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FARM AND DAIRY & RURAL HOME



DEVOTED TO
BETTER FARMING
AND CANADIAN
COUNTRY LIFE



Toronto, Ont., January 18, 1917



A SLOW AND DISAGREEABLE JOB.

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Marmick



The favorite everywhere it goes. Note its beauty and heavy compact construction, with low-down, handy supply can only 3 1/2 ft. from the floor.

There are other advantages in favor of the "Simplex." These are explained in our literature, which will be mailed to you free on request.

The ease of running, ease of cleaning, simplicity, self-balancing bowl, interchangeable spindle point, low-down supply can, the general pleasing appearance, and the perfect skimming of the "Simplex" make it the favorite everywhere it goes.

Then, too, our large capacity machines, so constructed that they turn more easily than most other separators, regardless of capacity, will enable you to separate your milk in half the time. This is a great advantage it will pay you to enjoy.

Bear in mind we allow you to prove all these claims—since "Proof of the Pudding is in the Eating."

Write to us for full particulars about the "Simplex" and our special terms to you to use the "Simplex" and represent us locally in your district.

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UNDISCOVERED ABILITY

Many a young farmer has discovered undreamed of business ability within himself when securing new readers for farm papers. The writer of this advertisement had never sold a dollar's worth of anything in his life till one day he was literally forced to take subscriptions for a magazine. Since then he has had the opportunity of travelling as salesman in nearly all of Canada, and fully one-third of the United States.

Perhaps this is your opportunity. We need a special representative of Farm and Dairy in every dairy district in Canada. Write us and see if your district is open. We not only give our local agents exclusive territory, but supply them names of prospective subscribers and help them to get the business. We know how and will show you how. Write to-day.

FARM AND DAIRY AGENCY DEPARTMENT
Peterboro

Why You Will Prefer THE "SIMPLEX"

In preference to all other Cream Separators is because the "Simplex" is:

- So Simple
- So Easy to Turn
- So Easy to Clean
- So Perfect in Skimming
- So Quick in Separating
- So Pleasing in Appearance,
- Self Balancing
- Seldom out of Repair
- Soon Pays for Itself

LASTS A LIFETIME

Western Ontario Farmers Out and Out for Grading

Toronto Produce Dealers Visit W.O.D.A. Convention at Woodstock—Fledge* Themselves to Buy on a Grade Basis—Dairymen Enthusiastically Favor the Plan—Work of John H. Scott Highly Commended

THE dairymen of Western Ontario made history at the Thursday afternoon session of their convention in Woodstock. The grading of butter and cream was up for discussion, and a lively subject it proved to be. Secretary Frank Hearn started the ball rolling by showing how the Department had appointed Mr. John H. Scott as experimental grader in Toronto last season, with instructions to investigate the condition in which butter reached that market. Mr. Scott followed with a report of the work done, which showed that although the June was high in quality, the hot, unfavorable weather that followed resulted in the putting on the market of large amounts of inferior butter. He had found that the dealers were ready to cooperate with the makers and producers in improving the quality of the product. Mr. C. Marker, Superintendent of Dairying for Alberta, showed that the success they had met with in improving the quality of Alberta butter had been due to the close cooperation between the dairymen and the dealers. No progress had been made until they got a working agreement with the trade, after which the quality of the butter improved very rapidly.

At this point of the discussion, Mr. H. D. Clemes and other members of the Toronto Produce Exchange, appeared on the scene. On behalf of the produce trade, they put the situation right up to the dairymen. The grade pledged itself to buy butter on grade just as soon as the dairymen worked out a basis for grading. A lively discussion ensued, culminating in a resolution, which came spontaneously from the meeting, being passed unanimously and enthusiastically endorsing the principle of government grading, and requesting the government to put the necessary machinery into operation.

What Has Already Been Done.

Considerable investigation work and experimental grading was done on the Toronto market last season. Secretary Hearn, of the W.O.D.A., explained how this had been inaugurated. The Superintendent of Dairy Instruction said he had gone to the trade with the request that a representative of the dairymen be allowed access to the warehouses in order to find out if possible the condition of the butter as it arrived on the market. They had met with a hearty response at the hands of the trade, who had shown them every courtesy and done everything possible to facilitate the work of investigation. Mr. John H. Scott had been appointed, and had commenced work early in July. The capable manner in which he had conducted the work, said Mr. Hearn, merited the thanks of everyone connected with the dairy industry in Ontario.

In reporting on the work he had conducted, Mr. Scott stated that there had been two objects in view: first, to get a general idea of what percentage of first grade, second grade and off grades were coming in; and, second, to arrive at an understanding of the conditions surrounding the handling of butter that were affecting the quality. The standard of grades which he used was as follows: first grade, 92 points and over, with a minimum of 39 for flavor out of a possible 45; second grade, 87 points, but under 92; third grade, 82 and under 87 points; and under 87 off grades or culis. Up to Oct. 31st, 214 lots had been examined, of which 57 per cent. graded first, 41 per cent. graded second, and one per cent. third. Mr. Scott believed that more of the butter should properly have

gone into third grade. Regarding the common defects of these lots of butter, 25 per cent. showed unclean flavor; 32 per cent. old cream; 15 per cent. stale flavor, and nine per cent. were fishy. About 23 per cent. were salted too heavily; 14 per cent. were weak in body, and 11 per cent. greasy. It seemed to be a practice that when the flavor was not just right, butter makers would try to cover it up with salt; 63 per cent. of the butter showing fishy flavor being heavily salted. Sixty-two per cent. were poorly finished, indicating a great deal of general carelessness. Mr. Scott was strongly of the opinion that the system of marketing butter might be greatly improved. An organized system of marketing might be introduced with benefit to the trade. He believed the Dairy Standards Act, when put in force, would greatly improve conditions by putting creameries on a more uniform basis. The dealers were ready to cooperate in this work of paying on a basis of grades if supported by the creamery men. The creameries could then take up the question of cream grading, and the farmers who were willing to produce good cream would be paid for the labor they expend in carefully handling it.

How Alberta Turned the Trick.

"Many men take the wrong point of view on this question of cream grading," said Mr. C. Marker, Dairy Superintendent for Alberta. "They look upon it as a mass of difficulties that is about to rise. This is an entirely wrong viewpoint. They should look upon the scheme as a mass of benefits that is about to arrive." Continuing, Mr. Marker said that their strongest competitor in the home market had been the product from Ontario. The trade used to say that they must have some of this good Ontario butter. Later, their butter came from the Eastern Townships, and then from New Zealand, a trial shipment of the latter, sent 1 1/2 years ago, being so uniform, of such good keeping quality, that the consumer wanted more of it. The plan on which grading work was to be carried on was drawn up by the Department and laid before the dealers. The Department was prepared to give the butter of creameries and issue grade certificates. When the trade of Alberta and British Columbia found that this grading service was placed at the disposal of the creameries, the best creameries got the best price. No legislation had been enacted to compel grading, yet remarkable improvement had been made in a short time in every creamery. As soon as he found out that he could get a better price for better quality, the creamery man went to the farmer and pointed out the advantages of their working together to secure this higher quality product. Cream grading had therefore come as a natural result of the grading of butter.

The Different Grades.

The grades adopted have been special, first, second and off grade. When the work started, first, second, and off grades were the only ones, but the grade for special had evolved owing to the extremely high quality of some of the product coming in. The following figures given by Mr. Marker show the rapid improvement that has been made:

Percentage of butter grading—	1915.	1916.
Special	59.68	79.25
First	32	16.2
Second	7.34	4.01
Off grades	3.4	1.2

The decrease in firsts showed that a (Continued on page 8.)



THE CANADIAN DAIRY & RURAL HOME



We Welcome Practical Progressive Ideas

The Recognized Exponent of Dairying in Canada

Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land.—Lord Chatham

VOL. XXXVI

TORONTO, ONT., JANUARY 18, 1917

No. 3

The Four Great Branches of the Dairy Industry in Ontario*

Some Suggestions as to How Great Economies Could Be Effectuated

THERE are four chief lines of dairy products in Ontario—milk and cream for direct consumption, the manufacture of butter, cheese-making, and the making of condensed milk. A word on each of these.

City Milk and Cream Trade.

The abnormal growth of towns and cities has unbalanced production and consumption of milk to such a degree that we have been face to face with a milk famine during the past two months (November and December, 1916). As a consequence, milk has risen to unheard-of prices—\$2.00 to \$2.50 an eight gallon can to the producer, and 10 to 12 cents a quart to the consumer. Compared with the cost of production and the price of other foods, milk is not unreasonably high in price. It has been proved in the New England States that farmers were receiving less for their milk than it cost them to produce it, in consequence there was a milk strike in the autumn of 1916, in which the farmers, by organization, were able to obtain such an advance in price from the milk dealers as to make it worth while to keep cows. On the other hand, the consumers are being educated to the point that "ten cent milk is a cheap food." Another line of education badly needed by consumers is the fact that they may not expect to buy both milk and cream in the same bottle, at milk prices. A food specialist of the United States says, "For table use, milk containing a smaller proportion of fat is much to be preferred." If people desire cream they should be willing to pay for it, and not expect the milkman to furnish cream free and be paid for milk only.

Another common fallacy among consumers is, that a real food is something you have to chew. Milk is a food, and you do not have to "chew" it. It is also easily digested and quickly assimilated.

There are many difficulties in the milk business which must be solved by producers and consumers. Without going into details, it looks as if the milk business will, in the near future, be controlled and managed by the municipality, town or city, similar to the plan adopted for water supply, gas, electric light, street railway system, roads, etc., thus doing away with unnecessary duplication of plants and excessive cost for delivery. The cost of delivering a quart of milk is estimated to be not less than two cents. To a large extent, this is caused by having from five to twenty-five milk wagons going over the same street, where one wagon could do the work at very much less cost. Daylight delivery is another improvement that cannot come too soon.

Butter Trade Might be Improved.

The world needs more butter and better butter

PROF. H. H. DFAN, O.A.C., Guelph.

for oiling life's machinery. We do not need butter substitutes of any kind. The use of oleo, cottonseed oil and similar products as food for Canadians will lower the physical and mental status of our people. To those who think butter is too high in price during winter the remedies are: (1) Pack in crocks, tubs or boxes, sufficient butter during the time of plenty and comparatively cheap prices, for use in the time of scarcity and high prices. The packing of butter seems to be a lost art among modern housekeepers. If less time were spent on "frills" and more on learning the essentials of good housekeeping, it would

add to the health of our people and to the happiness of Canadian homes. (2) The larger remedy is for the Government to establish or control cold-storage, where human food products may be stored during times of large production, and be sold at the cost of storage and distribution in times of scarcity, thus doing away with the monopoly of foods which characterizes present conditions.

Some Losses in Manufacture.

Cheese, or life-meat, is receiving more attention than ever before in the history of the cheese business of Canada. The world is beginning to realize the value of cheese as a concentrated food. An unforeseen difficulty has developed in the manufacture of cheese, namely, the limited supply of rennet. One of the largest manufacturers of rennet in a recent circular says: "It is now impossible, and probably will be difficult for years, to produce sufficient rennet extract to go around." In consequence, this, and other firms, are offering substitutes for rennet in the form of pepsin in powder solution, and a rennet enzyme. Of the various substitutes we have tried in the dairy department of the college, a mixture of rennet and pepsin has given the best all-round results. The rennet seems to be necessary to digest the curd, and the pepsin, no doubt, will aid in the digestion of the cheese.

To producers of cheese-milk we would offer the suggestion, that in addition to the usual points to be observed, such as keeping the milk clean and cold, rain water should not be allowed in milk, as it makes coagulation of the milk more difficult and lessens the yield of cheese. One pound cheddars and a variety of soft and fancy cheese, including cheese made from skim-milk and buttermilk, offer a wide field at present in the manufacture and sale of this line of dairy products at remunerative prices.

However, there is a great waste of human food in the manufacture of both cheese and butter, where the by-products are not properly utilized. As an example, Ontario is making about 125,000, 000 lbs. of cheese annually; during the same time there is being run into the whey tanks of our cheese factories nearly an equal weight of solid material, of the most valuable human food ever prepared by nature. For each ton of cheese produced, there are approximately nine tons of whey, which contain about 1,200 lbs. of milk solids. About 40,000 tons of milk solids are practically wasted annually in the whey tanks of the Province. It would require two thousand cars, holding twenty tons each, to carry these wasted food products to market.

Condensed Milk and Milk Powder Factories.

A partial solution of this problem is furnished by the establishment in some of our best dairy centres of condensed milk and milk powder fac-



The Outlook for Canadian Dairying

By J. A. Riddick.

I AM not rash enough to pose as a prophet with respect to developments that may take place in connection with the dairying industry during the next few years. There is one thing, however, which seems reasonably certain, and it is this, that as long as the war continues the prices for butter and cheese will be high. For another thing, it is not unreasonable to suppose that the millions of soldiers having become accustomed to cheese as an article of diet will continue to use it after the war is over, and that will mean for continued demand. It is well to remember that the present high price of cheese is not due to a temporary shortage as in the case of butter, but because the demand is unusual and greater than the supply.

There is undoubtedly a great falling off in the number of live stock in some of the European countries, and if the current reports in regard to the matter should prove to be correct, there is bound to be a scarcity of over. The scarcity of ocean transport will probably affect the situation some time to come, especially in regard to supplies from New Zealand and Australia. At the present moment stocks of butter and cheese are accumulating in New Zealand to an unprecedented extent, owing to lack of shipping facilities. The available storage space is all much alarmed at the situation which is developing. We are rather more favorably situated as regards ocean transport and probably not be inconvenienced to the same extent as our cousins in the Antipodes.

On the whole, it seems to me that the outlook for the Canadian dairy industry is encouraging and there seems to be good reason to warrant a large increase in production in the next few years.

*Part of an address at the annual meeting of the Ontario Experimental Union, Guelph, Jan. 5, 1917.

ories. In a word, these factories utilize all of the milk solids for human food. In consequence, they are owing in popularity among dairy farmers. The products are marketed as plain condensed or evaporated milk, sweetened condensed milk, whole milk powder and skim milk powder. These products are a distinct and welcome addition to the world's human food supply, and we look for a rapid development of those lines of dairying where the cow population is dense, and the farmers are willing to supply an extra quality of milk as regards cleanliness and sweetness, because the finest quality of raw material is essential for condensing purposes.

