, and then multiplying that price by the exact number of lbs. of butter-fat in each patron's milk, and regarding that as the cheese value of the milk supplied by the patrons respectively, is neither correct, nor is it fair to any of them, because it recognizes no value in the other ingredients contained in the milk, which form a large portion of the weight of the cheese. If there is any good reason which would justify us in extracting all the cheese ingredients from the patron's milk, and paying him for the butter-fat only, we would like to hear it.

Owing to dissatisfaction caused by this system some factories have discarded, and some are this year discarding the "Babcock Test" as a basis of paying for the milk, and are returning to the old "pooling" system.

This, we believe is a great mistake, because it is virtually putting a premium on quantity, without regard to quality, and this undoubtedly will, in time, impair the quality of our cheese and injure our reputation in our best markets, and to that extent must react against ourselves as producers.

Some other factories add 2 per cent. to the reading of the "Babcock Test," to represent the cheese ingredients found in milk, other than butter-fat, and from the number thus obtained they find as before what may be called the cheese value of the milk per lb., and thus pay each patron for, not simply

butter-fat, but for the cheese value of the milk supplied by him.

And while this latter system may not be perfect, it seems to us it is fairer to all concerned than any system yet found practicable, while at the same time it leaves a sufficient balance to the credit of milk rich in butter-fat to induce any patron to weed out cows furnishing poor milk.

In order that we may the better understand this subject and be able to intelligently adopt a system which will be as fair as practicable to all patrons and at the same time tend to improve, rather than to injure, our cheese trade, will you kindly get some competent authority to inform us through "The Farming World."

1st. What per cent. of the weight of cheese is due exclusively to butter-fat?

2nd. How many pounds more of cheese can be made from 100 lbs. of milk testing 4.50, than from 100 lbs. of milk testing 3.50?

3rd. What is the fairest method of paying patrons for milk supplied for the manufacture of cheese?

Trusting you will excuse this too long letter and wishing you the compliments of the season.

A. E. Kennedy.
Little Falls Farm, Selwyn, Ont.
Dec. 26th 1901.

Note.—This is a good practical letter and to the point. It shows a keener interest in the question of paying for milk according to its quality than we thought existed among the patrons of cheese factories. We have not space here to deal with the questions asked, and shall have to defer that till some later issue. In the meantime we shall be pleased to hear from interested parties who can give the information asked for.—
Editor.

The Farmer's End of the Cheese Trade.

Editor The Farming World:

As there has been considerable said of late in your valuable paper about cheese, the market for it and other matters connected with our cheese trade, I think there is plenty of room for discussion along this line. It is one of the most important products of our farms to-day, and it behooves us to guard and guide ourselves aright, and see if we cannot make some improvements in the quality of our cheese.

There seems to be something wrong as the market is both low and slow. What is it? It must be the competition we have to face, a fact that was plainly demonstrated at the Pan-American this season. Our cousins have recovered a lost reputation and to-day are making as good a quality of cheese as we are, and henceforth it will be a race for blood for the markets of the world. We have got to get down to business, and improvement has got to begin right at the farmer's barnyard, for it is here, I think, that a lot of big mistakes

are made. There is plenty of milk sent to our cheese factories to be made into wholesome food that should be dumped in for the bacon hogs, and I am not certain but it might affect the flavor of the bacon. Now, I do not propose to censure all of our honest farmers, oh no. It is only those that think it too much trouble to strain and cool or aerate their milk in a proper way so that it will go to the factory in a pure sweet form, and give the cheese maker a chance to make a good class of goods that are to blame. I sometimes think it would be a good plan to run the milk through a cream separator, as that would remove a large quantity of the filth that must otherwise go in the cheese.

Another matter of great importance is the quality of milk we send to the factory. So many men you meet have the one text: A big quantity of milk in the can regardless of quality. Now, I think quality all important. To convince the patron of this fact it might be a good idea to make half skims one season for home consumption. Some people do not know the difference, and an object lesson along this line would do them good. They would then know the difference between a good buttery cheese and a poor hard article.

It would be no trouble to reduce the present rate of ten pounds of milk, and over, for one pound of cheese, to eight pounds of milk for one pound of cheese. You have only to improve the quality of milk, but it seems a part of human nature to want to get a good deal of something out of nothing. A remedy for this state of affairs is to pay for milk according to the percentage of butter fat, then it will be every man's aim to make his quality good. There is more milk taken in at the cheese factories that tests under 3½ per cent. than goes over that rate.

If we desire to make good cheese we must have good goods to make it from, and you will be as far ahead, if not farther, with a better quality, for you will have a class of goods that will tickle any Englishman's palate.

Our factories are being remodelled to meet modern demands. Sanitary improvements are a necessity and it is just as much a necessity for farmers to supply milk in good pure condition when it leaves the milk stand. Then when we have done our part, which is of the greatest importance, as no maker can make good goods from poor raw material, the quality will improve. One might as well try to gather figs from a grape vine as to get good cheese from bad milk. Cleanliness is next to Godliness in this matter. Our dairy industry is our greatest money-maker to-day and stands first on the list. From it, also, our young stock comes, which has found a good market in the West; also the start for our bacon hogs. Bruce E. Johnson.
Picton, Ont., Dec. 19th, 1901.

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.

A soil to grow sugar beets successfully should contain a quantity of lime. It is very important whether your soil is rich or poor in lime.

Deep and thorough cultivation is essential to the successful growth of the beet. The beet requires a deeper tith than any other plant, because it can only with great difficulty overcome resistance in the soil.

It is necessary that the tap root penetrate to a great depth otherwise the beet is stunted in growth and becomes deformed, making it useless for sugar making purposes.

The use of the cultivator and the hoe are requisite to success, do not spare them. The beet crop will pay for every particle of time and work expended upon it. The more work the more pay.

The modern sugar beet of high sugar content has been developed and its present high quality has been maintained by careful selection of the mother beets, from which seed is produced.

At the beginning of the century, the sugar beet contained only 5 to 6 per cent. of sugar. The beets delivered to American factories in 1900 contained an average of 14.6 per cent. of sugar. The average in California in 1899 was 15.9.

The value of sugar beets is determined by the amount of sugar they contain and the purity, it is necessary therefore to so cultivate your crop as to obtain the highest results.

Prepare your land early in the spring and make all your arrangements to work up the soil and care for your crop now, do not trust to luck to help you out during the busy season.

No department of agriculture has made more progress than the growing of sugar beets. The intrusive and scientific manner in which it has been carried on has produced varieties suitable for nearly all kinds of soil.

Do not wait until you see how well your neighbor has done before you engage in "the growing of sugar beets for profit," you are a better farmer than your neighbor, and have better land. Show him how it should be done, don't wait for him to show you.

If there is no sugar factory in your immediate vicinity this year there may be one next year. Be prepared for it by raising a few beets and shipping to the nearest factory. You will then know how much money there is in it.

Wallaceburg.

Very little is said now-a-days about the sugar factory, but the work is going on steadily and people begin to realize the magnitude of the enterprise. But the one thing is lacking, i.e., beets, beets, beets. Contracts are still being taken and will continue until the full supply is obtained, the product of at least 5,000 acres are required to run this immense factory of 600 tons of beets per day capacity.

Walkerton.

Since the reorganization of the sugar company at this place, things have gone on with a more business like air. The new company have taken the matter in hand with a rush and everything points to a successful issue. No great effort is yet being made to secure stock subscriptions, as they realize that money without beets will never run a factory, and they are expending their energy in securing acreage contracts. Beets are the first necessity.

Dresden.

The contract for the erection of the sugar factory at this point has been awarded to The American Construction and Supply Co., of New York, and work will proceed at once. The ground has already been laid out, the excavating for foundations will be started, and as soon as the railway sidings are built, the material will be placed upon the ground ready for work in the spring.

The American Construction Company are one of the strongest of the construction companies engaged in this line of business in the United States, and they are now building a large factory at Sebewaing, Michigan. They have built recently a factory at Pekin, Ill., and one at Lyons, New York.

Capt. Jas. Davidson, of Bay City Michigan, the principal financial supporter of this factory is a man of very large means and made most of his money in the shipbuilding line. He has never invested much money as a shareholder in any of the factories in his own state, but holds a portion of the bonds of nearly every factory there.

Ontario Sugar Company.