In conclusion, we should venture to prophesy that the future production of dairy goods will be chiefly along the lines of milk and cream for direct consumption, cream for butter-making because of the concentrated and valuable nature of butter and also because of the great need of the by-product, skim milk, in rearing live stock of all kinds, and the production of milk for condensing purposes. The dairy farmer who is in a position to supply milk for any one of those lines, as well as for the present cheese boom, will be assured of a good market at paying prices, if a little more attention be given to the problems of lessening the cost of production, and more efficient marketing.

To get the best results at the farm-end of milk production, it is essential to have good cows, each to produce from 6,000 to 10,000 lbs. of milk annually, and drop a good healthy calf sired by a pure-bred dairy bull, the heifer calves to be reared for future dairy cows; a large supply of succulent feed such as grass, silage and soiling crops; excellent and kind treatment of the cows; cleanliness of the cow, and clean, sweet milk or cream for sale or manufacture; constant watchfulness of the many details of milk production, together with co-operation between the owner and the cow in the production of the largest quantity possible of the cleanest and best milk possible for direct consumption or the manufacture of high grade foods, such as butter, cheese and condensed milk.

Calf Comfort at Riverside

How J. W. Richardson Has Provided It
By W. G. ORVIS.

IT is somewhat painful to one who is a lover of good live stock to go into some Ontario farmers' stables and see the way the young calves are being reared. Often they are found tied in a dark and dirty out-of-the-way corner of the stable where they never have a chance to exercise or get a reasonable amount of fresh air.

The men who have made a success of the breeding business realize that it pays to raise their calves in a manner that will give them a strong, rugged frame and big constitution, with a capacity for feed in large quantities. This cannot be done to the best advantage by keeping the young animals in a close, ill-ventilated stable, but rather

demands quarters as sanitary, roomy and healthy as those for the mature stock.

The calf barn illustrated in this issue is that of J. W. Richardson, Riverside Farm, Haldimand Co. Ont., from whence so many good Holsteins have come. It is 24 feet wide by 40 feet long, and is a two storey building, with a hip roof. The loft above is used for storing feed and bedding and is planned for convenience and labor saving. Mr. Richardson believes that warmth is an essential in an up-to-date calf barn. Consequently, this building has two thicknesses of board, one of paper, and is sheathed with galvanized iron. The space between the studding is filled with shavings, thus it is warm in winter and reasonably cool in summer. Ventilation was another essential, and is obtained by means of the windows. These open inward from the bot-



Hester Aaltje Korndyk.

The world's Champion Butter Cow, owned by Mr. Smiley, So. Dakota. She displaced Ormsby Jane Seitz Ansdick, who gave 44.82 lbs. butter in 7 days by increasing her record to 46.772 lbs. butter in 7 days. Hester Aaltje Korndyk only held the Championship for a few weeks, being displaced by Seitz Payne Johanns with 50.68 lbs. butter in 7 days. She is a cow of outstanding merit nevertheless, and worthy of close study.

readily swept or flushed out. This is an important point, as it provides for the daily cleaning of these mangers. The steel partitions are faced along the inside manger wall, and stanchions are provided for the fastening of the animals while feeding. An iron hay rack with strong spring attachment is situated on the partitions between pens. These racks prevent the waste of hay and can be conveniently filled from the passage.

Running through each pen and about two feet from the manger is a small gutter. The floor from the manger slopes to it and also the floor from the outside wall, thus the only wet place in the pens is near this gutter. The calves always have a dry bed. The gutter is well placed, as when the animals are feeding it is necessary for them to remain in the front part of the stall while their bed remains unmoisted.

Water is provided in a cement tank near one door

and from the same place starts the stairway to the loft above. One of the pens is usually used for a feed room. A hay and straw chute opens into this room, and boxes for holding the different grains are also provided. A litter carrier runs through the entire building, and is continued on to the cow barn. This carrier is a great labor saver, as the milk used to feed the calves is transported on it, thus saving many steps.

Let us sum up the good points of this barn. It is sanitary, well ventilated, roomy and comfortable. It is of durable construction and convenient. It allows calves to have exercise and still provides shelter from flies, sun and storm. Is there anything more to be desired to induce a calf to grow into a strong, healthy, mature animal, capable of withstanding almost any strain.

Every community should center on producing at least some one thing of quality and in considerable quantity. In this way the community will become known and its product advertised to the world. This in turn brings the buyers, which means better prices. The county of LaPerche, in France, centered on raising horses, and the result is that the Percheron horse is known the world over, and hereby the district of LaPerche is known.



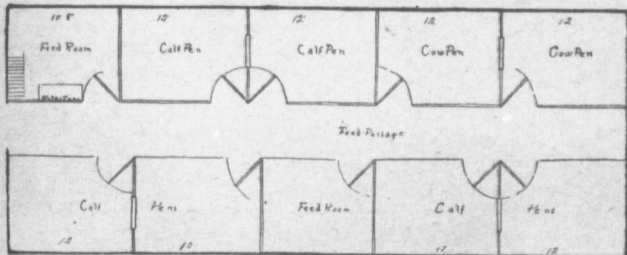
Riverside Calf Barn.

This neat and attractive calf barn gives comfort to animals and is a source of pleasure to the owner, Mr. J. W. Richardson, Haldimand County.

tom and are controlled by a rope attachment which holds the window at any angle desired.

The Floor Plan.

The accompanying plan of the stable shows five pens on each side of the centre passageway. The floor of this passageway is six inches higher than that of the pens. The mangers are on this side and are built of concrete. They are about three inches higher than the floor of the pen, and one end of each manger is sloped so as they can be



Plan to Build and Build to the Plan.

This cut was taken from the blue print of the Architect who planned the Riverside calf barn. It is well to get things of this kind on paper before starting operations.

The Gasoline Tractor As a Source of Power on the Farm*

Conclusions Reached After Four Years' Experience During Which Accurate Cost Accounts Were Kept

TO utilize implements to the best advantage we must have efficient power. Man power for the major farm operations, such as plowing, harrowing, sowing and harvesting was long ago abandoned, and so scarce has labor become that for planting, hoeing, stoking and similar farm operations it has, through the invention of machinery and the adapting of cultural methods been reduced almost to a minimum. But in spite of these changes toward eliminating manual labor on the farm we have to-day a greater scarcity of farm labor than ever before. This condition is accentuated by the absence of so many farm boys who have beat their plow shares into swords and are now engaged in work even more important than plowing.

To relieve the shortage of labor the use of larger machinery will do something. Gang plows, wide harrows, two row cultivators, and other large implements should be used to a greater extent than they are. But the question may reasonably be asked, what can we expect in the way of more efficient power? Can mechanical power be used to advantage by Ontario farmers for plowing, harrowing, sowing and other field operations?

The Use of Mechanical Power.

Mechanical power for soil cultivation has been in use for over half a century. Within recent years the small tractor pulling from two to six plows has been coming into more general use in many European countries. In Canada few tractors were used for farming purposes until about ten years ago, and up to the present their use has been mainly in the prairie provinces. Eastern Canada has been invaded by tractor salesmen only during the past year or two. A few farmers in Ontario and Quebec have bought outfits and are fiddling out for themselves how useful they are under eastern conditions. Others are holding back hoping to profit by the experience of their neighbors and ready to buy as soon as they are convinced that the tractor will be of real service to them.

In the west many thousands of tractors have been sold within the last decade. Among the army of purchasers may be found those in whose hands they have given supreme satisfaction, and others who cannot find words strong enough adequately to condemn them. The difference in experience is the sometimes to the land on which they were used, more frequently to the make of engine, but very often to the men who owned or operated them. It is impossible briefly to summarize the experience of western tractor owners; the conditions under which they worked were too divergent. Even if it were possible to summarize western experience it would not strictly apply here where farms are smaller and the class of farming different, but at the same time there are some factors which are the same, namely, the machine and the operator. After all, these are the most important. As one who has had some experience with traction engines in the west I want to bring to your attention some facts and figures on the cost and efficiency of their work, and some observations on their utility.

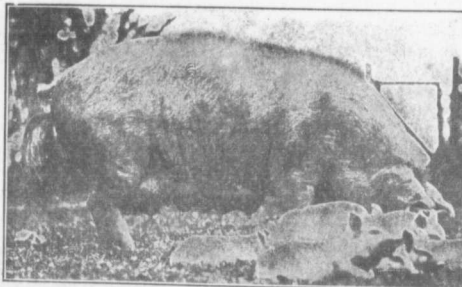
During the four years, 1911-14, over 50,000 acres were plowed by traction engine on the farm for which I have figures. Accurate cost accounts

PROF. JAS. MURRAY, Macdonald College, Que.

were kept of fuel, labor, repair parts, time spent in repairing, oil and the cost of overhauling. A record was also kept of the work done. The figures that I have available cover the season of 1913 for five steam and two gasoline engines. The gasoline engines averaged 159 days' plowing each a season. Gasoline was high, costing 35 cents a gallon.

Cost of Plowing With Gasoline Engines.

Acres plowed—3,450.
Acres plowed a day, per engine 125
Amount of gasoline used an acre 3 gallons
Average cost of engine crew a day \$9.20



A 690-lb. Brood Sow—Oak Lodge Princess and a Few of Her Progeny. She gave 83 pigs in five farrowings. Owned by Mr. John Warner, Haldimand Co., Ont.

Total cost of upkeep of engines for year including oil, repairs, repairing and overhauling \$1,687.60
Average cost of upkeep for one day's work 5.39
Cost of one day's plowing 23.79
Cost of one acre's plowing 2.37

The conditions under which the engines were working were not ideal. The land had all been plowed before, so that the footing was not perfect, and, moreover, the engines were all operated by hired labor. The charge for gasoline fuel is very high, \$1.05 an acre; probably more than would be the case ordinarily in eastern Can-

ada. The amount of gasoline used an acre may also appear high, but it must be borne in mind that the plowing was from six to seven inches deep, and as the work was continued throughout the whole summer the land was frequently too dry to plow to best advantage.

The cost of upkeep is even more striking. As already mentioned this includes cost of oils and grease, repair parts and repairing, overhauling during the winter and the wages and board of the supervising engineer. For each day's work done the upkeep cost for each gasoline engine was \$5.20. Where only one engine is operated it is customary to charge against upkeep only the bare cost of repair parts; the time spent in removing the broken parts and in fitting the new ones is overlooked. Odd days spent at repairing is seldom charged for by a man operating one engine only. In the figures here given all upkeep expenses are included.

Depreciation an Important Item.

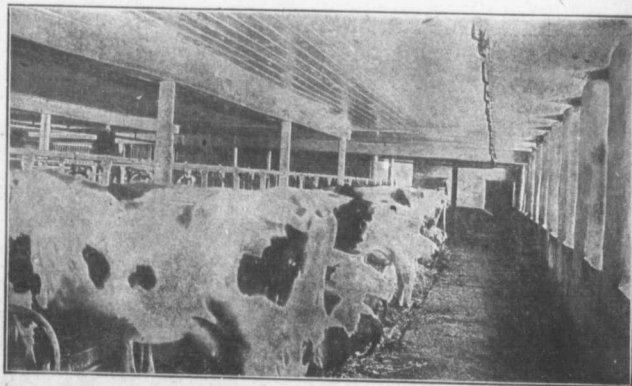
Still another important item to be considered is depreciation. Accurate data are not available; any figures that may be quoted are the opinions of those who have used tractors for a few years. The U. S. Department of Agriculture in Bulletin No. 719, issued last May, gives some figures that are probably as reliable as any.

The estimated average life of tractors in days of service is given as follows:

Size of tractor.	Average life in day's work.
2 plow	294
3 plow	352
4 plow	610
5 plow	885
6 plow	738

The advantage of the tractor lies not in the cheapness of the power, but in its ability to do heavy work and do it rapidly. There is not the same tendency to plow shallow with a tractor when the weather is hot or the ground hard that there is with horses. Where a large amount of land has to be plowed the tractor can accomplish the work in the right season, whereas, with

(Continued on page 8.)



The Sanitary Stable on the Farm of Peter Smith, Perth County.

The owner of this barn believes in cow comfort and convenience for attendants. Note the large windows, still further to the good appearance of the entire interior.

*Part of an address before the Ontario Agricultural and Experimental Union, O. A. C., Guelph, Jan. 16, 1917.

THE ANSWER
TO YOUR PROBLEM

How to
get Fertile
Eggs

Give your hens daily
Pratts' Poultry Regulator

the perfect tonic and conditioner. Puts
vitality in your fowls, keeps your flocks
in prime condition, ensures fertile eggs
and more of them.

PRATTS' Roup Remedy not only
cures, but prevents roup, wadd, cackles,
asthara and diptheria. Give it to
healthy fowls to keep them away
from "Poultry
Wrinkles."

Fruit Feed Co. of Canada, Limited
60 St. Claremont St., TORONTO, P. O.

Wayside Cleanings

By W. G. Orvis, Field Repre-
sentative, Farm and Dairy.

Road Patriotism

"I AM not in favor of any extensive
system of road building until
after the war is over," is the
way Mr. W. W. Sparks, ex-reeve of
Pickering township, expressed himself
recently. His arguments were that the
cost of the best and only enduring
types of roads ran into the thousands
of dollars per mile; that every town-
ship is carrying a good financial load
in connection with the war, and if they
can raise any more money it should
be expended in a way that will make
more sure of winning the war. The
public should be willing to get along
with the road as it is until this point
is gained. "This should in no way
keep us from formulating plans for the
building and maintenance of the best
possible type of road as soon as the
war is over," was the concluding
thought of our friend on the subject.

A National Highway.

There has been much talk about the
road running across the counties border-
ing on Lake Ontario. This road
has been known for many years as
the Kingston Road, for the reason prob-
ably that it at one time was the
only connecting link between King-
ston and Toronto. Many of the mem-
bers of the various councils interested
in it, claim that it should be taken
over along with all other roads of the
like nature in the province, by the
government. The traffic over these
roads is largely foreign to those coun-
ties, and a most of it is heavy traffic.
From the bulk of the travel over this
road, the government collects a cer-
tain revenue and the different towns
and cities derive a some benefit also
from it. It is only a matter of time
that the government should become re-
sponsible for the re-building of this
type of road and should also be ex-
pected to keep it in repair in the con-
tention of these officials. This is a
live subject in these counties and is
worthy of an interest from all rate-
payers.