The election of officers for the ensuing year of The Ontario Sugar Company, of Toronto, Limited, was held on Saturday, Dec. 28th, and are as follows:

President, Hugh Blain, of Eby Blain Co.; Vice-President, S. H. Janes, L.L.D.; Secretary, James Fowler. Directors, Hugh Blain, S. H. Janes, Jno. Flett, M. Mc-

Laughlin, Robt. Jaffray, W. J. Gage, Toronto; W. Hendrie, Hamilton; S. J. Williams, C. K. Hagedorn, Berlin. Solicitor, N. B. Gash.

Sugar Beet Pulp.

The prospects for a sufficient crop of winter food are this year, in many localities, not very encouraging with many farmers, especially those in the dairy business, and how to make up this deficiency in their feed supply is a great question. Those living within a fifty mile radius around the factory at Menomonee Falls, and not beet growers, will have an opportunity to augment their feed supply by buying the surplus beet pulp from the factory. The sugar beet growers, as is well known, are this year getting their proper share of beet pulp back free of charge if they choose to take it, having to pay the freight charges only. To those that wish to feed pulp this winter it will be interesting to know how to preserve and feed it to the best advantage.

To get along with the least losses possible, it will be best to dig a trench and proceed with the siloing of the pulp in the following manner:

Choose a somewhat elevated place for your silo, near the stable, so that the pulp need not be transported too far.

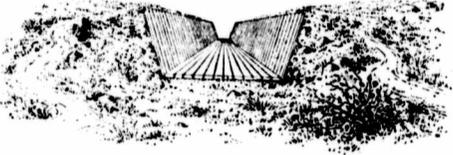
Then dig a trench about three to four feet deep. If possible have the silo run north and south, so that it can be opened at the south end when the pulp is usable. The walls should be perpendicular so that no air spaces can ensue when the pulp settles, whereby the same in such places might spoil.

If you have to do with a heavy clay soil, your walls will stand all right, but in lighter soils they may cave in later on unless lined with boards. The length of the silo depends upon the quantity of pulp you wish to preserve, but two feet by six feet wide by four feet deep should be sufficient for one ton of pulp. The corners of the silo should be rounded, and if you line it with boards, nail short boards across them, so that no air spaces will ensue in the settling of the pulp. The south end of the silo or the end near the stable, should be slanting so that one can get into the silo with a wheelbarrow, whereby the high pitching of the pulp will be avoided. So much about the digging or construction of the silo.

After you have spread a layer of straw over the bottom of the silo, and in the case of the clay walls, have lined them with straw, the siloing may begin. The pulp is unloaded, spread out evenly and tramped down well; then follows the next load and so on until the

silos is filled and well packed. Then load after load is added in the same manner above ground, with the exception that the pile is given a triangular, roof-like shape. After the pile is completed the same is smoothed down by beating it all around with a flat shovel. Then cover it with some straw, put on about twelve inches of dirt and smooth it down with the shovel. From now on see to it that cracks,

which time on it is more of a nuisance than anything else. But if the corn stalks are run through a shredder or feed cutter, and siloed in layers together with beet pulp, it becomes an entirely different matter. The surplus moisture from the beet pulp, which contains nutrients and otherwise escapes into the soil, constituting a loss thereby, absorbed by the cut corn fodder, which, in turn, becomes just as



A cheap Silo for Beet Pulp.

which might form in the dirt mantle through the settling of the pulp, are immediately closed, so that no air can reach the same and spoil it thereby. Later on, when frost comes, cover the dirt mantle with loose manure, which will keep it from freezing, in this way rendering the uncovering easier later on.

The pulp should be siloed when fresh as speedily as possible, so that no acetic acid fermentation can take place. The farmer will, therefore, do well to have a few neighbors helping him in hauling the pulp from the factory or from the car. If the pulp is siloed when in a fresh state, lactic acid fermentation will take place, rendering the food very palatable to the stock and the nutrients contained therein entirely digestible. The main fermentation of the siloed pulp will be ended in about two months, after which time the silo may be opened and the pulp fed out. If a farmer should not want to go to the trouble of digging a silo, he may preserve his pulp by piling it above ground and covering it with straw and dirt, in the heretofore described manner, but he will have to do more covering and uncovering so that on the whole a dug-out silo, especially if lined with boards, will be more satisfactory, as it may be used again.

Here we should like to draw the attention of the farmers to a form of siloing the pulp, which will give them a larger amount of feed and will be interesting to them, espec-

juicy and palatable as the pulp itself, and will be eaten very readily by the stock, every bit of it. Here we wish to remark that it is not necessary to tile-drain the silo but it should be free from ground water.

As soon as the silo is opened, uncover only enough for the day's ration, cutting down from the top to the bottom of the silo with a sharp spade, then close it again with several bundles of straw, so as to keep the pulp from freezing, as the eating of frozen pulp does not agree well with any kind of stock, especially milch cows.

The beet pulp constitutes a valuable feed for cattle and sheep, but no matter whether fresh or siloed pulp is fed, it will be well to begin with a small ration, say ten pounds a day per head of cattle, and gradually increase the amount to 30 or 40 pounds; for sheep from two to eight pounds. To feed to heavy rations of pulp is not advisable as this might have a scouring effect upon cattle, wherefore the salting of the pulp when being siloed should be also avoided. From 30 to 40 pounds of pulp a day per head of cattle should be a sufficient heavy ration.

As the beet pulp is especially rich in carbohydrates it will be well to feed some nitrogenous food besides, like clover hay, bran, ground oats or oil cake. It must also be borne in mind that sufficient roughage must be provided. This year, when hay is scarce and high



Another cheap Silo for Beet Pulp.

ially this year. This refers to the siloing of the pulp in conjunction with cut or shredded corn stalks (stover). If the corn stalks are fed alone, there ensues a loss of about 43 per cent. (according to Prof. Henry's statement), which is not eaten by the stock, and consequently goes to the manure pile, from

priced, well harvested and stacked barley or oat straw may be substituted. That it is necessary to keep the troughs clean is a foregone conclusion and every good dairyman knows that.

The feeding with pulp, of which every particle is digestible, whether in the fresh state or siloed, aids di-



Small crops, unsalable vegetables, result from want of

Potash.

Vegetables are especially fond of Potash. Write for our free pamphlets.

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

gestion and assimilation of the nutrients contained in the by-feeds, enlarges the flow of milk immediately and it stopped at once, reduces the same. It will therefore be good policy to silo enough pulp so it will last well into the month of June, so that it may be fed in reduced rations until the pasture is rich enough to sustain the flow of milk. The siloed pulp loses in weight through the process of fermentation, but if we figure on with fifty pounds a day per head for, say six months from the 1st of December on, and feed from 30 to 40 pounds, our pulp supply should last us well into the summer.—Am. Cheesemaker.

The Best Forage Beet

It frequently happens that the farmer would be willing to cultivate beets, but has not the facility of disposing of his crop, there being no factory in the immediate vicinity. The question arises would it not be desirable for him to grow them for cattle? This has been done in Nebraska on an extended sale and the result is that a beet-sugar factory was built in a farming centre, the enterprise having been carried to a practical termination by a single leading spirit. In cases where the tillers have no

E. H. DYER & CO.

Builders of

SUGAR MACHINERY

Cleveland, Ohio

Will contract to build complete beet sugar plants, including all machinery and buildings; also furnish the necessary technical and skilled help to operate them.

immediate prospect of seeing a factory that could handle the beets grown, they can, however, on a reasonable scale learn considerable about sugar-beet cultivation, not with the best variety of beets, but with a kind that is neither a forage beet nor a sugar beet, but yet offers the advantage of the latter and not the disadvantage of the former. The mangel gives heavy yields, but is watery and the total number of actual dry substances obtained from an acre in forage beets is less than from many varieties of sugar beets averaging 10 per cent. sugar. Upon general principles, we may assert that upon the same area and at the same expense the latter are most profitable from a meat point of view. It may be admitted and with accuracy that the total nutritive substances possible to obtain from a given area of land is directly proportional to the number of beets planted per square yard. This idea must not however be pushed to excess. The best results with the semi-variety of sugar beet, when cattle feeding is the object in view, is obtained by thoroughly working the soil in rows distanced 17.5 inches and spacing in rows of about 10 inches, these distances depending upon the soil, etc.; but they are averages obtained from long observation of experiments conducted under the eyes of the writer.—The Sugar Beet.

The pastor of a church in Chicago, on leaving his study, which is in the rear of the church, one day last week saw a little girl friend of his talking to a stranger. "What was that man saying to you, Madge?" he asked, as he came up to her.

"Oh," said she, "he just wanted to know if Dr. C— wasn't the preacher of this church."

"And what did you tell him?" asked the pastor.

The girl drew herself up with an air of great pride. "I told him," she answered with great dignity, "that you was the present incumbent."—N. Y. Tribune.

"Baby was taken very bad while you were out, mum," said the new servant girl.

"O dear!" said the young wife, "Is he better now?"

"O, he's all right now; but he was bad at first. He seemed to come over quite faint; but I found his medicine in the cupboard—"

"Found his medicine! Good gracious! What have you been giving the child? There's no medicine in the cupboard."

"O yes, there is, mum. It's written on it."

And the girl triumphantly produced a bottle labeled "Kid Reviver."—London Tit-Bits.

It happened on a crowded car. A seedy-looking man, very much the worse for liquor, rose to give his seat to a lady when a robust man

slipped into the vacant seat, leaving the lady still standing.

"S-a-a-y, you—you fellow you," said the boozey but chivalrous individual, as he swayed to and fro hanging to a strap. "I—I'm drunk,

I know, but I—I'll get over it, I will; but you—you're a hog, and you'll never get over it in—in this world—no, sir, never!"

And the other passengers agreed with him.

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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. He data will be published in the most condensed form.

A. P. WESTERVELT, secre. 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.

Situations Wanted.

Wanted—A position as house-keeper, by a widow, who understands all kinds of farm work and is a good milker. Good references. No. 966. a.

Wanted—A position by a young man to do teaming or general farm work. Has had considerable experience in the care of stock, is trustworthy and temperate, and can supply good references. No. 065. b.

Help Wanted.

Wanted—Two steady men for dairy farm, must be good milkers and temperate. Farm near Ottawa. Wages \$190 a year with board. No. 872. b.

Wanted—A man to work a 100 acre farm on shares, must be experienced and reliable. Farm well stocked and convenient, would give a third of the profits. Position open 1st of Feb., 1902. No. 873 b.

Wanted—A good active man to work on a farm and drive a flour wagon. Must understand the care of horses and be honest, trustworthy and have no bad habits. Wages for first year \$185 and board. If satisfactory will give an advance the second year. No. 874. b.

The Selection and Breeding of Dairy Cows and How to Feed Them.

By R. S. Stevenson.

(Continued from last issue.)

Q. Is timothy hay good feed for cows giving milk?

A. D. C. Anderson, Rugby, No, there is too much hard, dry woody fibre. Clover hay has far less indigestible matter, and nearly double the quantity of protein and fat.

Q. Does a cow give more milk and cream on mangels or turnips in equal proportions, other rations being the same?

A. Prof. G. E. Day: This question has never been decided. There



A Prize-Winning Ayrshire under three years of age. A good dairy type.

Wanted—For one year, a good, reliable man with considerable experience in general farm work and the care of stock. House provided if married. No. 875. b.

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

Farmers' Institutes.

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

G. C. CREELMAN,
Superintendent Farmers' Institutes

is probably so little difference, if any, that experiments in feeding cannot detect it.

Q. Can butter fat be increased in milk by feed of any kind?

A. It is doubtful whether it can be increased at all. At any rate, it cannot be increased to such an extent that the increase is of any practical importance.

Q. What temperature should water be for stock in winter?

A. T. G. Raynor, Rosshall: Between 40 and 50 degrees.

Q. Which is better for milk cows turnips or mangels?

A. Mangels. The feeding of turnips affects the quality of milk products.

Q. Do you water twice a day?

A. No, but I would like to if I had stable appliances to do so.

Q. Why does not barley meal give satisfaction in producing butter?

A. It affects the flavor injuriously.

Q. To what extent may turnips be fed for milk and its products?

A. The consensus of opinion is unfavorable to feeding turnips to milk cows. Some men can feed judiciously; others cannot, or do not. Where milk is pooled, the whole of the milk is injuriously affected.

Q. Is skim milk a good cow food?

A. Yes. (R. McCulloch, of Snelgrove, has success with it.)

Q. What is the reason we cannot get as much for our cattle as the Americans do?

A. James Tolton, Walkerton: We do not finish our cattle; we sell them too soon.

Q. Do you feed your grains dry?

A. Yes.

Q. Would you not consider it more profitable to feed cattle weighing twelve hundred than under one thousand pounds?

A. Yes, for short keeping. Oats is one of the best foods for cattle, but a mixture of oats, peas and barley is better.

Q. What would you feed if you had no roots or ensilage?

A. Bran.

Q. What is the best age to fatten if you raise your own cattle?

A. Two years of age, for profit.

Q. What would it cost to feed a bull well?

A. About \$25.00 a year.

Q. What is your winter ration for dairy cows?

A. W. C. Shearer, Bright: One sheaf of oats and peas, hay at 6 a. m.; at 9 a. m., one-half 45 pounds ensilage and 4½ pounds meal; at 3.30 p. m., balance of ensilage and meal, and at 7 p. m., all the oat straw they will eat. Our meal ration consists of four pounds oats, three pounds bran, and two pounds oil cake per day. The average cost of this whole ration is thirteen cents per cow per day. I also add two ounces of salt to each ration every day.

Q. In the absence of ensilage, what would advise for winter feeding.

A. I would prefer, under such circumstances, to have roots to give succulence to the food.

Q. At what time do you dehorn?

A. Mr. Pake, North Brant: From six weeks to six months.

Q. What would you give to scouring calves?

A. T. G. Raynor, Rosehall: Egg, castor oil and flour. Teaspoonful of rennet.

Q. Do you cut hay and straw for stock?

A. D. C. Anderson, Rugby: Yes, part of it, when feeding long and coarse oat straw. We pulp our roots and mix with the cut straw or chaff.

Q. Some of the delegates, who have been successful, claim that it is worth five dollars to the calf to get its first feed from the dam, and to let the dam lick the calf?

A. A. C. Hallman, New Dundee: Let them prove it. I can't.

Q. Does it prevent milk fever to let a calf suck its dam for a day or two?

A. Perhaps it does in some in-

stances, but sometimes the fever has commenced before calving. It is better, if the udder is very much distended, to milk some for a few days and a few light doses of salts is an excellent preventative.

Q. Which is the better for a dairy cow, roots or ensilage?

A. Better to have some of both. Q. What is your winter ration for dairy cows?

A.—Ensilage, roots and mixed grains.

Q.—Do you think a cow with a fleshy udder gives richer milk than a cow with a soft udder?

A.—No, not as likely to be as good.

Q.—If you were establishing a dairy herd, what breed would you select?

A.—If for a cheese factory or for milk, I would take the Ayrshire or Holstein.

The Muskoka Women's Institute

At the meeting of the S. Muskoka Women's Institute, Dec. 21st the following essays were given:

ORIGIN AND USES OF SUGAR.

Cane sugar is found in the stems and roots of all grasses, in fleshy roots as the beet, carrot, turnip and sweet potato, in the sap of trees as the date palm and sugar maple, in almost all sweet fruits and in the nectar of flowers. Besides this we have grape sugar, fruit sugar and sugar of milk. All sugar is composed of carbon, hydrogen and oxygen. It is more easily digested than starch, produces heat and energy and lessens fatigue. It has been found that soldiers on the march show less fatigue with a liberal allowance of sugar than without it. Various other experiments have been tried, the results showing that sugar in moderation is a valuable food.

COMPARATIVE VALUE OF FOODS.

Milk comes nearest to being a perfect food as it contains all the different kinds of nutritive materials that the body needs. Wheat bread contains all the ingredients necessary for life but not in the proportions best adapted for ordinary use. Meat and bread together form a very wholesome diet. The nutritive value of foods depends mainly on the amounts and proportions of actual nutritive material and the waste, such as bone, shell, skin, etc., also the proportion of water which is very large in some foods.

Vegetable foods are rich in carbohydrates, meats abound in proteins and fats. The proportion of nutrients in fish are smaller than in ordinary meats. White-fleshed fish have very little fat while fish with darker flesh are very rich in fat. Oysters have about the same proportion of nutrients as milk.