Cleaning Grain.

EVERY farmer knows something of
the value of cleaning his seed
grain well. Few, however, ap-
preciate to the full extent the value
of the extra cleaned seed. Because
of the exceptional dry season last
year, many farmers will have diffi-
culty in getting real good plump seed
on their own farms. As one farmer
jokingly put it recently, he was afraid
to run his grain through the fanning
mill for fear it would all go out with
the waste behind. The fact remains,
however, that if we expect good re-
turns this next year, we must sow
good, clean, plump seed. Mr. Har-
ness, Dundas county, told the farmers
of Peterborough county recently of an
experiment that he tried on his own
farm some years ago. He took 100
bushels of grain that had been sown
through the fanning mill and planted
them by themselves, doing the same
with 100 kernels that had been run
through the mill two, three and four
times. The result was that he had
a 100 per cent. germination from the
grain that had been run through the
mill four times and only about 20 per
cent. germination with the grain that
had been cleaned but the once. In the
light of this experiment, can we afford
not to thoroughly clean our seed grain,
even if there is a seemingly big waste
in the process?

Crop Rotation.

The winter season is usually the
season in which the farmer makes his

plans for the rest of the year. Definite
plans for farm work and the crops to
be sown are a necessity on every
farm. There are but few farmers who
have not some plans already made for
their next year's operations, yet there
are not very many who can consis-
tently tell you that they have a
regular crop rotation which they fol-
low closely and systematically. The
five dairymen realize the value of
this as possibly no other farmer. One
of the subjects being discussed at the
different Board of Agriculture meet-
ings in the different counties this win-
ter, is the one of crop rotation. One
speaker emphasizes the short rotation
for cleaning land and providing the
crops necessary for the production of
large amounts of milk. He also out-
lines in this short rotation a system of
annual pasture crops that will help
the cows over the season of dry pas-
tures. The different annual pasture
mixtures recommended by agricultur-
al authorities should be looked into, and
the one chosen which will suit the
farm conditions in the locality, in
which the farmer lives, and tried out
this coming season.

Farm Help.

Upon a recent visit with Mr.
J. W. Richardson, Haldimand county,
he stated that the dairy cow had been
the most profitable thing ever sown at
Riverside Farm. He went on to ex-
plain that she had been profitable in
other ways than those generally con-
sidered. In order to keep her it be-
came necessary to consistently and
intelligently crop their land. To be
able to do this, it also became neces-
sary to employ labor the year round.
The winter months, according to his
statement, are just as busy months
with them as those of the summer
season. The secret of keeping good
farm help," said Mr. Richardson, "is
in keeping them comfortably em-
ployed. Hired men are like school
children; unless they have something to
do, they become restless and want
to move." There is no homely in-
sult in what Mr. Richardson says
and if applied on more Ontario farms
we would hear less about the farm
labor scarcity.

Why Silos Save Money

By W. W. Fitzpatrick.

BY the use of a silo, a succulent
feed may be provided the year
round, keeping up the milk flow
of dairy cattle and fattening beef cat-
tle.

Silage is the best and cheapest
form in which to provide this sort of
feed in winter.

Silage keeps cattle in more thrifty
condition than any other feeds.

Silage has a beneficial effect on the
digestive organs of cattle.

Silage is very palatable and stock
eat it with relish.

There is less waste in feeding silage
crop will support more cattle, good
silage properly fed is entirely con-
sumed.

Through its health-giving qualities,
silage improves the outward appear-
ance of cattle and horses.

The same acreage devoted to a silage
crop will support more cattle than
it would if devoted to hay or
other roughage.

Pasture acreage may be greatly re-
duced when silage is fed the year
round, and more land can thus be
brought into cultivation.

Growing silage leaves land clear in
the season for planting fall and winter
crops.

The silage system helps to main-
tain soil fertility and builds up run-
down soils.

On the same acreage, two cows can
be kept on silage at the cost of keep-
ing one cow on hay or other roughage.

Silage may be harvested in wet
weather and when conditions are such
that other crops could not be harvest-
ed without a total loss.

Green feed in the form of silage can
be fed in summer to great advantage
in seasons when pastures have dried
up.

Feed storage in silos is much cheaper
than in hay barns, since a ton of
silage requires less than half the
space required by a ton of hay.

An acre of corn can be placed in a
silo for no more than the cost of
husking, husing, grinding and
shredding.

The value of a crop preserved by
using a silo is about 40 per cent
greater than that of a crop harvested
in the usual way.

HORTICULTURE

The Mouse Pest

THERE are many things about the
farm and orchard which demand
constant vigilance in order to
prevent loss from one thing or an-
other. Now that the snow is begin-
ning to get a fair depth, there is the
danger of young trees being girdled
with mice. The extra busy autumn
season may have prevented the usual
precautionary measures being taken,
and winter has found the orchard un-
protected and possibly a thick coat of
grass or weeds on the ground. If
this is the case, it is ideal for the
mice and there is a grave danger of
some of the trees being injured.

The old remedy of tramping the
snow around the tree trunk is a good
one, and if tramped for some dis-
tance away from the trunk it has the
additional advantage of acting as a
safeguard against snow scald. This is
accomplished by holding the frost in
the ground near the tree longer, and
thus retarding the snow from melt-
ing and lessening the danger of the
scald. The binding of the tree trunk with
building paper is also advocated.
This operation is quickly and easily
done and is not expensive. It will
pay to protect the trees at any cost,
for it takes years to replace them.

Light on New Ontario

DEFINITE practical hints for the
new and prospective settler are
contained in a new bulletin,
"Hints to Settlers in Northern Ontario,"
just issued and now available
from the Department of Agriculture,
Toronto. This bulletin covers in de-
tail the experiences the settler must
expect in hewing out a home for him-
self in the great clay belt of the north-
ern part of the province. It is well
illustrated and in a most practical
way covers each step in the clearing
of his farm; warning against the most
common errors the settler is apt to
make. One chapter deals specially
with the clearing of land and shows
the actual cost as found by experience
at the Montiel Experiment Station.

Where the settler has allowed the
first timber to grow up with second
growth timber, it is pointed out that
the cost of reclearing this may run as
high as \$7.00 or more an acre. If
seeded down immediately after burn-
ing with mixture of red clover, al-
falfa and timothy, and abundance of
pasture is secured and second growth
prevented. The bulletin is prepared
by W. G. Nixon, the District Representa-
tive at New Liskeard, and by H.
Clemens, Superintendent of the De-
monstration Farm at Montiel. It is
issued free from the Dept. of Agriculture
at Toronto and should be in the
hands of every prospective settler
who is considering the making of a
home for himself in our great North-
ern Ontario.

for a Horse

Save a horse and you
won't have to buy one.
Don't sell or destroy any
horse on account of
Curb, Spasmodic Lameness,
Spleen one dollar for a
bottle.

**KENDALL'S
SPAVIN CURE**

It has saved a great many horses but
they back to work, even after they have
been given up. Over 25 years of success
have proved it a success.

Mellor Crives, Marages, Sask.,
wrote last February: "I have
used your Spavin Cure for
many years and I have never
known it to fail."
Dr. Kendall's Spavin Cure at
all druggists. Price \$1.00 a
bottle, 5 bottles for \$5.00.
"Treatise on the Horse,"
found at druggists or from
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FARM CHATS

H. Percy Blanchard, Hants Co., N.S.

How I Was Fooled

THERE'S many a trick 'tween the spark and the kick. I thought I knew something about a gasoline motor. Some of the bluntest of marine engines in the splashing sea, or tied up at a wharf had tried my patience and finally succumbed to my persistence. We have a four h.p. Gray motor, "thoroughbred," as the catalogue calls it and a pretty fine engine, too, it has been belted up to the circular saw for a month and more and during that time I have been promising myself and the woodpile to do some sawing, but apparently it was like a political promise, as it failed of accomplishment.

Yesterday, after the snow and rain and frost, was a beautiful day, and so we seized it to get a couple of stacks of hay into the barn. There were left about two hours of daylight, and we had an extra man and now was the chance to do a little wood-sawing till evening. So, while the team went for the last "tag" of hay, I decided to get the engine ready.

Fixing Up the Batteries.

The old batteries that had been condemned last spring, had been holding out after a fashion all summer, but a short trial soon showed they were stone dead. There was still the set on the little engine. They were very weak; would not give a buzz except by short circuiting them in the battery box. I concluded, much against my desires, to borrow a couple of batteries from the automobile. Now, two extra batteries are quite a help if wired right. It went to add them to the weak set, six in a row, instead of four, for the weakest battery in the circuit holds down the others. So I put them in double series; that is, presuming the four old batteries all wired up, they would have their two outside terminals a zinc and a carbon. Then, the extra pair of batteries being connected together, a wire went from their unused zinc terminal to the outer side of the main set, and in the same way carbon and carbon. Even one extra strong battery can be wired in this way to help out a weak set.

Now, I had an elegant spark. Apparently a little priming with the gasoline can, and it would have a start. But no; I was no use. Half a dozen times I primed, but not a puff. Possibly the spark plug was dirty. I took it out and apparently it was all right, but a shade wider at the break. When it was laid on the engine outside and the circuit closed, there was a beautiful spark. All the same, on the next trial, there was the same, no move.

An Indefinite Postponement.

By this time my priming can was empty and so was I empty of my new plan to start that engine. The team had returned and the hay was in the loft, the men ready to saw, and the engine hung up. I passed out a sort of explanation about the batteries being weak—something to let me down easy, for my pride is rather touchy when it comes to a gasoline engine—and the wood sawing was postponed indefinitely. Still I hated to be beat. When everyone was asleep out of sight, I decided to give that engine another try. If it had been a poor engine it would have been different, but usually it went off at the first turn, and I kept on the job till I threw out the switch. So I filled up my priming can with more gasoline, from the big can and tried again. Imagine my surprise when puff and away the engine went at the first revolution. What had hap-

pened? What had I done to dispel the charm?

The solution was plain as day. That priming can, half full of gasoline, had stood for weeks, and every bit of volatile oil had evaporated, leaving only a dead, heavy oil. It was with this latter stuff I had been priming and I might as well have used kerosene or even water. Just as soon as the can had been refilled with new gasoline, everything was all right.

Probably many a man has cranked and cranked at his auto or engine, and wondered why the thing would not start and the trouble all the time was that he was using stale gasoline. The "junk" had evaporated from his primer can or even from his cancrator at the "torker." Just as soon as the stale stuff was used up, and new gasoline came down, the engine started. I will know better next time.

Took His Cows to College

THERE are "ways and ways" of making one's own expenses through college. It remained, however, for a resourceful Texas boy to hit upon a method of expense-making entirely new in the records of the Agricultural and Mechanical College of Texas, where he is enrolled as a student. P. S. Goen, of Harvey, a rural community near College Station, the home of the college, "showed up" at that school last fall with the typical baggage and equipment of a young collegian and, in addition, two good grade Jersey cows.

"We had an extra supply of cows and a shortage of currency at home," Goen explained to President Blizzell. "I want a college education, and I am not going to let the lack of money defeat me. I have decided that I can sell enough milk to the residents of the campus to enable me to meet at least my incidental expenses. All I ask is the use of a barn and a small pasture."

Through the influence of the president, Goen was given the use of a barn and small pasture, and thus entered upon the dairy business. From the beginning he experienced no trouble in disposing of the product of the two cows at the satisfactory figure of nine cents a quart, for whole milk. The two cows brought him an average return of \$54 per month. Feed cost approximately seven dollars per head per month, leaving the enterprising young Texan a profit of \$40 per month. Expenses at the college are very low and with this income Goen finished the year with a little change in his pockets.

The Texas school of Agriculture and mechanical arts is a military institution, and the cadets put in a full day; but Goen missed no duty on account of his work. About two hours a day were required for milking, distributing the milk and collecting.

"I'll be back next fall with my two 'helpers,' Goen said at the close of school in June. "And I wish you would tell every boy you can reach how I 'got by' because that saying that no one need be deprived of an education because of a lack of funds is no myth. I know; I've demonstrated the truth of that saying this year."—*like Ashburn in American Magazine.*

Min horses should be turned out for exercise every day in winter except on the few stormy bitter days that occur nearly every winter.

The work horse that has been properly cared for and fed in the summer will be wintered, when not at work, on such roughage as cut straw, prairie hay and corn fodder. In addition to the above it may be necessary to give four to five pounds of grain daily per animal in order to maintain them in good flesh.

STRONG

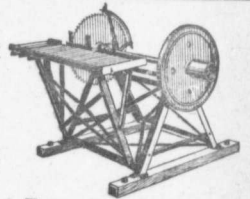
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A Foolish Omission

Quite frequently when giving name and address a subscriber neglects to mention either post office box number or Rural Route Number. He assumes, and quite rightly, that the postmaster knows his correct box or route number.

But he overlooks the fact that not only is he uselessly and unnecessarily taxing the memory of the post office employees, but in event of a change or a new clerk at the post office, the absence of a complete address is liable to cause non-delivery or at the least delay in delivery of mail. This is especially true of second class mail, such as newspapers and magazines.

Always give your full address, including the Rural Route number or street number, thus saving trouble for the post office clerks and ensuring more prompt delivery of your own mail.

See if your box or route number is on the label of this copy of Farm and Dairy, or if your name is spelled correctly, if not advise us. It may save you and us trouble later on.

Thank you,

The Circulating Manager

Western Ontario Farmers Out and Out for Grading

(Continued from Page 2)

large percentage of the butter coming in had been moved up to the special grade. Less than four and one-quarter per cent. of the butter graded in 1916 went into the old grades and seconds. Notwithstanding the fact of a ready market and a small spread between the different grades, they had stuck to the grading system during the past season, for they realized that the buoyancy of the butter market would not last forever, and they did not want their plans to become disorganized.