AT GUELPH

A short description was given of

the recent Winter Fair at Guelph. There was a splendid exhibit of poultry and fat stock, better than what was to be seen at the Pan-American or Toronto Fair. The presence of Lord Minto, Premier Ross, Hon. John Dryden and Hon. Sydney Fisher shows the high esteem in which farming is held—when dignified by our best efforts. That the number of progressive and appreciative farmers is increasing is shown by the fact while last year there were 1,500 Farmers' Institute tickets presented at the gates, this year there were over 3,000—more than double. It was also pleasing to see how the farmers crowded into the lecture room eager to learn all they could.

For the lady visitors the most interesting part was the Women's Session when Miss Watson, of the Hamilton Domestic Science School gave a lecture on the educational value of sewing and Mrs. Joy, of the Toronto Domestic Science School gave a practical demonstration of the preparation of some of our simpler foods, both of which were very instructive.

The same speaker then gave an address on "Sanitation, dealing with the location of wells, disposal of slop-water, care of cellars and ventilation of rooms. This was followed by an address on "Household Architecture" the speaker showing how, at a small expense, many uncomfortable homes could be made attractive and convenient with the aid of paint and a little carpentering.

Alice Hollingworth,
Secy.

Ontario Winter Butter Leads.

The following from the Montreal Trade Bulletin shows that Western or Ontario winter butter is superior to Eastern or Quebec made butter, while the very opposite is the case as regards summer creamery butter:

"It is somewhat strange that although the summer and fall creamery butter of the province of Quebec is of a finer grade than that of the same make of Western, yet the winter make of Western is superior to that of Quebec. We can only account for this on the assumption that the Western farmers feed their cows with more suitable food in the winter than do the farmers of this province who use turnips and other less desirable feed during the winter months. Or else the Western men have superior facilities in their factories during the cold weather for turning out creamery butter than we have in the province of Quebec. But whatever may be the cause the fact remains that Western made winter creamery is generally finer than Quebec winter creamery, although the case is reversed during summer and fall. In proof of this, more money has been paid for Western creamery this winter than for Quebec creamery."

The Farm Home

Let's.

Let's play that you and I are young again—

Young, with the wisdom of our older years;

We know the sunshine glows beyond the rain,

Love's smile of knowledge beams beyond our tears;

Come, put away old sorrows and regrets—

Let's play life back, beloved—oh, just let's!

Let's walk a little while amid the flowers,

And listen to the shining, sensate things;

Let's bring within these niggard, fleeting hours,

The glory of our lost and vibrant springs;

Let's put away the grief of life that frets

Its daily living: let's be happy—let's!

Let's just hold hands and look toward the sun.

See, not a cloud effaces heaven's blue,

No cloud to cross us now, or lie upon

The gentle peace that shines for me and you.

Look toward the light—ah, see, its glory gets

A rainbow hue; we will be happy—let's!

Let's hold each other dear, and dearer still,

It may not matter here the least at all,

But somewhere, somehow, if we only will,

The grace of loving shall upon us fall,

A perfect love that rises high and sets

The world to music; let us dream—just let's!

Annulet Andrews, in Times-Democrat.

Farming World Helpmates.

By M. E. Graham.

"What education should the girl receive who expects to become a successful helpmate for the up-to-date farmer."

The following reply is awarded 1st prize in the first series:

She should receive a Christian training, a first-class Public school education, and a course in a good business college if possible.

She should be thoroughly trained to be a housekeeper, needlewoman, and know the duties of a mother, understand the care and work of the poultry and dairy, and know how to manage a horse.

She should know the true value of time and money.

If opportunity and means will permit, she should study in fine arts, music and singing in order to

bring brightness as well as usefulness into her home.—Erin.

(I have given you this nom de plume as I infer you do not wish your name to appear. I have not given it because I think you come from Ireland but because in my school day autograph album I find a name similar to yours with the words "moved in from the 16th of Erin." I have not had time to look it up to see if there is any other points of resemblance. You have made a point by wishing your girl to be able to manage a horse. I consider a love of animals to be essential to the farm woman. I also like the third paragraph. Would be glad to hear from you on other subjects.)

A BACHELOR'S IDEAL — SECOND PRIZE.

Her education should start as a child by seeing and hearing nothing but complete harmony in the household. She should be taught respect and thoughtfulness for others. Receive a thorough education at the best schools to which her parents or guardians may be able to send her. Learn the art of conversation, being able to talk intelligently on the current events. She should read as many good books as she can find time for reading. Learn house-keeping and cooking thoroughly, understand the laws of hygiene and observe them. Learn all about the care of milk and butter-making, be able to milk, if necessary. Learn all about the poultry industry, and above all be a Christian in every word and act. Such a woman as the foregoing would inspire any man to do his very utmost and would make a wife and mother who would be respected and loved by her husband and children.—Bachelor.

(I hoped to see you at Guelph poultry show. I wonder if they made wrong shipments there.)

THIRD PRIZE.

(This covers the ground but gives no set rule as to where and how it must be obtained leaving the city girl, the rich girl, the poor girl and the farmer's daughter equal chances of becoming successful helpmates.)

A successful helpmate for the up-to-date farmer, should have a good education. Should be well skilled in domestic science, such as cooking foods properly, knowing their properties, and what constitutes a balanced ration; a scientific and practical bread and butter maker, able to do plain and fancy sewing, and keep a home healthy, comfortable and attractive.

She should understand the growing of vegetables, small fruits, and flowers. Also have a practical knowledge of successful poultry raising.

The housewife should have plans, aims,—know how to do, direct others to do, and judge the efficiency of the work done.

Lily M. Beam.

Black Creek, Ont.

FOURTH PRIZE.

She should have a good public school education, be able to keep accounts correctly, and to write a business or correspondence letter.

If at all musical she should be taught to sing and play sufficiently well to give pleasure to her home circle.

A course at an Agricultural College would be of the utmost advantage that she might learn domestic science, buttermaking, breadmaking, care of poultry, and how best to put upon the market the various products of the farm.

She should also have learned in her own home dainty housekeeping and how to care for little children. J. MacGregor.

Hints by May Manton.

Cloth Doll, With Outfit, Consisting of Three-piece Skirt, Shirt Waist, Box Coat, and Tam O'Shanter, No. 3722.



3722 Cloth Doll and Outfit.

Every mother knows that no doll is so dear to the little one's heart as the home-made one. The fascinating little lady shown in the illustration can be trusted to carry joy wherever she goes, and without involving very little work or trouble. She is well proportioned and charming in every sense, and her wardrobe is both complete and essentially smart. As pictured, the skirt is of brown pebble cheviot, the waist of blue dotted silk, the coat and hat of tan cloth, brown velvet forming the band for skirt, waist and hat, but any clever woman can make changes without number. The garments are tiny and even more costly raiment need not involve any considerable expense.

The doll itself is of heavy unbleached muslin or twill and is uniquely shaped, but easily made. The stuffing may be bran, sawdust, cotton-batting or wool clippings. The features can be painted or embroidered, as preferred, an expert with the brush can also supply flesh tints, but the wee mother will never notice the omission when



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THE HOME CORRESPONDENCE SCHOOL.
Canadian Headquarters, Temple Bldg., Toronto

"A Pocketful of Sunshine"

"A pocketful of sunshine
Is better far than gold ;
It drowns the daily sorrows
Of the young and of the old ;
It fills the world with pleasure,
In field, in lane, and street,
And brightens every prospect
Of the mortals that we meet.

"A pocketful of sunshine
Can make the world akin,
And lift a load of sorrow
From the burdened backs of sin ;
Diffusing light and knowledge
Through thorny paths of life ;
It gilds with silver lining
The storm clouds of strife."
—January Ladies' Home Journal.

Household Hints.

Fruit stains on linen can, if attended to at once, be removed by pouring boiling water through. If they have dried, dip them before washing in a solution of chloride of lime and water. Leave them in this, rubbing often to see if the stain has gone, then rinse in several lots of water. The best plan is to buy half a pound of chloride of lime, put it into a bottle with one pint of water, and, when needed, add one pint of water to each tablespoonful of the mixture, adding a little more if the stains will not come out. Lime has to be carefully used or it will burn holes.

The real Waldorf salad is made as follows: Pare and core two large tart apples and cut into dice half an inch square; cut up an equal quantity of blanched, crisp celery and mix with the apples; add a little salt, sprinkle lightly with French dressing and then mix with mayonnaise. Do not let stand but serve at once in cups formed of crisp lettuce leaves. Chopped English walnuts may be added to this salad, or make a salad of equal quantities of orange dice, nuts and celery and serve in the same way.

Rice stuffing for roast chicken or turkey was recommended as preferable to the usual bread-crumbs. To prepare it, brown one chopped onion in a tablespoonful of butter and mix with it four cupfuls of cold boiled rice and one cupful of bread crumbs that have been moistened in one cupful of milk. Season with sage, parsley or other sweet herbs, as desired. Add half a pound of sausage meat or finely chopped salt pork and salt and pepper to taste.

One of the prettiest salads seen this season consisted of small, whole yellow tomatoes arranged in pyramid shape on a bed of lettuce hearts garnished with parsley. The tomatoes were plunged hastily into boiling water, their skins were removed and they were allowed to chill on the ice. They were then dipped into French dressing seasoned with a little made mustard. An attractive way to serve bananas is to cut four or five of them into the thinnest slices possible and pour over them the juice of one

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lemon. Add three-quarters of a cupful of sugar and set away in a cool place for an hour. Then add two cupfuls of ice water and a little of the lemon peel and freeze in an ice cream freezer.

To clean plaster casts and other pieces of plaster, make a thick paste of plaster of paris and water and allow it to harden over the piece to be cleaned. It is easily removed, and all trace of the paste brushed off, when the bust will be found clean. Some plaster busts which are treated with finish in cream color with wax and shellac can be washed with a flannel cloth dipped in cold water if care is exercised.

Miss Muffet Up-to-Date.

Little Miss Muffet
Sat on a tuffet—
Whatever a tuffet may be—
When along came a spider
And sat down beside her,
But she told it, "You can't scare
me,
For since women are taking
Men's places, less quaking
And screaming is done than of
yore.
We go with heads bare
And defy sun and air,
We run things in office and store,
And some of us bravely
"Refuse," she said gravely,
"Since we've let old traits vanish
and got to be mannish
To have fits over mice any
more."—Ex.

The Proper Care of Waxed Floors.

Waxed floors should be dusted with a soft cloth or dust-mop. To remove dirt spots from such floors wipe with a cloth which has been dampened with turpentine. This will remove the wax, and it will then be necessary to go over the spots with a cloth slightly moistened with wax.—January Ladies' Home Journal.

Little James had been imparting to the minister the important and cheerful information that his father had got a new set of false teeth. "Indeed, James!" replied the minister indulgently, "And what will he do with the old set?" "O, I suppose," replied little James, with a look of resignation on his face, "they'll cut 'em down and make me wear 'em."—Ex.

that cannot be accomplished. The garments are as perfectly designed as are all large models. The skirt includes a shapely front and circular sides. The waist is a regulation shirt, with the latest style bishop sleeves. The double-breasted coat is cut on the smartest box model with rolling collar and revers, and the wee hat is a veritable Tam O'Shanter.

To cut the doll $\frac{3}{4}$ of a yard of material will be required; to cut the skirt and coat $1\frac{1}{4}$ yards 21 inches wide, or $\frac{3}{4}$ yard 44 inches wide; to cut the shirt waist $\frac{3}{4}$ yard 21 inches wide, or $\frac{1}{2}$ yard 32 inches wide, and to cut the hat $\frac{1}{4}$ yard in any width.

The pattern No. 3722 is cut in one size only, the doll measuring about 22 inches when finished.

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

Pure Coconut Candy for Children.

Take one pint of sugar, a quarter of a pint of desiccated cocoanut and a quarter of a pint of milk. Boil these ingredients in a graniteware or porcelain-lined saucepan for five minutes. Remove from the fire, set the saucepan in a dish of cold water and stir briskly until the mixture is creamy. Pour on a lightly buttered dish and mark in squares while warm, so that it may be easily broken when cold. Cocoanut cakes are very easily made and would be a variety. Beat the whites of two eggs to a stiff froth; add gradually a small cupful of sugar, the same quantity of cocoanut, either desiccated or freshly grated, and one tablespoonful of flour. Drop on a buttered tin in small round cakes and bake for five minutes in a quick oven.—January Ladies' Home Journal.

The Farming World.

A PAPER FOR FARMERS AND STOCKMEN.

Publisher, . . . D. T. MCANISH.
Editor, . . . J. W. WREATON, B.A.

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

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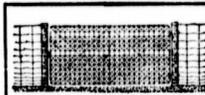
A subscriber near Regina, Northwest Territories, sends us an ear of corn grown and matured in that part of Western Canada, where it has been supposed corn could not be grown to maturity. The ear sent us is an eight-rowed variety with the grains well developed to the very top. It is about eight inches long and looks like one of the early maturing white flint varieties. It proves, however, that the Canadian West is not the cold, bleak, unproductive country that many people think it is.

A Few Suggestions to Maple Syrup and Sugar Makers.

There are several points which enter into the manufacture of maple syrup in order to obtain the best quality. It is impossible to make first-class maple syrup unless you have first-class sap to make it from.

In making a high grade syrup neatness and dispatch are absolutely necessary. Clean utensils of the right kind are also indispensable, and only utensils of metallic kind should be used.

There is no product on the farm that is so susceptible to injury as maple sap—not even milk. Sap should be gathered as soon as there is a quart in the bucket. Have an outfit that boils shallow, with a regulator that will keep a uniform depth of sap at all times, and that has partitions that will keep the raw sap from intermixing with the sweet. Syrup should be drawn off the evaporator in small quantities—not four or five gallons at a time as is usually done, but from one to two quarts. Use a thermometer so that you will make every gallon of the same weight. 219 degrees is the standard for Imperial or U. S. measure. Do not judge by



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guess work. Draw off syrup from the evaporator into a felt strainer. This will remove every particle of nitre from the syrup.

We are positive that farmers who endeavor to improve in all their products by perseverance will be successful. If you are making syrup, strive to make better syrup; if sugar, make better sugar; if butter, make better butter, and if it is cheese, make better cheese.

There seems to be a prevailing tendency in the minds of the consumers throughout Canada that syrup and sugar should be dark in color like the old fashioned kind that the Indians made, or like that our grandfathers were in the habit of making. In order to convince you that such syrup is of the poorest kind, and has not a maple flavor, we would ask any person having three or four maple trees about their house, to tap them

next spring, and as soon as enough sap is obtained that is fresh, take it into the house and boil it into syrup over the kitchen stove in a clean tin vessel, and you will make syrup that has a light amber color, and a fine maple flavor. You will also be able to make maple sugar from this quality of syrup that is almost white.

In order to produce the most perfect article, the best apparatus should be used. The farmers of Vermont have long been noted for producing the finest quality of maple sugar and realizing the highest market prices. This is all made on the "Companion Evaporators," manufactured by the Grimm Mfg. Co., 84 Wellington street, Montreal, Que. They will be pleased to give any information in regard to maple sugar making asked for.

J. H. G.

A Word to Farmers

THE opportune time to secure subscriptions to THE FARMING WORLD is right now. We have to thank many of our friends for the interest they have manifested in making up clubs and securing for themselves one or other of the valuable premiums we offer. Our list of books useful to farmers specially commend themselves to readers. Those who have not started, start now, and let those who know what it is to earn a valuable premium get going on a second or third club and earn others. Subscribers who are renewing direct can secure any of the books named at very special prices.

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An invaluable book by Thos. Shaw, Professor of Animal Husbandry at the University of Minnesota, and known to every Canadian farmer. This book is recognized as by far the most original and comprehensive on the subject of which it treats. Publishers' price is \$1.50.

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A new premium of the closing month of the old year is a valuable book entitled "Be your own Lawyer." This gives in condensed form the business laws of Canada—forming a practical and ready reference for Magistrates, Land Owners, Tenants, Builders, Contractors, Farmers, etc. The legal forms are all filled out in detail, signed and even sealed, thus serving as a model which any person can follow.

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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.

Mr. S. Hoxie, Supt. of the American Holstein-Friesian Advanced Registry, sends us the following butter record: "From December 17th to December 23rd inclusive, seven days, the Holstein-Friesian cow, Mercedes Julip's Pietertje, 39480, produced 584 lbs. of milk, containing 23,4857 lbs. butter fat, equivalent to 29 lbs. 5.7 ozs. butter, 80 per cent. fat, or 27 lbs. 6.4 ozs., 85.7 per cent. fat. This record was made by Minnesota Experiment Station, under the direction of Prof. T. L. Haecker. The last three days of the test this cow was under the supervision day and night of two representatives of that station. The product during these three days was 10,5622 lbs. fat. The largest product for one day was 3,7684 lbs., and was made when under constant watch, on the sixth day of the test. The average per cent. of fat during week was 4.02 per cent.; during the three days under constant watch-care it was 4.21 per cent."