Representatives of the Trade Arrive. At this point of the proceedings, Mr. H. B. Clemes, secretary of the Toronto Produce Exchange, addressed the convention. He began by stating that for two years they had been working around the outside of the problem. The trade was just as anxious as the creamery men to have the butter industry put on a more satisfactory basis, and many of the members of the Toronto Exchange had come to the meeting to lay their views before the dairymen. For years the dairymen have been asking what benefit they would receive if butter were to be sold on a grading basis. The trade was prepared to pledge itself to the dairymen to buy all their butter on grade, as fast as it came as working plans could be evolved, and were anxious to cooperate with the dairymen in every possible way toward the working out of a satisfactory basis. Mr. J. A. McLean, of the Boves Company, in supporting what Mr. Clemes had said, stated that they now had the viewpoint of the dealers before them. They wished to work in closest harmony with the creamery men of both Eastern and Western Ontario, so that they could arrive at a solution of this pressing problem of butter grading. One of the creamery men present here stated that they were now starting at the right end of the problem, and that the butter dealers had taken the right stand. If they would put up the quality and the dealers would make a fair discrimination in the prices of each grade, there would be no kick coming from the farmers.

The Difference in Prices.

At this point of the discussion, one of the dairymen requested information as to what the differences would be in the prices of first, second and third grade cream. Mr. Marker was asked to give his experience in Alberta. He stated that the returns were not all in for the year, 51 creameries having reported with six to come. Of these 51, seven received nothing but first grade cream and received two grades and paid a difference of five cents per lb. of butter fat. Twenty-four were working on three grades, one giving four and one a pound difference and 23 giving two cents a pound difference. Ten creameries were working on four grades, some giving a preference of three cents, and others city cents. One factory had five grades of cream and gave preference of from two to two and a half cents a pound butter fat. These creameries had a total output of approximately 8,000,000 lbs. of butter.

Upon being asked how often the cream was gathered, Mr. Marker stated, usually twice a week, though city dairies require more frequent gatherings if their trade demanded sweet cream. If the farmer takes his cream in twice or three times a week, it arrives in better condition, and therefore grades higher, bringing a better price. It is often a question of time vs. the labor of frequent delivery that the farmer has to settle for himself. It is therefore left entirely for him to decide. There had been a strong swing toward individual cans, but where these were not used it was customary to use a sample. The hauler takes a sample case of 12 four-ounce jars. After thoroughly stir-

ring the cream at each farm, it is weighed, the jar filled and closed tight, the maker doing the grading upon the arrival of the cream at the factory. Each creamery man settles his own grade, no legislation being found to be the most effective legislation. The Department has set up a set of established grades, but it is left to the creamery man's choice to adopt them. There was no compulsion about it.

Mr. J. A. McPeeters stated that the dairymen could rest assured that if cream grading were taken up, they would be supported all along the line by the trade. There was no danger whatever of cream grading discriminating in favor of the larger city concern. He paid a high tribute to the honesty and ability of Mr. Scott, stating that they could not have secured the services of a better man to do the experimental grading during the past season. Mr. McLean also expressed the confidence of the members of the Exchange in Mr. Scott's ability, and strongly approved of his appointment as official butter grader.

Convention Records its Support of Grading.

Mr. A. E. Silverwood, of London introduced a resolution favoring butter grading. He had had his own driven into the business of making butter because it was impossible to secure good quality butter that his trade demanded. The resolution was as follows: Resolved that this convention of the Western Ontario Dairymen's Association endorse the principle of government grading and request the provincial government to put into operation the machinery necessary to that end. The resolution was seconded by Mr. F. Showers, of Bridgeton, who stated there was a tremendous amount of growing up amongst dairymen in favor of the grading of butter and cream, and the resolution, he believed, fully expressed the opinion of the dairymen to the meeting, the resolution carried without a single dissenting voice.

From the Churn to the Depot

ASSUMING that the butter has been made and is in the churn properly worked and ready for the packing into the tubs, what are the buttermaker's duties from that time on?

Before the butter is taken from the churn, it should be sampled and tested for moisture. This, of course, requires a few moments time, but certainly is very essential. The results obtained should be kept in a permanent book so that, should occasion require, they can be referred to readily. Some buttermakers make two or three tests only occasionally, as they state, to see how the "butter is running." This is a mistake, and no well-organized creamery will permit such practice. It is too dangerous. During the past year we had several conferences with creamerymen that tested the butter for moisture "occasionally," and were caught when a favorable impression when stripped on the market. Aside from the fact that a pound or two more can be marketed without this additional package expense, it is plainly evident that the large holes frequently found indicate that the buttermaker is either a beginner or is inclined to be careless.

The packing of the butter, of course, should be done so that it will be a credit to the buttermaker. Butter carelessly thrown in and carelessly packed will not make a favorable impression when stripped on the market. Aside from the fact that a pound or two more can be marketed without this additional package expense, it is plainly evident that the large holes frequently found indicate that the buttermaker is either a beginner or is inclined to be careless.

Amortization of loans is a good principle. If money is borrowed it should be for a productive purpose, and if the production is increased a part of that production is to be used to reduce the principal of the loan.

Progress the Watchword at W.O.D.A. Convention

Butter and Cream Grading Unanimously Endorsed—Dairy Standards Act Approved—More Farmer Directors Elected to the Board—Splendid Addresses Given

THE dairymen of Western Ontario who met in convention at Woodstock, on Wednesday and Thursday of last week, were out for progress. Although they realized the unfavorable conditions of the labor market, and high prices, and, for the time, an indiscriminating market, makes the immediate adoption of new measures more difficult, still they realized that present conditions were only temporary, and that now is the time to prepare for the keener market conditions that will prevail after the close of the war. On this ground they strongly favored immediate action in the matter of cream grading, and unanimously passed a resolution supporting it. They also strongly favored the Dairy Standards Act going still further than it does, and requested that a clause be added which would provide for the sale of all milk at wholesale on a quantity basis. They urged the maintenance of the present restrictions against the oleomargarine trade. In order to encourage interest in the association by farmers, they elected two additional farmers to the board. Besides this, they transacted the usual business and listened to several inspiring and instructive addresses.

Position of the Association.

The reports of the directors and secretary showed the association and dairy interest in Western Ontario generally to be in a sound financial position. The directors reported that there had been practically no export of cream during the past winter, high prices of butter and heavy shipments disposing of all the surplus. Reference was made to the work that was done during the past season in the market grading of butter. The Dairy Standards Act was strongly endorsed as a measure that would eventually prove a strong force in the improvement of dairy conditions, and it was hoped that the dairymen would accept it as one of the most progressive of the dairy acts ever enacted by the Provincial Government. The financial statement showed total receipts for the year of \$2,260.79, and total expenditures of \$5,790.95, leaving a balance of \$469.84 as compared with \$271.46 at the beginning of the year. Money from prosecutions totalled \$392.

In his report as Chief Instructor, Mr. Hens stated that there was an increase of 573 patrons to cheese factories for the year. The average percentage of fat in the milk was 3.37. The average pounds of milk required to make one pound of cheese was 11.06. The box factory which had the largest increase in some sections he hoped would be solved by next year. During the year, Western Ontario creameries produced 11,022,461 lbs. of butter, the number of patrons being 33,500. Mr. Hens' report will be published in greater detail in an early issue.

The Dairy Herd Competitions.

The winner of the dairy herd competition for cheese factory patrons was Jas. Burton & Son, Sparta, of Sparta cheese factory, whose 12 grade Holsteins and two grade Durhams produced a total for the factory season of 119,553 lbs. milk, or 8,540 lbs. a cow. The silver cup donated by the Canadian Salt Co., Windsor, in this section, becomes the permanent property of the Burtons. The competition for the creamery patrons was won by Mr. E. L. Earley, Kerwood, a patron of the Goodwin creamery, whose six Short-horn grade cows totalled \$78.8 lbs. fat.

More Farmers on the Executive.

The question of having more farmers on the executive of the W.O.D.A. was raised by Prof. Deane. This would mean more interest by farmers

in the affairs of the association," he said. "For the last 50 years, the association has largely been the hands of those connected with the manufacturing end of the dairy business. For the next 50 years, let us see if we can't get more good dairy farmers at work." Mr. John H. Scott claimed that the farmers had a fair representation on the board at present, as not more than 10 per cent. of the members were farmers. A great many more of them should belong to the association. Mr. Geo. Mahon, a lawyer-farmer of Woodstock, also held that affairs were too much in the hands of makers and buyers. He also suggested that the work of the association be extended to include exhibits of dairy cattle, such as the dairy congresses in the United States. J. N. Pagel, Canboro, held that if the farmers had not a sufficient representation, it was not due to any action of the board. Not 10 per cent. of the members were farmers, and perhaps not three per cent. of those attending were farmers. They would not go more than 25 miles to attend a convention. Later in the convention, Messrs. John Scott and Geo. Mahon, Woodstock, were elected directors, these, with Jas. Donaldson, Atwood, being the farmers' representatives.

The Dairy Farmer of 1917.

"The dairy farmer of 1917 should aim to produce all milk possible for two reasons—there is going to be a great shortage of milk in the world over, and the price is likely to be the best on record," said Prof. Deane in discussing the outlook for dairymen. The probability of a shortage of milk is to make farming remunerative. He quoted the President of the British Board of Trade, who said that if you do not make the production of milk remunerative for the farmer, there is no arrangement under the sun that will make him produce milk. Prof. Deane scored those who were advocating the introduction of oleomargarine, claiming that experience proves that it cannot be regulated as to be sold for what it is, that the source of the milk is uncertain, and that it is of it displaces a pound or more of good pure butter.

Prof. Leitch addressed the convention on the place of spring pastures in the production of cheap milk. In Eastern Ontario they were forced into the dairy industry to maintain a livelihood. In Western Ontario they went into it because it was a good profession, he said. The labor problem which had developed was the same in both districts, however, and the problem before the dairymen was the production of milk at the lowest cost possible. In endeavoring to solve this problem of cheaper production, Prof. Leitch advocated better cows; the use of the milking machine, and the improvement of pastures. A spring pasture mixture consisting of one bushel each of oats, barley and spring wheat, with six or seven pounds of red clover, per acre, has produced the most reliable spring pasture on the O.A.C. farm, and was by far the cheapest food available for the production of milk.

Cow Co-Partnership.

Chas. F. Whitley gave many striking examples of dairy herd improvement which had resulted from cow testing. The cow and the dairy farmer, he said, were partners, and the cow should receive credit for her contribution to the wealth of the firm. This could only be given correctly when the record of her production was down in black and white. Geo. A. Putnam, Toronto, stated that a bulletin was being prepared showing the comparative

(Continued on Page 30.)

The New Ontario Potato Trade

RECENTLY, mention was made of the steps that had been taken to develop a seed potato industry in the New Liskeard district in New Ontario. That the northern sections of Ontario are eminently suited to potato culture, and that the sections north of Lake Superior can lay claim to attention for the production of this crop, is borne out by the report of L. M. Davis, the representative of the Department of Agriculture in the Thunder Bay District. Mr. Davis reports to the Department as follows:

"Up to the present time there have been about thirty carloads of potatoes shipped from Port Arthur section this year, the price ranging from about \$1.15, sacks included, up to \$1.25 loose in the car, that is for first-class table stock. I have told you several times already about our effort at growing seed potatoes. I have now to tell you that one of the growers has disposed of 200 bags of his seed stock at \$1.50 per bag. At the same time, the other half of the car in which these were shipped was filled with first-class table stock at \$1.25 per bag. These potatoes were sent to Chatham to be used for seeding purposes. We have received word from Chatham that the potatoes are satisfactory in every way.

"It will be noted that this difference of 25c per bag represents the difference between No. 1 and Extra No. 1 stock, and not the difference between No. 1 stock and No. 2 stock. The important point, however, in connection with this work is that the extra \$75 received for the three hundred bags of potatoes cost the producer something less than 10 hours' labor. This gives some idea of the reward which awaits the farmer who will do the extra."

The Gasoline Tractor as a Source of Power on the Farm
(Continued from Page 5.)

horses either too many must be kept for other seasons the work is spread out over too long a period.

The quality of work done by a tractor depends upon the operator and the adjustment of the plow. Properly handled, a tractor will do just as good plowing as can be done by horses, provided horses are used for striking out and finishing up lands, but for other kinds of work the tractor is at a great disadvantage. There is altogether too much power lost on account of poor footing. To be employed satisfactorily fields of reasonable size are necessary. In small fields too much time is spent in turning and too high a proportion of the field has to be finished up with horses.

It is no easy matter to operate a tractor satisfactorily with hired help. When the operator is hired it is important that the owner of the outfit understands its operation in order that it be not abused.

The amount of labor that can be saved depends upon the size of the tractor. With the larger sizes that will pull six, eight or ten plows the saving is considerable; with a two-plow size there is no saving, as a man can plow just as much with a four-horse team and a gang plow as he will with a two-plow tractor. It would seem that a tractor should pull at least four plows to warrant its purchase on account of saving labor.

Great improvements in the tractor have been made within the past five years. They are simpler in construction and more efficient in operation. Manufacturers are awake to the necessity of still further perfecting them, and we may expect to see even greater improvement within the next few years. They are now working under a greater variety of conditions, and their defects will be the more quickly brought to light and corrected. We may confidently expect the tractor to occupy in the not distant future a

more important place as a farm power than it does at present.

The Social Service Congress

THE Ontario Social Service Congress, to be held in Toronto, Jan. 31 to Feb. 2, promises to be an important event in the development of social work in the province. Of special interest to rural workers will be the address on "Grief, the Evil and the Cure," by Mr. E. C. Drury, President Dominion Grange, and the sections: conference on Rural Life, which will include addresses on "Recreational Life" by Alex. McLaren, B.S.A., O.A. C. Guelph; "Educational Ideals," by Dr. J. B. Dandene, Dept. of Education,

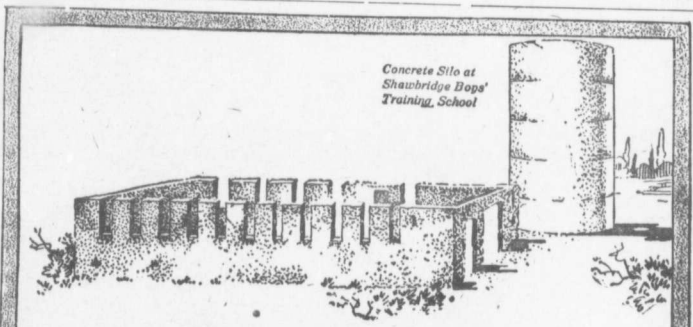
Life," by Rev. W. K. Shearer, B.A., Drumbo, Ont.; and "The Social Organization of the Rural Community," by Rev. T. Albert Moore, D.D., General Secretary Social Service and Evangelism, the Methodist Church. The program for the congress includes speeches by many of he leading authorities on social service work in Canada.

There are some perennials, such as tritomas and incarrillas, which are best lifted and wintered in a cold cellar. Be careful that the plants do not become too dry. Paucities of all kinds, true, singles and doubles, have been wintered successfully, the only covering being their own foliage.

Manitoba's 1916 Potato Crop

ACCORDING to the official December report of Manitoba, the potato crop of that province is steadily increasing in acreage. Between 1909, with 25,265 acres, and 1916, with 67,343 acres, the yearly advance was unbroken. This year showed an acreage slightly smaller than last year, but with a larger yield per acre, and a total crop of 3,680,602 bushels, as compared with an average total for the ten previous years of 6,661,947 bushels.

Although the yield per acre is below the average of 165.9 which prevailed for the previous ten years, Manitoba has this year been an active exporter of potatoes at good prices.



This Silo Defied Three Fires

THIS illustration is from an actual photograph of a silo at the Boys' Training School, Shawbridge, Quebec. On three different occasions this Concrete Silo has withstood the attacks of fire. The Silo was built in 1910 alongside a wooden barn. When this

barn burned, the scaffolding of the silo was still in place; and although the silo was thereby heated to a red glow, and the scaffolding entirely consumed, the concrete was not damaged. In fact, the silo was put into it immediately after the fire. Since then, this silo has passed through two other fires and is still in use. After the 1910 fire, the barn floor and basement walls were built of concrete, and a root cellar was placed under the concrete floor. During the second fire,

the cellar was full of roots, which were afterwards found to be in good condition. Its wonderful fireproof-quality is but one of concrete's advantages. We have a book that describes all its advantages—and that tells just how you can use concrete to best advantage on your farm. Contains plans and full directions for scores of valuable improvements—most of which can be made in your spare time and with but a small cash outlay. The title of the book is



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Commissioner Ruddick on "Pasty" Cheese

EDTOR Farm and Dairy.—There were one or two points raised in the discussion on the Dairy Standards Act, at the Convention at Nanawac, which were never properly cleared up and I fear that a very wrong impression was left on the minds of many dairymen present. If I understood Mr. Ayer correctly he contended: (1) that to pay "by test" at cheese factories would be the effect of increasing the percentage of fat in milk in a very marked degree; and, (2) that rich milk made cheese which contained a larger percentage of fat and were, therefore, too soft and pasty. He used a sample of pasty cheese to illustrate his contention.

Now, when Mr. Ayer offers his opinion on any matter connected with the trading in cheese or butter, the export thereof, or the demands of the British market, I am ready to listen to him with the greatest respect, because his judgment in such matters cannot be questioned, but when he undertakes to discuss a highly technical question relating to the manufacture of cheese I am prepared to take issue with him. In the first place then, let me say that there are plenty of data and records of experiments to show that payment by test does not increase the average percentage of fat in the milk to any appreciable extent. Milk has been paid for according to the fat content in Denmark for many years, even before the introduction of the Babcock tester. There has been a determined effort in Denmark to increase the percentage of fat in the milk and yet the average increase during many years is very small indeed. The same is true in Holland. The cheese factories in New Zealand have universally and voluntarily paid by test—that is according to the percentage of fat—for over 20 years, and the percentage of fat has not increased but very little if any in that time. The effect of paying by test is to produce more uniformity in the percentage of fat in the milk of different herds.

One would think in listening to the discussion at Nanawac that this matter of the payment for milk at cheese factories according to the fat content was a new thing. The whole matter

was threshed out 25 years ago and there are many factories in Canada which have been paying by test ever since, and it cannot be shown that the percentage of fat in the milk of these factories is very much higher than it was before the test system was adopted.

With Mr. Ayer's other contention, that milk rich in fat makes cheese rich in fat, and therefore, soft and pasty, I am obliged to disagree most emphatically. If it were so, then the percentage of fat in the milk would not be a fair basis for estimating its value. The fact is that the percentage of fat in the milk bears a close relation to the other constituents so that milk which is rich in fat is rich in casein or vice versa. The rich milk makes more cheese, not necessarily fatter cheese. Of course when the milk is rich in fat certain modifications in the process of manufacture are necessary, but any cheesemaker with the most elementary knowledge of his art understands that.

In 1891 and 1892 the writer, under the direction of Professor Robertson, conducted a series of experiments at a cheese factory at Perth, Ont., using milk containing different percentages of fat to determine the yield from milk of different qualities. The extreme range possible was 3.2 to 3.3 per cent of fat. Hundreds of cheeses were made in these experiments throughout two seasons and when they were submitted for examination and sale it was universally agreed that the cheese made from the richer milk were the best in quality. So much so that although the yield of cheese did not increase in exactly the same proportion as the percentage of fat in the milk, it was felt that the gain in quality from the richer milk entitled that milk to a premium. All these particulars will be found in the report of the Dairy Commissioner for 1892-3.

The matter of "pasty" cheese does not bear any practical relation to the question of paying by test, and reference to it should never have been interjected into the discussion.—J. A. Ruddick.

Ottawa, Jan. 8, 1917.

Wet or Dry Mash, Which Shall We Feed?

By E. L. McCaskey

"THESE new, have a good fill up, my darlings."

I can see my mother yet as she stood there in that cold hen house, arms akimbo, watching a flock of 20 or 30 hens fighting for a handful of a steaming mixture of boiled potatoes, middlings and skim milk. How she beamed with satisfaction to see her poultry enjoy that hot mixture. She thought she was treating them as well as anyone could possibly treat hens.

How shocked she would be were she to come into my hen house to-day! Instead of a steaming hot mixture on a cold morning she would find my poultry eating dry mash from a hopper and scratching through the litter for grain. We feed dry mash almost altogether. Wet mash was universal in my mother's day. Dry mashes have now become common all over America. In Australia the wet mash is still the popular one, as it is also in the Old Land. This brings up the whole subject of the relative merits of wet and dry mashes.

For the Dry Mash.

For my dry mash system of feeding I would advance the argument that the hens never gormandise. They do not fly off the roosts in the morning, fill themselves up on a hot, unwholesome mash and then mope around all day. Neither do they have an opportunity of filling up before going on the roosts at night and running chances of the mash cooling and perhaps freezing in the crop. These evils of the wet mash system are avoided in the dry. There

may be an advantage, however, in feeding the wet mash if the wet mash is not abused. There must be advantage or the Australians would not sometimes eat mash feeding in the Canadian Poultry Review. Prof. M. A. Jull, of the Macdonald College, has a sane and sensible summary of the whole controversy of wet vs. dry mash.

"Owing to so many vastly different opinions in regard to wet and dry mash feeding, and since both methods are being used successfully in different places and by different people, it would seem the method of feeding the wet or the dry mash has much to do in determining its value. The comparative value of the two mashes depends greatly upon the method by which each is fed.

Combine the Two.

"Personally, and in the opinion that the majority of experienced feeders would do best by a combination of the two methods—that is, feeding both wet and dry. I believe the greatest success in wet mash feeding has been the tendency to feed too much. Never to feed more wet mash than about the size of a walnut per bird a day is a good rule. As far as dry mash feeding goes, about all we can do is to make sure that the dry mash is palatable and wholesome. Ordinarily wet and dry mashes may be compounded in like manner.

"In regard to the proper time for feeding wet mash the best results have been obtained by feeding about mid-day. Between the hours of 11 a.m. and 3.30 p.m. is preferable. Dry mash hoppers are frequently kept closed in the mornings and opened in the afternoons. From experience I believe that laying fowls may be kept in better laying condition by feeding a little taste of moist mash each day along with the dry mash. This adds labour, but the poultry will be so anxious to shirk work in sacrificing maximum results should be satisfied with a lower egg yield. The farmer and small poultry keeper can well afford time and feed successfully, and as for the commercial poultryman the wage item must be considered."

After Prof. Jull has had his say I would not like to add any additional opinions of my own. After all, both systems are right, if you use them right.

Coming Events

LAMINGTON County Corn Exhibition, Petrolia, Jan. 24-25.

Western Fairs Association, Annual Meeting, Brandon, Man., Jan. 22.

Canadian Jersey Cattle Club, Annual Meeting, Toronto, Feb. 6.

Annual Convention, Association of Fairs and Exhibitions, Canadian Foresters' Hall, Toronto, Feb. 6-7.

Annual Meeting, Ontario Vegetable Growers' Association, Parliament Bldg., Toronto, Feb. 8.

Social Service Congress, Toronto, Jan. 31-Feb. 2.

Annual Meeting of Holstein Friesian Association, Canadian Foresters' Hall, 22 College Street, Toronto, 5 p.m., Feb. 8.

Ontario Plowmen's Association, Annual Meeting, Canadian Foresters' Hall, Toronto, Feb. 8.

Annual Meeting, Canadian Ayrshire Breeders' Association, Montreal, Feb. 14.

Ontario Corn Show, Kingsville, Feb. 13-16.

A hen that is laying should never be so fat as to prevent the gizzard from being full. When food is given in excess of what is needed for the sustenance of life, it is generally disposed of in one of three ways: It will either produce flesh, put on fat, or manufacture eggs. The flesh can be found in the breast, wings and thighs; the fat in the gizzard and abdomen; and the eggs in the nest.

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The Hen in Winter

HENS need some green food in winter if they are to lay well. Mangels, carrots and cabbage are good. Hang them up so that the hens can just reach them nicely. Sifted oats are also good. Alfalfa and clover leaves and lawn clippings, carefully dried, can be soaked up and fed to good advantage.

The hen should be given exercise in the winter. One way to furnish some exercise is to feed such grain as corn, oat, wheat and barley in hick. Cover the floor with straw six inches deep and scatter the grain feed in it. The straw should be changed frequently, as it must be remembered that it will soon become soiled from the droppings from the birds. Some of the poultry diseases are spread through the droppings.

In the summer, when the hens lay well, they have bugs, worms, grasshoppers and other insects. In the winter they need something to take the place of this kind of food. Cut fresh plants is very good. Half an ounce daily per hen supplies all the needs of this food. High-grade beef scrap is good and is in a very convenient form for feeding.

Fresh air is very necessary in the poultry house. Without ventilation the poultry house is neither dry nor sanitary. Chickens in a damp house are more liable to colds and roup than in a dry house. One of the best ways to ventilate in winter is by having an opening covered with muslin. An opening on the south side, two by three feet for each eight or 10 feet of length of house. A good way is to put the muslin on a frame, which can be on hinges, so that it can be raised on warm days, to allow more air to enter. -N. D. A. C.

The Science of Feeding

By Michael K. Boyer.

THE feeding of fowls has become as much a science as has the feeding of dairy or beef cattle. Poultrymen have their balanced rations for their fowls. They feed especially for egg production, growth and fattening purposes. The farmer too often feeds for convenience, and relies on corn to produce all the above requirements, hence the poor results on many farms. "Variety is the spice of life" in the poultry yard, as well as with humans.

In buying feed, remember that white middlings is better than brown, that white oats is to be preferred to the black, that coarse bran is better than fine, that hulled oats is better than oats with the hulls on, that white corn is not so fattening as the yellow variety, and that Kaffir corn is an excellent grain, and should be more extensively fed.

Said a poultryman some years ago—and we have learned the same fact by experience—and it is worth repeating here: A good deal has been said about the value of scalded mash, and I am one of those who have used them during the winter. I have fondly imagined that they were better than those which are simply mixed warm. I asked a chemist about this the other day. He is a man who has given much attention to a closely-allied subject, and he nearly knocked me off my pins when he informed me that, unless the mash be thoroughly cooked, its feeding value is identical whether scalded, steamed, or mixed cold.

Feed For Hard-Shell Eggs

THE feeding of hens for the production of hard-shelled eggs, not easily breakable in handling, is possible and demands attention. Shells vary greatly in strength. A strong, heavy shell is not nearly so likely to be broken by the jars, jolts and rough handling incident to ordinary shipment as a weak one.

Chemical analyses show that the shell of the egg is largely carbonate of lime, but that it also contains carbonate of magnesia, mineral phosphate and some organic matter. If strong shells are to be produced, the mineral elements must not be lacking. Grains that are ordinarily fed do not contain these mineral elements in sufficient proportions, and an additional and separate supply is necessary. Fortunately, these mineral elements are available in much cheaper forms than in grains. Lime is the principal ingredient of oyster shells, which may be procured for about \$12 a ton. Iron, magnesia and open phosphorus, in many kinds of artificial grit, may be procured for about the same price, while these elements in grain would cost at least double these figures.

Bone meal contains phosphorus in appreciable amounts, besides lime, magnesia, etc., and while expensive, it is effective in giving the shell an evenness and fineness of texture which adds much to its strength. It is, therefore, often used as an ingredient for dry mashes for laying flocks, usually in amount varying from three to five per cent.

Eggs that won't break give the poultryman greater profits than eggs that will. Make your hens lay the non-breakable kind.

Lennox and Addington's Flourishing Poultry Trade

ONE hundred thousand dollars worth of dressed poultry from one county in six months! That is the estimate placed upon the poultry export of Lennox and Addington between June 1 and December 1, 1916, by G. B. Curran, B.S.A., the district representative. In his report of the poultry activities of the people of his county he says:

"The Annual Turkey days were held on November 29th, 30th and December 1st. A new plan was tried out this year, all the buyers were required to go to the market and bid. There were 15 buyers present and there was lots of competition. The prices were the highest ever paid in Napanee. Turkeys sold for 31c to 38½c, chickens from 7c to 27c, ducks went around 18c and geese 22c. One woman sold \$700 worth of dressed poultry, mostly turkeys. The three banks paid out in actual cash \$17,000, \$10,000, and \$8,000, making a total of \$25,000 for three days. This is about the same amount as was paid three years ago when there were nearly double the amount of poultry offered for sale. The buyers state that Napanee is the largest poultry centre in Canada and that the quality of dressed poultry marketed at Napanee is much better than at any other point where they buy. We believe that this is due to our four years work, inducing the farmers to fatten all poultry before they market it.