There left Currie's Crossing this week six very fine Holsteins from the herd of George Rice, Brookbank Stock Farm. All had been prize winners at Toronto and Pan-American. They include the noted sweepstake cow at these large fairs "Iosco Pride."

The purchaser is Dr. A. L. Lewin, Pittsburg, Pa. It shows wonderful quality in Brookbank Holsteins, when after making this draft out of the herd other members of the herd went out. Won first in the dairy test at Guelph Winter Fair on cows over thirty-six months.

U. F. Park, Burgessville, has met with great success with his stock lately as the following record shows:

At the International Fat Stock Show at Chicago his Shearling wethers took 1st and 3rd; wether lambs, 1st, 2nd and 3rd; pen of five wethers 1st, and champion for best Cotswolds wether. In breeding class this flock took second prize for best Cotswold flock, and taking a number of 1st and 2nd prizes. The flock that took first place was made up of sheep bred and fitted by this firm. At Provincial Fat Stock Show at Guelph this flock captured most of the ribbons. However, some hav-

ing been sold weakened them in some classes.—Sentinel-Review.

According to Thornton's circular of Shorthorn transactions for the quarter, July 1st to Sept. 30th, 1901, 19 were shipped to Africa, 76 to the United States, 5 to South America, 1 to Australia, 14 to Germany, 2 to Japan, 4 to New Zealand, and 117 to Canada. From this it will be seen that Canada still leads as she has done for a couple of years back in Shorthorn importations.

The well bred Shorthorn herd, the property of Mr. William Craigie, Pennan Farm, Fraserburgh, is at present in very thriving condition. Of late some very good specimens have been sold at high figures, both to home and foreign breeders. Four have gone to Canada to the order of Mr. Robert Miller, namely, the fine heifer Broadhooks 20th and her heifer calf, and two heifers—Golden Rose 20th and Golden Rose 4th. The price of two of these approached the three figures. To Mr. Crombie, Woodend, Mr. Craigie has sold two beautifully bred heifers—Rosewood 100th and Augusta 100th. Both by the 100-guinea bull Sittyton Archer. Two exceptional nice bull calves have also lately been sold to Mr. H. Ker Colville of Bellapont, Shropshire. One of these is out of the grand cow Bessie Lee 2nd, the sire of both being the fine breeding bull Cornelius. To the Hon. M. H. Cochrane, Canada, Mr. Craigie has also sold four very nice heifer calves, two being by Cornelius and two by the well bred bull Daybreak, a son of the Highland Society champion Star of Dawn.—North British Agriculturist.

Last week a very nice draft of Polled cattle were shipped to America by Mr. H. W. Elliott of Estill, Mo., one of the oldest breeders and first importers of Aberdeen-Angus cattle into America. Amongst the animals was the superior heifer Model Pride purchased from Mr. Grant, Advie Mains. Mr. Grant wished to retain this animal to compete for the cup at Perth, but was tempted by the offer of a big price to let her go. Other good lots were purchased from Mr. Bruce, Tochnical; Mr. Wilson, Inchgowrie; and Mr. D. G. Grant, Gallovie, Strathspey, the latter supplying two very pretty heifers in Enamel 2nd of Gallovie and Epsy. The draft all through was characterized by nice breeding and quality.—North British Agriculturist.

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BE SURE YOU GET THE KIND YOU HAVE ALWAYS HAD.—Owing to the great popularity of "The D. & L." Methyl Fluoride, unscrupulous makers are putting up one like it. For rheumatism, neuralgia, &c., nothing is better. Made only by Davis & Lawrence Co., Ltd.

PUBLIC OPINION is strong in favor of Pain-Killer. For over sixty years the foremost household remedy for cuts, bruises, sprains, and all bowel complaints. Avoid substitutes, there is but one Pain-Killer, Perry Davis'. 25c. and 50c.

Sheep.

A. W. Smith, Maple Lodge, Ontario, says: "This has been one of our very best years for sale of breeding stock, that is, sheep to strengthen other flocks for pure bred purposes, and our sale of first-class rams to head flocks has been the best, and we started in with the best lot of two-year-olds, shearlings and lambs we ever had. There has never been stronger or keener competition in the Leicester show ring than this year, and yet we maintained the lead at all the most prominent exhibitions in Canada and United States—namely, our great show at Toronto, at London, Ont., at Syracuse—New York State Fair—and finally at the great Pan-American at Buffalo. We lost only one sweepstake or champion prize, and won first for flock wherever we competed, and carried off second prize for five shearling rams bred by the exhibitor at Pan-American, competing against all breeds, and all five were got by our first prize ram "Simon Smart" (3486). We still have a few ewes to spare, now bred to our imported rams, "B. 61," "Stanly" and "Barrelwell Prince," both from the flock of David Hume, Barrelwell, Scotland, winner of championship gold medal at Highland show for past three years, and this year with highest average at the great Kelso sale of Leicesters. A carload of good range lambs for sale also."

Binder Twine to be Higher.

The following from the daily press of a few days ago would seem to indicate that the opening prices for binder twine next season may be higher than last season. How far the figures given are correct, we are not prepared to say: "The opening prices for binder twine, which have just been submitted to wholesalers, indicate that prices next year will show a marked advance on those of last year. Sisal has advanced two cents a pound over last year, and the price for standard twine now quoted is from 10 cents to 10½ cents per pound, compared with 7½ cents a year ago. Manilla hemp is much dearer, as evidenced by the fact that pure Manilla rope is now quoted at 15½ cents a pound, being an advance of two cents for the year, and sisal rope has advanced nearly three cents. Toronto dealers say that next year farmers will be forced to pay from 15 to 16 cents per pound for twine, as all of the present season's stock has been exhausted, and there is considerable difficulty in securing raw material. The demand made by the western harvest seems to have depleted stocks, while the trouble in the Philippines interferes with the supply."

A LONG RECORD OF SUCCESS in curing cuts, burns, and bruises, as well as all bowel complaints, is held by Pain-Killer—over 60 years. Avoid substitutes, there is but one Pain-Killer, Perry Davis, 28c. and 50c.

J. A. RICHARDSON, South Marsh, Ont., breeder of Holsteins, Dorset Horned Sheep, Tamworth swine.
E. PANNABECKER, Fairview Farm, Hespeler, Ont., breeder of reg. Holsteins. Stock for sale.

AYRSHIRES AND YORKSHIRES FOR SALE.

PURE-BRED AYRSHIRE BULLS coming 1 year old, fit for service, and one coming two years old. All sired by "White Prince" (Imp.) except the one coming 2 years old. As I am about retiring my farm these bulls will be sold cheap if taken at once. Also a number of fine pure-bred Yorkshire Sows from one to four years old.

JOHN H. DOUGLAS, WARKWORTH, Ont.

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

OXFORD DOWN SHEEP

Durham Cattle, "Milking Strains"; Yorkshire Pigs; Plymouth Rock Poultry, John Cousins & Sons, Harrison, Ont.



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Choice ewe lambs and ewes of all ages. Prices to suit times. Orders booked any time for show stuff for 1902. Fitting a specialty. Brantford Station T. graph & Phone J. H. JULL & SONS, Mt. Vernon Ont.



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

Rapids Farm Ayrshires

Reinforced by a recent importation of 20 cows, 2 bulls, and a number of calves, selected from noted Scotch herds, and including the male and female champions at Leasing Scottish shows this year. Representatives of this herd won the first herd prize at the exhibitions at Toronto, London and Ottawa.

Come and See, or Write for Prices

Young Bulls and Heifers for sale, bred from high-class imported stock.

ROBERT HUNTER, Manager for W. W. Ogilvie Co., Lachine Rapids, Quebec

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

10 Young Bulls from one month to four months, bred from Winnie R's De Kol.

W. H. SIMMONS, New Durham, Ont.

Glen Crescent Shorthorns and Oxfords

Two Young Bulls by imp. "Precious S one" and imp. "Blue Ribbon" for sale. Can spare a few more Oxford females.

J. W. WIDDIFIELD, Uxbridge, Ont.

SHORTHORN BULLS

Two choice bulls about a year old

FOR SALE

JOHN MENAR, Rockwood, Ont

OAK LODGE YORKSHIRES



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

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Market Review and Forecast

Office of The Farming World,
Confederation Life Building,
Toronto, Jan. 6th, 1902.