In addition to the poultry market in Napanee on turkey days, buyers have been buying at Marlbank, Tamworth, Enterprise, Newburgh, Bath, and Amherst Island all day and a continual stream of poultry has been going out of this country since September. I think that it is quite reasonable to estimate that since June 1, 1916, to the end of December, 1916, that over \$100,000 worth of dressed poultry has been marketed in Lennox and Addington County."



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Subjects at Rural Life Conference: "Recreational Life," "The Church and Rural Life," "Educational Ideals," "The Social Organization of the Rural Community."

Some other subjects are: "The Returned Soldier and the Land," "Women in Politics and Industry," "The Patronage System," "Graft," "Social Reconstruction After the War," "Race Track Gambling," "Prohibition," etc.

Other speakers are: Hon. W. H. Hearst, Sir Geo. Foster, N. W. Rowell, E. C. Drury, Dr. J. A. Macdonald.

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"Read not to contradict and to confuse, nor to believe and take for granted, but to weigh and consider."—Bacon.

The New Year Champion

IN our issue of December 28th, 1916, we expressed the view that the high record of 48,375 lbs. of butter produced in seven days must be nearing the limit, but pointed out that the 50 lb. cow was a possibility, even probably. Already she has arrived. A Holstein cow has produced 59.68 lbs. of butter (50c basis) in seven days. The new honor goes to Sogis Fayne Johanna, owned by Mr. Oliver Cabanna, Jr., Elms Centre, New York.

The rapid rate at which these records are being made is having a tendency to make many breeders even of Holsteins discount their value to some extent. One striking point about them is that they are made in most cases by men who have plenty of money to spend on feed and equipment to produce them. This is natural as ordinary men cannot spend either the time or money required for the preparation and development of big records. Their energies are spread over a larger field, and usually devoted for the most part to a commercial business. The making of big records is an art, and to be successful a man must have special qualifications and the right material to work with. It would be hard to determine just how much of the actual success of record making can be attributed to the men handling the animal, but that it is no small percentage all are willing to admit.

One other important point to be noted about many big record cows is the fact that they are not all bred by the man who develops them. Sogis Fayne Johanna was bred by Mr. A. A. Cortelyou, New Jersey. She was developed on the farm of Oliver Cabanna. There is nothing to prevent the ordinary breeder of pure-bred cattle aspiring to the production of a champion. It may be possible that the crossing of some female in a rather obscure herd with a male animal of good blood, will be the exact combination to yield when developed, one of the champion kind. It is true

that the exceptional animals are usually found in families selected and bred for years upon their producing merits, yet there is nothing to prevent any breeder from introducing a new family of champions. This is ever the alluring point in the breeding business that fascinates and thus binds men of brains and means to the dairy cow.

Who Pays the Bills?

IN his address on the Dairy Standards Act, delivered at the recent convention of the Eastern Ontario Dairyman's Association, Deputy Minister Roadhouse, of the Ontario Department of Agriculture, said in part, "We" (meaning the Government), "have arranged to have the dairy inspectors of the department conduct the testing of milk delivered at the cheese factories to determine its butter fat content. This will save the patrons the expense of having this work done in their factories." Commenting on this remark Mr. Paul, member of Parliament for Lennox and Addington, was applauded by some of those present when he commented on Mr. Roadhouse's remark by asking who Mr. Roadhouse meant by "we," and intimating that whether the farmers paid it through their factories or the government made but little difference as, even if the government paid it the government took it out of the people, and thus the farmers paid it in the end.

Was Mr. Paul correct in his contention? We maintain that he was not, and that Mr. Roadhouse was justified in making the remark he did. Were the revenue of the Province of Ontario raised by direct taxation, so that all citizens of the province paid proportionately the same, Mr. Paul would be justified in making the comment he did. As it is, however, the great bulk of the revenue of the province, practically all of it, in fact, except the recent war tax, is raised by special taxation, such as by mining royalties, inheritance taxes and in other similar ways. Thus the average farmer pays little in any form of provincial taxation. Had the factories to meet the expense of testing the milk the full expense would be borne by the farmers. Under the arrangement the Government proposes the expenses will be met out of the revenue provided by the special forms of revenue taxation referred to. Mr. Roadhouse, therefore we hold was justified in using the expression he did, and Mr. Paul, instead of setting him right, was himself in error.

Shipping Rates

THE chairman of the Dominion Railway Board Sir Henry Dryton, whose official position is a guarantee that he is an authority on the subject of freight rates, has made the statement that the patriotism of ship owners has not prevented them from forming combinations with the object of advancing the cost of ocean carriage. That the return of peace will not prevent a continuation of this extortion, but that still further increases might be looked for, is also his expressed opinion. If German ships now interned in neutral ports are allowed to return to their Fatherland they will be able to capture a considerable portion of the world's trade while British ships are busy returning soldiers to their homes. German and neutral ships, says Sir Henry, would find in the absorption of British ships for this purpose, a great opportunity for making profits and ocean freight rates might soar to still greater heights.

The remedy proposed by Sir Henry is government regulation of ocean freight rates, so that the products of the Empire would be marketed without yielding such an enormous toll for ocean carriage. Since ships are free in normal times to sail from almost any port, there would be need of concerted action between governments of the various Maritime countries to bring the owners of ships to time. Now that there is such close cooperation between the allied governments, it is

probable that ere long this matter will be taken up by them. The menaces to trans-oceanic trade are not all of a submarine nature; nor are those who would assist in the process of starving Great Britain all to be found in the countries of her enemies.

Sheep on Broken Land

THE majority of farms have land from which the forest has been cleared that is unfit for cultivation. Fifty-seven per cent. of the farms visited by the Commission of Conservation in four counties of Ontario possess such land. The lowest average per farm for a county was fifteen acres and the highest 53 acres. Most of this land is well suited for sheep raising, yet of the farmers visited only fourteen per cent. kept sheep; while in one county only sixteen sheep were found on farms having a total of 1,000 acres of unutilized land.

The demonstration flocks that have been established in some of the more broken districts of Quebec by the animal husbandry department of Macdonald College, returned an average of \$9.11 a ewe with a maintenance cost of \$2.73, leaving a margin of \$6.38 a ewe. On the broken parts of Ontario farms they should give equally fair returns. Farm management experts claim that one of the factors of successful farming is a wise diversification by which one line of production fits in with another, and the total productive capacity of the farm is utilized. Sheep raising is one form of diversification which might be more widely practiced on the majority of farms without interfering with the established lines. It would increase the annual income out of all proportion to the increase in labor and money invested. One of the strongest points in favor of sheep is that they shift for themselves throughout the busy season, a big consideration in these days of labor shortage.

Public Opinion on the Dairy Act

IN passing a resolution favoring the postponement, for one year, of the date on which the Dairy Standards Act will take effect, the convention at Napanee did not voice the opinion of the majority of the dairymen of Eastern Ontario. That opinion was more truly reflected in the local conventions held throughout the district earlier in the winter. Less than one-quarter of these conventions went on record as opposing the Act, and at the majority of them any opposition to it disappeared when confronted with the demonstration cheese prepared by Messrs. Puller and Zuffell. These meetings were truly representative. At least one of them was held within reach of practically every farmer throughout the district. The total attendance at all the meetings was many hundreds in excess of that at the Napanee convention. At them a full discussion of the Act was invited and encouraged. They are therefore the true criticism by which to judge the sentiment of the dairymen of Eastern Ontario regarding the new dairy legislation.

The passing of the resolution at Napanee shows the danger of a convention of this kind reflecting not the sentiment of the large district which it is supposed to represent, but the sentiment of the local district in which it happens to be held. Public opinion in the Napanee district is opposed to the Act. The opportunity was not lost of having this opinion registered at the convention. The danger is that the action of the convention will be taken as representative of Eastern Ontario. Such was not the case. Those districts that are out and out in support of the Act had scarcely any representation there. As far as the general vote on the resolution went, therefore it should be taken as representing the opinion of the dairymen of Napanee district on the Act and not, as would appear, the opinion of the dairymen of Eastern Ontario.

In Union There is Strength

Reaboto Farmers' Club

THE farmers in the vicinity of Reaboto on Jan. 4 organized a Farmers' Club with 31 members and decided to affiliate with the United Farmers of Ontario and to buy a share of stock in the United Farmers' Cooperative Company. Interest in the meeting was manifested from the beginning, and designated as the speaker, Mr. R. H. Halbert, the president of the United Farmers of Ontario, proceeded with his address. Mr. Halbert's arguments were simple, yet effective. Mr. J. C. McNevin was elected president, Mr. J. Callaghan vice-president, and Mr. R. H. Reid secretary-treasurer.

In outlining the objects of the two organizations, Mr. Halbert stated that as a rule people do not understand the reason for the existence of two separate organizations. The Cooperative Company is a purely business concern, chartered to transact business in the province of Ontario, whereas the United Farmers of Ontario has a much larger object in view. It is both social and educational. Its aims are to assist the farmers to a higher social plane, and by this social intercourse to give them an education on questions that affect themselves and their business. This can be received by the farmers only by becoming united in some such organization as the United Farmers of Ontario.

Speaking on the social side of this work, Mr. Halbert pointed out that the social life in rural communities is going backward. The advent of rural mail and rural telephones has, in part, been responsible for this. The coming of these two conveniences has made it possible for farmers to be more independent of their neighbors. Consequently they are spending much time in their own homes that would otherwise be spent in social intercourse with those living near them. We need something to keep up this social life. Farmers' clubs, if properly conducted, will help to overcome this drawback. By meeting together in these clubs farmers get to know of the needs of one another. They also discover that many of their requirements are common one to the other, and by cooperating they are able to meet these requirements to better advantage than they could singly. The speaker pointed out that farmers should be united to guard their own interests in national matters. He prophesied that after the war the rates of taxation would increase, and unless the farmers were strongly organized they would be forced to bear an unjust proportion of this taxation. If the farmers are united, not only as a body, but also in spirit, when this crisis comes they will be able to meet the other protected industries in such a way that they will be able to make themselves felt.

"Ontario is being called upon to increase her agricultural output," said Mr. Halbert, "and it is our duty to consider ways and means whereby we can measure up to these requirements. We must, however, over-reach or plunge, even if it is to do so from many sources, as there is a danger of the products which we produce passing into the hands of the drones of this commonwealth, whose only object is to bleed us. Our industry has in the past been shoved into the background, while others have been brought forward and spoon-fed to the hurt of agriculture. Canada's army of producers has been reduced by this war to the extent of 100,000 men, and with the reduction of our working force any increased output becomes a serious matter. If the greatest good is to come to the coun-

try as a whole, we must get away from the low standard of the immediate dollars and cents values, and place our business on the basis where we can demand equal recognition from our government with the other industries. This can only be accomplished by united effort." As an example of the power that Ontario farmers could have if they were united, the speaker quoted the instance of the lifting of the recent embargo on corn from the United States. The United Farmers of Ontario took this matter up with the government and the railway authorities, with the result that the embargo was lifted within a few hours after the movement was started.

Unfair Tariff Provisions.

An illustration of how unfairly our tariff laws are handled was given by Mr. Halbert. He pointed out that while the farmer produces cattle, grain or dairy articles for export he does not receive any tariff rebates on farm machinery or other goods he buys to enable him to compete successfully with the farmers of other countries, whereas when manufacturing concerns export any of their products, they get a refund or a drawback from the government amounting to 99 per cent. of the tariff on those goods. Certain drawbacks are paid also on goods sold for home consumption. The list of companies, with the amounts paid in rebates by the government during the fiscal year ending March 31, 1915, were as follows:

International Harvester Co.	\$101,611.12
Massey-Harris Co.	279,256.40
Fruit Wood Co.	2,065.24
Cockshutt Plow Co.	14,442.24
Verity Plow Co.	5,316.97
Ford Motor Co.	289,425.97
Quaker Oats Co.	74,924.05
Total	\$895,105.23

In conclusion, Mr. Halbert pointed out that the United Farmers of Ontario was an organization that the farmers should support—the Cooperative Supply Company being the safety valve of the other organization. Through the former organization many of the problems that Ontario farmers are facing can be solved. Tariff reforms and other methods of taxation affect the farmer, and should be discussed by him from that standpoint and not on party lines. The farmers' company is assisting the farmers of Ontario along other lines, by enabling them to offset to some extent the work of some of the local conditions, and thereby buy their goods to better advantage.

The U.F.O. Convention

OWING to the fact that the conventions of the farmers' organizations in Western Canada are likely to conflict with the convention of the United Farmers of Ontario, if the latter is held during the first week in February, as first proposed, it has been decided to postpone the Ontario convention until the end of February in order to enable delegates from the Western Association to attend the meetings in Ontario. It is expected that among those from the West who will be present will be President H. W. Wood, of the United Farmers of Alberta; President J. H. Moharg, of the Saskatchewan Grain Growers' Association, and of the Saskatchewan cooperative Elevator Company, Ltd.; President R. C. Henderson of the Manitoba Grain Growers' Association, and President T. A. Cregar, of the Grain Growers' Grain Company. The dates now fixed for the convention are Feb. 23 and March 1 and 2.



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To pity distress is but human; to relieve it is godlike.
—Horace Mann.

Winning the Wilderness

(Continued from last week.)

THE little sod house with all its plainness seemed cozy as she took leave of it, and the woman instinct for home made its outcry in her when she turned her face resolutely from its sheltering warmth and felt the force of the north wind whipping mercilessly upon her. But she steeled herself to meet the cold, and her spirits rose with the effort.

"You are a mean little wind. Not half so big as the September zephyrs. Do your worst, you can't scare me," she cried, tucking her head down against its biting breath. Upon the main trail the snow that had fallen after midnight deepened in the lower places as the wind whirled it from the prairie swells. It was not smooth travelling, although the direction of the trail was clear enough at first.

Virginia's heart bounded hopefully as Juno covered mile after mile with that persistent, steady canter that means everything good for a long ride. But the open plains were bitterly cold and the wind grew fiercer as the hours passed. High spirits and hope began to give place to determination and endurance. Virginia shut her teeth in a dogged resolve not to give up. Indeed, she dared not give up. She must go on. A life depended on her now, and two lives might be forfeited if she let this unending wind chill her to forgetfulness.