After a healthy expansion in trade during the year Canadian wholesale trade enters upon the new year with very bright prospects, the outlook for general trade being very promising. But to retain this prosperity people must not be carried away with good times as though they were permanent. Inflated speculation should be guarded against as well as over-trading. Money is not quite so flush as it was and the rates for call loans have advanced to 5% in some cases though 5 per cent. is the general rate. Discount rates are steady at from 6c to 7c per cent.

Wheat.

Though wheat prices remain steady and no serious drop in prices is in sight, still there are those predict that wheat during the latter half of the cereal year will sell lower than during the first half. They base their contention on the fact that supplies of wheat are gradually increasing both east and west of the Rockies, that considerable stocks of wheat are accumulating in the west. Against this, it may be stated that exports of wheat and flour of late have been very large, showing a good demand in Europe. The condition of the growing wheat crop will from this on affect the market. The Cincinnati Price Current of last week says:

"There has been no snow or rain of consequence in the important winter wheat States during the past week, and the temperature has been about normal or slightly above. Practically no snow remains on the ground. The wheat crop has undergone no material change during the week, the general condition of the plant being good."

Large quantities of Manitoba wheat are going forward via American ports to Great Britain and sells there at a premium over other wheats, being used largely for mixing purposes. At Fort William some business has been done in No. 1 hard at 72c to 72½c, the latter figure for January shipment. No. 1 Northern is quoted there at 68c, No. 2 at 65c, and No. 3 at 62c January shipment. There is a good demand here and the market is firm at 76c to 77c for red and white middle freights, 66½c to 67c for goose and 75c for spring east. On Toronto farmers' market red and white bring 70c to 80½c, goose 66½c to 67c, and spring 72c per bushel.

Oats and Barley.

The oat market is quieter and quotations here for No. 2 white middle freights are 41½c to 42c per bushel. On the farmers' market here oats bring 47c per bushel.

The barley market keeps firm for both feed and malt varieties. Quo-

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\$1 and upwards received on deposit
Interest paid or compounded
half-yearly at..... **3½%**

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tations here are 50c to 57c as to quality and point of shipment. On Toronto farmers' market malt barley brings 54½c to 62½c per bushel.

Peas and Corn.

The market for peas keeps firm with some business reported at 84c to 85c middle freights. At Montreal quotations are 92c to 93c. On Toronto farmers' market small peas sell for 78c per bushel.

The corn market continues steady though Canadian yellow is easier here at 59c west.

Bran and Shorts.

There has been a decline from the top prices of a week or two ago. Ontario bran is quoted at Montreal at \$20.50 to \$21 and shorts at \$22 to \$23 in car lots. City mills here sell bran at \$20 and shorts at \$21 in car lots 1. o. b. Toronto.

Potatoes and Beans.

There is an easier feeling in potatoes at Montreal, where quotations are 78c to 82c for car lots on track. Offerings are only fair here and prices keep steady at 70c for car lots on track. On Toronto farmers' market potatoes bring 75c to 80c per bag.

Car lots of beans (primes) are quoted at Montreal at \$1.35 to \$1.40 and jobbing lots at \$1.40 to \$1.50 per bushel. On the farmers' market here beans sell for \$1.15 to \$1.30 per bushel.

Hay and Straw.

The English market for Canadian hay is firmer and prices have an upward tendency there. The market on this side rules steady and firm. Montreal quotations are: No. 1 timothy \$11, No. 2 \$9.50 to \$10, clover mixture \$8.50 to \$9, and clover \$8 per ton in car lots for baled hay. Cars on track are quoted here at \$9.50 for No. 1 timothy and \$8 to \$8.25 for No. 2. On Toronto farmers' market timothy

brings \$11 to \$12.50, clover \$7.50 to \$9 per ton and sheaf straw \$9.50.

Eggs and Poultry.

The imports of eggs by Great Britain are increasing very fast, and still the market there keeps firm and higher. At Montreal, prices are firm with a strong upward tendency in values. Case lots sell there at 20c for ordinary held fresh, 25c to 27c for best selected, and 28c to 30c per dozen for strictly fresh selected. Strictly new laid are scarce here and prices are steady at 25c for case lots and 18c to 20c for held fresh. On Toronto farmers' market new laid eggs bring 25c to 35c per dozen.

Reports from England in regard to sales of Canadian poultry show some high prices and some very low ones, according to quality. It is reported that the bulk of the dressed poultry sent over arrived in poor condition. The market on this side keeps steady and fairly active for the season. Montreal quotations are 10½c to 11c per lb. for choice turkeys, 7c to 7½c for geese, 7c to 7½c for chickens and 8½c to 10c for ducks. Prices are steady here at 9c to 9½c per lb. for turkeys and 8c to 8½c for geese and 50c to 70c per pair for ducks and 20c to 50c for chickens in jobbing lots. On Toronto farmers' market chickens live, bring 45c to 70c, dressed, 35c to 60c and ducks 45c to 60c per pair and geese 8c to 11c and turkeys 9c to 11c per lb.

The Canadian Produce Co., 36 and 38 Esplanade East, Toronto, will pay until further notice for spring chickens 5c per lb. For hens (including last year's birds) 2½c per lb. For ducklings 5c per lb. Crates supplied free and express paid up to 50c per 100 lbs. of birds. These prices are for live weight.

OUR PRICE FOR CHICKENS HAS GONE UP

Our demand has doubled. Deal with a reliable firm; be careful of strangers. See our prices on this page.

THE CANADIAN PRODUCE CO., TORONTO

Seeds

The Trade Bulletin says of last week's seed trade at Montreal: "Canadian red clover seed continues to meet with good enquiry in England. In this market red clover is quoted at \$8.50 to \$9.75 per 100 lbs. Alsike, \$10.75 to \$12.75 per 100 lbs.; timothy seed \$6.00 to \$6.50."

On Toronto farmers' market Alsike sells for \$7 to \$8.50, red clover \$5.00 to \$5.25, and timothy \$2.50 to \$3.25 per bushel.

Cheese

The cheese market, generally speaking, is strong and the prospects are that the season's output will go off at very good prices. Finest Canadian September is quoted in England at 50s to 51s, and fine at 47s to 48s. A much better demand has set in on this side, owing to increased orders from the other side, and considerable business has been done. Sales are reported at Montreal last week at 10½c to 10¾c for finest Western and 9½c to 10c for finest Eastern with undergrades quoted at 9¼c to 9½c.

Butter

The English market for Canadian creamery is reported firm at the 1s advance reported a few days ago and prices are steady. The Trade Bulletin sums up last week's trade as follows:

"The market has kept very steady during the past week for fine to finest qualities of winter creamery butter which continue to meet fairly good enquiry at 20c to 20½c. The sale of 400 packages of very fine creamery has just been reported to us at 20c to 20½c; but less desirable grades boring greasy and having a pronounced stably flavor are slow sale at, from 18½c to 19½c as to defects. Fresh Western dairy has sold to the local trade at 17c, for fine up to 17½c to 18c for finest. A lot of 18 packages of inferior Western sold at 15c and a lot of poor Manitoba at 14½c. Stocks are generally light and the make between now and spring is not expected to overlap requirements to any extent. A few shipments continue to be made to London and Liverpool."

There is no change in the market here and last week's quotations hold good. On Toronto farmers' market lb. rolls bring 16c to 19c and crocks 15c to 18c per lb.

Cattle

General live stock trade is reported steady, especially for prime quality. At Chicago, on Friday, good to prime quality was quoted at \$6.50 to \$7.20 per cwt. The receipts of live stock at Toronto cattle market on Friday were large comprising 1,048 cattle, 1,601 hogs, 379 sheep and lambs, and 19 calves. There was a fairly good quality of fat cattle offered, but generally not of heavy weights. A number of the best butchers' were bought for export. Trade was good and prices firm at quotations given below.

Export Cattle—Choice loads of these are worth from \$4.70 to

\$5.10 per cwt., and light ones \$4.25 to \$4.65 per cwt. Heavy export bulls sold at \$4.00 to \$4.50 and light ones at \$3.40 to \$3.65 per cwt., choice export cows sold at \$3.40 to \$4.00 per cwt.

Butchers' Cattle.—Choice picked lots of these, equal in quality to the best exporters, weighing 1,150 to 1,260 lbs. each, sold at \$4.25 to \$4.50 per cwt., good cattle at \$3.70 to \$4.12½, medium at \$3.40 to \$3.65 and inferior to common at \$2.35 to \$3.00 per cwt.

Feeders—Heavy, well-bred steers from 1,100 to 1,200 lbs. each, sold at \$3.50 to \$3.75, and other quality at \$3.25 to \$3.50 per cwt. Light steers, 900 to 1,000 lbs. each sold at \$3.00 to \$3.20 per cwt.

Stockers—Yearling steers weighing 500 to 800 lbs. each sold at \$2.50 to \$3.00, and off colors and those of inferior quality at \$1.75 to \$2.00 per cwt.

Calves—These are higher at Buffalo. Good to choice veals bring \$6.00 to \$8.75 per cwt. At Toronto market ordinary calves bring \$2.00 to \$10.00 each.

Milch Cows—These sold at \$30 to \$45 each.

Sheep and Lambs.

There was only a light run of sheep and lambs on Friday, and prices were firmer at \$3.50 to \$3.70 per cwt. for ewes and \$2.00 to \$2.50 for bucks. Spring lambs sold at \$3.75 to \$4.00 each and \$3.75 to \$4.50 per cwt.

Hogs.

The hog market made another advance upward last week. On Friday select bacon hogs sold at \$6.70, lights at \$6.40 and fats at \$6.12½ per cwt. Unculled car lots sold at about \$6.50 per cwt.

For the week ending January 11th, the Wm. Davies Co., Toronto, will pay \$6.75 per cwt. for select bacon hogs, \$6.50 for lights and \$6.50 for fats.

Montreal packers are paying \$6.50 for select bacon hogs.

The Trade Bulletin's London cable of January 2nd, re Canadian bacon, reads thus:

"Business is quiet and of a holiday nature. No. 1 Canadian sides 46s to 50s."

Horses.

The general horse trade continues quiet at Grand's. There is nothing doing excepting in 2nd grade horses, of which quite a number have been sold during the past few weeks. A number of rejected horses bought for the 2nd Mounted Rifles will be sold on Tuesday of this week. As a rule some activity in the general trade occurs about the second week of January, but it is doubtful if there will be much done this year till a week or two later. There has not been as much inquiry as usual this season for horses for the lumber camps.

FOR IMMEDIATE SALE.

SPLENDID 300-Acre Farm, 5 miles from Brantford, 240 acres cleared. Three two-story stone houses, 11 rooms, cellars full size. Frame barn 45 x 100, also 3 other barns, 3 drive houses, 3 sheds, 50 acre orchard, 80 rods from railway, excellent soil. For full particulars, address

S. G. READ,
Broker, 129 Colborne St., Brantford, Ont.

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 Tea, a trial package of which will send you free and prepaid on request. Unless you find our claims true, we must be the losers by the liberal act. Shall we send you the trial package, and lead you to perfect health and happiness? Address,
THE IMPERIAL DRUG CO., New York.

Catarrh and Consumption

I have spent nearly 50 years in the treatment of the above named troubles and believe I have effected more permanent cures than any other 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, will positively give prompt relief and cure in the worst cases. This is a sincere offer which anyone is free to accept. Address,
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BROWN Leghorns, Prolific early layers; Strain won at Pan-American. Stock for sale—Minorcas, Barred Rocks, Cheicest Strains, Eggs in season.
JOHN PETTIT, Fruitland, Ont.

FORTY MAMMOTH bronze turkeys for sale, of good quality and size, have a fine ton at head of flock bred from Imp. Leo; and also some fine hens, have one that won 1st prize three years in succession, and West Durham and Darlington Fall Fair I won 1st and 3rd on turkeys. Chickens will crate safe and ensure safe delivery for \$2.50 for toms and \$2.00 for hens. Samuel Snowden, Box 305, Bowmanville.

ALL Prize-Winning Strains—Brown Turkeys, sired by Imported Tom, that won second at Pan American—Marransett Turkey and Pekin Ducks.
A. ELLIOTT, Fond Mills, Ont. London Exp.

BUFF Rocks, White, Golden, Wyandotts, Brahmas, Andalusians, Brown Leghorns, Rouen Ducks Toulouse Geese, White Turkeys: A 1 stock; \$1 to \$3
JAMES MATHÉRAL, Drumbo, Ont.

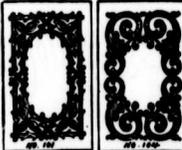
Bronze Turkeys.—My stock has won first and second premiums at the largest shows in England, Ireland, United States, and Canada. My stock pleases customers, as I have sent out 500 turkeys and only four were dissatisfied. Please enclose stamp for reply. Jas. Ford & Sons, Drumquin, Ont. P.S.—All turkeys bred from a grand imported tom.

MAMMOTH BRONZE Turkeys and Toulouse Geese. For Sale—Forty head of turkeys and thirty Toulouse geese, bred from the greatest prize winning strains in America. On our first exhibit at the great Toronto Industrial Exposition, Sept. 1891, we won on Browns turkeys first and second Cocherel, and first and second Pullet. No old birds exhibited they were in moult. Satisfaction guaranteed and correspondence checked and answered. Please enclose stamp for reply. Jas. Ford & Sons, Drumquin, Ont. P.S.—All turkeys bred from a grand imported tom.

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Ten pair English Ring Neck Pheasants and a number of Barred Rock Cockers.
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Make patterns for Hooked Rugs or Mats. Send your name and address on a postal card for design sheet of patterns. Made in eight sizes. If you cannot get them from your dealer shall be pleased to send them by mail. The two patterns shown are 1 1/2 yard size and are 28 in. wide. Price by mail 25c. each. I pay postage. Order by number.

JOHN E. GARRETT, Box 231, New Glasgow, N. S.

MILKING STRAINS OF SHORT-HORNS FOR SALE

Young bulls of prime quality; also a few females in calf to an imp. bull.

H. C. GRAMAM, Atlas Craig, Ont.

Canada's Live Stock Interests.

At the National Live Stock Association meeting held at Chicago during the International Show a very interesting paper was read on the live stock interests of the Dominion by Mr. Henry Wade, Toronto. Among other things Mr. Wade referred to the great resources of Canada and her capabilities as an agricultural and stock raising country. She has an invigorating climate and an energetic people who are advancing rapidly, especially in the production of high class breeding stock. Dealing specially with our live stock interests, Mr. Wade said:

"In 1874, twenty-seven years ago, our exports of cattle were only valued at \$951,269, but in 1900, one year ago, they were appraised at \$9,080,776. The same satisfactory state of things can be reported as regards sheep and swine, but I do not desire to trouble you with more statistics than is absolutely necessary. Research shows that while the population of Canada is about one-fourteenth that of the United States her cattle number about one-eleventh, while her cultivated territory is probably about one-twentieth, thus indicating that the live stock interests of the Dominion are not alone comparatively equal to those of the United States, but comparatively greater. That the quality of our live stock is equal to your own, positively this time and not comparatively, is proven by the success of all Canadian breeds at your big exhibitions. At the Pan-American and at the World's Fair, for instance, reference to the records of which will show that particularly in that most serviceable of breeds, the Durhams or Shorthorns and in Ayrshires, the entries from Canada took a liberal proportion of the prizes. This surely proves two things—one, our enterprise in going abroad, and another, our energy, industry and sound sense at home."

Why are ladies like arrows? Because they can't go off without a beau, and are always in a quiver till they get one.

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TORONTO

Ontario Agricultural Coll.
1919

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\$1,000.00

We offer one thousand dollars to be given in premiums on butter at the same meeting as stated above if the Aktiebolaget Separator DID NOT have a large exhibit at the Paris Exposition, 1900, and DID NOT distribute circulars in its own name, and provided the DeLaval Co. will give the same amount if the Aktiebolaget Separator DID have such an exhibit and distribute such circulars.

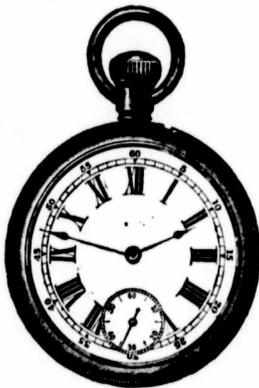
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We offer one thousand dollars to be given as above if the statements given below of the work of the U. S. Separator and the DeLaval Separator in the Model Dairy at the Pan American ARE NOT stated as given by the Superintendent of the Model Dairy, viz :

Average of Tests of De Laval Separator .0172
Average of Tests of the U.S. Separator .0138

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