And so, alone in a white cruelty of solitary land, bounded only by the grey cruelty of the sky, with a dimming trail before her under a deeper snowfall, and with long miles behind her, she struggled on.

She tried to think of everything cheerful and good. She tried to find comfort in the help she would take to Jim. Truly, she was not nearly so cold now and she was very weary and a wee bit sleepy. A tendency to droop in the saddle was overcoming her. She roused herself quickly, and with a jerk at the reins plunged forward at a gallop.

"It will take the stupor out of me," she cried.

Then the reins drooped and the fight with the numbing cold began again.

"I wonder how far along I am. I must be nearly there. I remember we lost sight of Carey's Cross soon after we left last September. Some swell of ground cut us off quickly—and I've never seen a human being since then, except Asher and Jim Shirley and Pilot," she added.

"The snow is so much heavier here. It varies so. I've passed half a dozen changes, but this is the deepest yet. I'm sure I can see the valley beyond this slope ahead. Why! where's the trail anyhow?"

It was nearing mid-afternoon.

Neither horse nor rider had food nor water, save once when Juno drank at a crossing. Virginia sat still, conscious suddenly that she had missed the trail somewhere.

"It isn't far, I know. Could I have left it when I took that gallop?" she asked herself.

She was wide awake now, for the reality of the situation was upon her, and she searched madly for some sign to show where the trail might



Lake Shore Gardens in Halleybury, Ont., Which Demonstrate How Nicely Flowers Will Bloom in New Ontario in Spite of the Short Season.

lie. The grey sky was pitiless still, and with no guiding ray of sunshine the points of the compass failed, and the brave woman lost all sense of direction.

"I won't give up," she said at last, despairingly, "but we may as well rest a little before we try again."

She had dropped down a decided slope and hurried to a group of low bushes in a narrow draw. While the wind was sliding the snow endlessly back and forth on the higher ground, the bushes were motionless. Slipping to the ground beside them, she stamped her feet and swung her arms until the blood began to warm her chilled body.

"It is so much warmer here. But what next? Oh, dear Father, help me, help me!" she cried in the depth of her need.

And again the same clear whisper that had spoken to her on the headland when she watched the September prairie fire, a voice from out of the vast immensity of the Universe, came to her soul with its calm strength.

"The eternal God is thy refuge, and underneath are the everlasting arms." How many a time in the days of winning the wilderness did the blessed promise come to the pioneer women

who braved the frontier to build the homes of a conquering nation.

"I can't try that blind game again for awhile," Virginia said to herself. "I'll run up a distress signal; maybe someone where help is coming to me. I know now how Jim felt all alone with only a dog's instinct to depend on. I'm glad I've tried to help him, even if I have failed."

She rounded the long red scarf from her neck and bound her nubia closer about her throat. Then bending the tallest bush that she could reach she fastened the bright fabric to its upper limbs and let it swing to its place again. The scarf spread a little in the breeze and hung above her, a dumb signal of distress where help was not.

The minutes dragged by like hours to Virginia, trying vainly to decide on what to do next. The fury of a Plains blizzard would have quickly overcome her, but this was a lingering fight against cold and a pathless solitude. Suddenly the memory of one lonely Sabbath day came to her, and how Asher, always resourceful, had said:

"When you are afraid, pray; but when you are lonely, sing."

She had prayed, and comfort had come with the prayer. She could sing for comfort, if for nothing else. Somebody might hear. And so she sang. The song heard sometimes in the little prayer meeting in some

looking brighter. The postoffice was only one feature of the room it occupied. Drugs, hardware, horse feed, groceries and notions each had claims of their own, while beside the United States Mail Department was an ink-splashed desk holding a hotel register, likewise included. Beyond the store room was a long, narrow dining-room on one side and a few little cellars on the other, with a crack of a hall between them leading back to the kitchen, the whole structure, only one story high, having more vertical boards than horizontal in its making. But the lettering over the front door bore the brave information that this was the Post Office, the General Merchandise Store, and the Jacobs House, all in one.

The rain of the night had shifted to a light snow that whiffed about in little white pellets, adding nothing to the land in the way of moisture, or beauty, or protection from cold. Just a chill fraying out of the rain's end that matched the bitterness of the wind's long sweep from out of the vast northwest. A grey sky was clouded down over all, so dull and monotonous, it seemed that no rainbow tint could ever again brighten the world.

"The stage is late again," observed one of the men.

"Always is when you wait her particular." This from a large man who held the open door long enough to stare up the open street for the sign of the coming stage and to let in a surge of cold air at the same time.

"Well, shut the door, Chambers. The stage doesn't come inside. It stops at Hans Wyker's saloon first, anyhow," one of the men behind the counter declared.

"If you open a door here you'd do some business and run that Wyker fellow out. Stewart, you and Jacobs are too danged satisfied with yourselves. We need some business spirit in this town if we want to get the county seat here," Chambers declared.

"That may help your real estate, but it's not my kind of business, and no bar is going into this tavern," Jacobs replied, leaning his elbow against the back of Stewart, who was bending over his desk.

Stewart and Jacobs were young men, the former a finely-built, fair-haired Scotchman from whom good nature, good health, and good morals fairly radiated; not the kind of man to be a leader, but rather to belong to the substantial following.

Jacobs was short, and slender, and dark—unmistakably of Jewish blood—with a keen black eye, quick motions, and the general air of a shrewd business man, letting no dollar escape him. He had also the air of a gentleman. Nobody in Carey's Crossing had ever heard him swear—the language of the frontier always—nor seen him drink, nor had taken a parcel from his store that had been tied up with soiled fingers.

The Jacobs House register might be splashed with blood, but the ledger records of the business concern were a joy to the eye.

At Stewart's words Chambers shut the door with a slam and basted towards the stove, crowding smaller men out of their places before it.

"I am glad I don't have to run other men's affairs," he began, when the rear door flew open and a slender young negro hurried in with the announcement:

"The stage done sighted approachin' from de east, gen'l'men, s' dose comin' into town right now."

"All right, Bo Peep; take care of the team," Stewart responded, and a general re-swarming of the crowd followed.

(Continued on page 16.)

country church; sometimes by sick beds when the end of days is drawing near; sometimes in hours of shipwreck, above the roar of billows on wild, stormy seas; and sometimes on battlefields when mangled forms lie waiting the burial trench and the mournful drumbeat of the last Dead March—the same song rose now on the lonely prairie winds sweeping out across the hidden trails and bleak, open plains.

"Nearer, my God, to Thee,

Nearer to Thee,

Even though it be a cross

That raiseth me,

Still all my song shall be

Nearer, my God, to Thee,

Nearer to Thee."

CHAPTER V.

A PLAINMAN OF THE OLD SCHOOL.

"I have eaten your bread and salt, I have drunk your water and wine; The death ye died I have watched beside,

And the lives ye led were mine."

—Kipling.

THE little postoffice at Carey's Crossing, Wolf County, was full of men waiting for the mail due at noon. Mail came thrice a week now, and business on the frontier was

THE UPWARD LOOK

Bear Our Burdens Cheerfully

"IN the multitude of my thoughts within me, Thy comforts delight my soul."—Psalm 141:19.

Last year God called a dear old friend home. My own sense of loss was very deep. Naturally my way would often lead past her old home, but for weeks about, as I felt I could not bear to pass that house. Then one day I had to go. As I looked across at it, after the first dreadful feeling of loneliness, there swept over me the memory of all the many glad, happy hours spent in those old rooms, particularly one, the living-room, with its large grate, its singing birds, and the fragrance and bloom from adjoining conservatory. Now I go by as of old, and as I look, I think always of some happy gathering there.

So if seemingly the day has been one of disappointments and failures, or night time, instead of dwelling on these, think of some of the happiness or joy that must have entered into that day.

Do you feel in your daily work that it is God-called? Are you putting your best into that work? Then, at the moment you feel inclined to be most discouraged over results, think of the measure of success with which you have met, and with grateful heart, thank your Heavenly Father for it. We must never fail to thank Him, too, for the reasons we may learn from these failures.

In our work for our Master we are at times so heart-sick that we feel we must persuade some one else to take our place. Then we must remember the promise that in His name and by His power we know we have been able to help others, and with renewed faith and courage take up the burden again gladly.—4. H. N.

What the Farm Woman Needs

SO much, both true and untrue, has been said about the farm woman, as if she were a strange and unusual creature, that I prefer not to write about the farm woman, but rather about some needs of all women who are responsible for the management of a home. In general the farm woman needs a larger dining room and more room for storage of food and supplies. She must be able, on short notice, to manage a hotel as well as a private family, and is expected to do both at the same time on occasions.

In my judgment, many of them need a new conception of their business. Too often they have not looked at it as a business to be organized as a business woman organizes her work, or a manufacturer his plant. A little study of the situation will show her that in her business of home making, she should make provision for at least six distinct divisions: food, shelter, clothing, rest, recreation and higher life. It is quite probable that she is confining her attention to the first three and entirely forgetting the rest, recreation and attention to the needs of the spirit, and largely for that reason she is thinking often of the burden of housekeeping, of the dreariness of home making. She needs the vision of the larger life and the sense of proportion it will bring to her work.

3. Many homes used to be rid of a few useless equipment and the substitution of a better arrangement of the old, with the addition of some new equipment.

3. Most women need to know more about the money available for different purposes that they do. At least they need to know how much or how

little money they are accountable for. They have been taught to "save the one dollar I gave you last week" because it is so difficult to get another. No self-respecting person conducts a business on that principle. Women need to learn to spend wisely by being given the chance to do it.

4. Women need to standardize their products in the home as the commercial products are standardized. The bread is to be good every time, no chance for luck. The product, whatever it may be, should represent her best effort.

5. The farm woman needs to learn to work with other people outside her home. She is often busy and tired and so shrinks from contact with strangers and loses the breadth of view one may get by association with others.

6. She needs time to breathe for rest, recreation, social life, so as to come back to her work with a new impulse and interest because she sees it in its larger relations.—Isabel Bevier, University of Illinois.

A Life-Saving Committee

A. B. Kyle, York Co., Ont.

AMONG the many important services the Women's Institutes are rendering this Province, none is of more importance than that work they are doing in looking after the comfort and the general welfare of the school children of their various jurisdictions.

Frankly, there is the utmost need of this very attention. It is doubtful if 20 per cent. of the parents of the province have any adequate conception of the conditions under which their children, when attending school, spend the greater part of their waking hours. The idea that parents must leave school affairs to the teacher and to the trustees is largely responsible for this indifference to and unfamiliarity with the school and its surroundings. Along with this has gone the notion that children are in honor bound to make no complaints regarding their school hours.

While great improvement has been made in some particulars, the fact remains that many of our rural schools are lamentably uncomfortable and insanitary. It is the business of the committee of the Women's Institute charged with visiting the schools to see that those uncomfortable conditions are made known to the trustees and to the people of the section, and to start an agitation in behalf of having adverse conditions corrected. Very few parents realize that their children live in school under conditions that make advancement in study an impossibility. Yet this is the fact. The pity of it is that matters might be really set right. A little attention under competent direction, at the additional cost to the section of one bacon hog or, at the outside, of a team of horses, would insure the well-being of two-score of children for 20 years. Surely the cost of time and effort and thought is well worth while. The school years are stressful enough for growing children at the best. Will not remove every unnecessary handicap? All that the children require for the improvement of their school conditions is an enlightened public opinion, and no part of the democracy is so well fitted for bringing about this enlightenment as the organized women of the various school sections.

Callers were at the door and Bobbie was told to show them into the parlor. He did so and while his mother was fixing herself up, he sat there rather embarrassed. Presently, seeing the visitors glancing around the room, he said:

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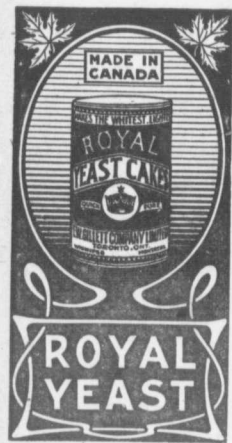
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AGENCY DEPT.

Farm & Dairy, Peterboro, Ont.

DEAL WITH

Farm & Dairy's Representatives

Cleaning the Silver

THE majority of us have a tendency to regard the cleaning of our silverware as quite a big task, and perhaps some of us set aside the duty from one day to another, until finally we get up enough courage to make a start. Just recently a suggestion for lightening this task of rubbing and scouring has come to our attention through our United States contemporary Farm Journal. The suggestion is recommended by themselves and also by the United States Department of Agriculture. Here it is:

Take a graniteware cooking utensil deep enough to allow the silverware to be covered by the solution. The solution, consisting of a teaspoonful of baking or washing soda and a like amount of table salt to each quart of water, is next brought to a boil in the graniteware utensil, and a clean sheet of aluminum is dropped in. The tarnished silverware is then immersed in the solution so that it comes in contact with the sheet of aluminum. The tarnish will disappear in a few seconds. The silverware should then be removed from the solution, allowed to dry with a soft cloth; this gives a satiny finish. If a burnished surface is desired, the silverware must from time to time be polished lightly with some abrasive polishing material.

No Strike for Her

OUR daddy left his job today,
Up there the masons climb.
The men are out for higher pay
And shorter working time.
They're sworn to stick,
Not if it brick
That comes off from a truck,
But mother, patient mother, hasn't stuck.

Our sister Kate is home from her
Nice stenographic place.
The striking typist girls declare
That wages need a brace.
She does not please
To pound the keys,
For pay she doesn't like,
But mother in the kitchen doesn't strike.

And Brother Bill has left his job
At motoring a car.
He says the managerial mob
Pushed tyrants too far.
No more he'll make
To turn a brake—
He thins he's a careless pluck,
But mother, weary mother, hasn't struck.

And Uncle Bill, who up to date
Has been a dry goods clerk,
This morning at the hour of eight
Refused to go to work.
He said, "I'm wrong
To tell so long
Where women shoppers hike."
But mother in the kitchen doesn't strike.

Her working day has hours; sixteen,
Outside the union ranks,
No salary she's ever seen,
Her pay's a careless "Thanks."
Yet night and day
She slaves away
For Ned and Mame and Mike.
But mother in the kitchen doesn't strike.

—New York World.

The daily ration in leaves of the caterpillar is equal to twice its own weight. If a horse is fed at the same rate he would have to eat a ton of hay every 24 hours. Frohish says that a certain flesh feeding larva will consume in 24 hours, 200 times its original weight, a parallel to which in the human race would be an infant consuming in the first day of his existence 1,500 lbs. of beef.

Winning the Wilderness

(Continued from page 14.)

Just before the stage—a covered wagon drawn by two Indian ponies—reached the Jacobs House a young man crossed the set and entered the door. Some men are born with a presence that other men must recognize everywhere. To this man's quiet, "Hello, gentlemen," the crowd responded, almost to a man: "Good-morning, Doctor."
"Hello, Carey."
"Hello, Doc."

Each man felt the wish to be recognized by such greeting, and a place was given to all of them. Only Changers, the big man, turned away with a scowl.

"Always gets the best of everything, even to the first chance to get his mail," he muttered under his breath. But the mail was soon of secondary interest to the dealer in real estate. Letters were of less importance to him than strangers, and a stranger had registered at the desk and was waiting while Stewart called out the mail in the postoffice department. Changers leaned over the shoulders of shorter men to read the entry in a cramped little hand, the plain name, "Thomas Smith, Wilmington, Delaware." Then he looked at the man and drew his own conclusions.

Dr. Carey was standing beside the letter counter when Todd Stewart read out, "Mr. James Shirley," and with a little scrutiny—"Somebody here knows Mr. James Shirley?"
The stranger made a hasty step forward, but Dr. Carey had already taken the letter.

"I'll take care of that for you, Stewart," he said quietly. And turning, he looked into the eyes of the stranger.

It was but a glance, and the latter stepped aside.

Men formed quick judgments on the frontier. As Carey passed the register he read the latest entry there, and like Changers he too drew his own conclusions. At the door he turned and said to Jacobs.

"Tell Bo Peep to have your best horse ready by one o'clock for a long ride."

"All right, Doctor," Jacobs responded.

Half an hour later the Jacobs House dining room was crowded for the mid-day meal. By natural selection men of other patrons sat at the long board, while the little side table for two was filled to-day with Changers, the real estate man, and the latest arrival, Mr. Thomas Smith, of Wilmington, Delaware.

"Who's the man with the dark mustache up there?" Thomas Smith asked.

"Doc Carey," Changers replied with a scowl.

"You don't seem to need him?" There was a double meaning in the query, and Changers caught both.

"No ways," he replied.
"Has some influence here?" the stranger asserted rather than questioned.

"A lot. Has the whole town under hoodoo. It's named for him. He has all the doctoring he can do and won't half charge, so's no other doctor'll come here. That's no way to build up a town. He'd get up at one o'clock in the morning to doctor a wider's cow. Now, sure he would, when he knows even a dead cow'd make business for the butcher to render up his grease and the cattle dealer to sell another cow."

"Not your style of a man then?" the stranger observed.

"Oh, pohaw, no, but, as I say, he's got the whole country hoodoo'd. No

tice how everybody give him right of way to get his mail first! Why him? And hear him order the best horse! I'll bet a tree claim in back right now that he's off somewhere to doo' for some son of a gun out of cussed good will."

"Who is this James Shirley whose mail he seems to look after?"
There was a half-tone lowering of the voice, as Smith pronounced the name, which was that of the Changers, whose business was to catch men at all corners.

"Jim Shirley lives out in one of the rich valleys west. Him and a fellow named Aydelte have some big notums of things out there. I don't know the doc's claim to control his mail, but nobody here would deny Carey any danged thing he wanted." Changers twisted his face in disgust.

"You are in the real estate business here?" Thomas Smith asked after a pause, as if the subject fell into entirely new lines.

"Yes," Changers answered absently with eyes alert on the opposite wall.

"I'd like to see you later, Mr.—"

"Changers—Darley Changers," and the dealer in land showed a soiled card across the table. "Come in any time. This cold snap will soon be over and I can show you no end of work I won't get any time you are ready. But make it soon. Land's gone faster here'n you Delaware fellows think, and—in a lower voice—"Doc Carey's drivin' over it all the time, and that Jew of a Jacobs ain't in business here on account of no lung trouble, and his hatred of saloons is somethin' pisen."

They finished their meal in silence for they had come to an understanding. The afternoon was too short and cold for real estate business to be brisk, and nobody in Carey's Crossing noted that the front window of Darley Changers' little office was covered with a newspaper blind all the rest of that day, nor did anybody pay attention to the whereabouts of the stranger—Mr. Thomas Smith, of Wilmington, Delaware—during this same time. Nobody, except John Jacobs, of the Jacobs House, who had gained his knowledge mostly by instinct; never, at least, by rude inquiry. He had been up on the roof helping Bo Peep to fasten the sign over the door which the wind had torn loose. From this place he could see above the newspaper screen of the window across the street that Changers and Smith were at a tremendously earnest consultation. He would have thought nothing of it had not Changers chanced to sight him on the roof and immediately registered the newspaper blind to prevent observation.

"I'll offer to sell Darley a window shade cheap to-morrow and see how he bites," and the little Jewish merchant smiled shrewdly at the thought.

Out on the trail that day the snow lay deeper to the westward, hiding the wagon ruts. The dead sunflower stalks made only a faint black edging along the white monotony of the way and sometimes on bleak swells there were no markings at all. Some distance from Carey's Crossing a much heavier snowfall, covering a wide swath, under which the trail lay entirely lost, had wandered in sixgax lines down from the northwest.

In the early afternoon Dr. Horace Carey had started west on the sunset horse in the Stevens' second-hand stable, taking his old-fashioned saddle bags with him through force of habit, and by mid-afternoon was foundering in the edge of this deeper snowfall.

Nature must have the trait of Horace Carey for the plains. He was of

(Continued on page 13.)

The Interior of the House

H HEATING the house is one of the things to be considered under necessities. The old way of shutting up most of the rooms and heating the rest only enough to make life possible has all gone by. The young people need to have the entire house open and warm, if they are to be contented. A furnace is the thing to have, unless absolutely out of the question. The first expense is a good deal, doubtless, but that is all it will cost for years. If it cannot be had, then base-burner stoves must stand where they will heat the halls, and in each room there must be either some other sort of stove or a drum or an open fireplace. In the parlor or living-room this latter is a constant delight.

The next serious question is that of running water. No woman to-day should be expected to "manage" with a pump in the kitchen sink, and no bathroom, when by having a windmill near the house, or piping up the water from the windmill at the barn, she can have both. If there is no other way, then a nearly spring may be piped in, if it is high enough, or a small hydraulic ram may be put in, or a little gasoline engine installed, but at least in the kitchen there must be a good water supply, and one windmill for the house need not be an impossibility. The health of the women, and the cleanliness of the family generally, are quite as important as the health of the cows on the farm, and all practical farmers have a windmill for them.

HAVE A BATHROOM.

As to the bathroom, it is not necessary to go to great expense for that. One end of a bath porch may be built on a tub like a folding bed may stand here with a little kerosene stove, fitted with a small round boiler on top with handles to lift it if necessary, and a faucet at the bottom. This can be filled and it will heat the water rapidly; the cold water may come in a pipe from the kitchen sink, and the drain-pipe may go out of a hole in the bottom of the porch, and the water run into the same drain as the dishwasher. The whole thing need not cost fifty dollars.

Of course this is not saying that a regular bathroom should not be put in if possible.

The Woman Looking for Paid Employment*

Miss Marjory MacMurchy, Toronto, Ont.

IT was not with the impression that if any of you would be looking for employment that I thought you might care to hear about the paid worker. Work is the consolation of women in war. It is the best thing we can do, and work such as we can now do has turned the world into a far greater and more interesting place than it was before.

There is plenty of work for everyone to do, and any woman who knows how to do any particular piece of necessary work is always sure of good paid employment. One day last summer a friend of mine, who is a distinguished public man in Canada, was talking to me about work. He said women were very much handicapped as compared with men, and if both are looking for work it is easier for a man to find a position than a woman. This is a mistaken notion, as it depends altogether on the work you look for.

It is not merely that the employment of women is of great moment just now. It was before war began. If you yourselves never need to say, "What will I do to make a living," your daughters, friends or neighbors will, and the condition of these workers and how the work is to be found is of the greatest interest to all of us.

In thinking of what could be said

that might be of interest, I jotted down a number of different points which summarize what I have been able to learn about employment for women. In the first place, a necessary feature is the knowledge of how to do some necessary work well. Being in earnest in determining to get paid work and to keep it is another factor. It interferes with people's usefulness not to be in earnest about keeping work. Knowing how to keep healthy is one of the things absolutely necessary in order to do good work. We should know what to eat, what to wear and when to sleep. It has been proved that young women in offices, factories, stores, etc., require to know about food just as much as the housewife does. Our health depends on food. A man generally succeeds in business because a woman keeps him properly fed.

One of the points that assures a woman doing well is character—one who has something to her. Another thing is good temper. Good discipline is also important. We must face the disadvantages of life as we come to them and somehow bear them and solve them. Paid work is just like life. Qualities that help one in life help them in business.

Determination to improve is necessary. Unless one improves they will go back. The people who stay still seem to disappear, but those who improve remain. The person on whom we can depend to help us is ourselves. A friend of mine used to say long ago, "It's your own hole, and you have to get yourself out of it." I don't think any of us can understand the greatness of work until we interpret it in the words of Christ when He said, "I must do the work of Him who sent Me."

*A synopsis of an address delivered at the Annual Convention of the Women's Institute held in Toronto last November.

There are some perennials, such as trichoman and incurvillus, which best lifted and wintered in a cold cellar. Be careful that the plants do not become too dry. Paonies of all kinds, tree, singles and doubles, have been wintered successfully, the only covering being their own foliage.

For Pie Crust
Bake with
Crisp Even and Flakey-



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DEPARTMENT OF FINANCE, OTTAWA
OCTOBER 7th, 1916.

Costumes Suitable for "Cold Weather" Fun

IMPORTANT NOTICE

Farm and Dairy patterns shown in these columns are especial prepared for Our Women's Page. They can be relied upon to be the latest and include the most modern features of the paper patterns. When sending your order please be careful to state size or waist measure for adults, age for children, and the number of the pattern described. Orders are filled within one week to 10 days after receipt. Price of all patterns and Dairy, Peterboro, Ont.



THIS is the season when skating is very popular, and lucky is the boy or girl on the farm who lives near a body of water or whose home is not far from the town where a skating rink has been provided. How many of our girls have noticed the styles of costumes which are being worn for outdoor sport? A novel sport suit has a jacket which slips on over the head, and a leather belt makes it neat-fitting at the waist. The material used may be of lightweight mixed cheviot, another feature is the fur turban, which is quite popular with skaters. Chin-strings or narrow ribbon in any colors are shown on some of these turbans. Last summer, straps were very much in vogue, but we seem to be coming back to coats as shown with a brush finish resembling angora. Copenhagen, some very pretty and cozy-looking sweater coats are shown with a brush finish resembling angora. Copenhagen, some very pretty and cozy-looking sweater coats are shown with a brush finish resembling angora. Copenhagen, some very pretty and cozy-looking sweater coats are shown with a brush finish resembling angora.

Some of the newest separate skirts show pleating all around, although probably more have groups of plaits at side, with panel front and back.

1963-Lady's Apron—This pattern is considerably different to the majority we have shown in these columns, and the pointed effect takes away from the sturdy appearance of the apron. Four pieces: 34, 35, 45 and 46 inches bust measure.

1961-Girl's Slip—It is well to store up a number of styles of underclothing prior to January sales, when we purchase our supply of cotton for fastening the winter wear garments for next spring and summer. This slip can be made with or

without the envelope chemise finish. Six sizes: 4, 6, 8, 10, 12 and 14 years.

1963-Lady's House Dress—Here is an attractive dress made simple and yet attractively. The large collar which comes around in front of the neck is a reverse is quite unique. The pockets are 4 inches bust measure. Six sizes: 34 to 44 inches bust measure.

1961-Girl's Dress—This chic frock for the little girl does not require any explanation in order to bring out its attractiveness. Contrasting material is used in sizes: 4, 6, 8 and 10 years.

1963-1816-Lady's Costume—Upon looking at this costume, we are at once struck with its note of neatness and good style which is evident. This model calls for two patterns, 16 cents for each. The blouse is cut in sizes from 34 to 44 inches bust measure, and the skirt in sizes from 22 to 32 inches waist measure. If either one is cut up separately, and the skirt should prove quite practical as separate skirt.

1973-Dress for Misses and Small Women—This costume shows one of the latest styles of the season. The wide belt breaks up the plainness at the waist line, and the pockets and buttons lend added trimming to the outfit. The collar, cuffs and skirt. This dress is cut in sizes from 20 to 28 years. Many small women, however, should be able to make good use of this style.

1964-Girl's Dress—The young girl attending school is usually fond of one-piece and off. This one-piece model is quite fashionably designed, and a dress made in this way would look attractive if trimmed with white flannel collar and cuffs, which can be taken out and bundled from time to time. Four sizes: 10, 12 and 14

Winning the Wilderness

(Continued from page 16.)

medium height, compactly built, without an ounce of unnecessary weight. The well-rounded form took away all hint of spareness, while it did not detract from the process of endurance. His heavy, dark hair and dark gray eyes, his straight nose and firm mouth under a dark mustache, and his well-set chin made up an attractive but not handsome face. The magnificence of his personality was not in manly beauty. It was an inborn gift and would have characterized him in any condition in life. There was about him a genial dignity that made men look up to him and a willingness to serve that made selfishness seem mean. He could not have been thirty, although he had been on the plains for five years. The West was peopled by young men. Its need for daring spirits found less response in men of maturer life. But the West had most need for humane men. The bully, the dare-devil, the brutal, and the selfish were refused before the force that swept the frontier onward; but they were never eliminated from the new building. Before such men as Carey they lost power.

The doctor rode away toward the west, bowing his head before the strong wind that he knew too well to fear, yet wondering as he rode if he had done wisely to dare the deepening snow of the buried trail.

"I might have waited a day, anyhow," he thought. "It's devil of a ride over to Jim Shirley's, and we got only the tail ends of that storm down at the Crossing from the looks of this. However, I may as well keep at it now."

He hurried on for a few miles without any signs of an open trail appearing. Then he dropped to a slow canter.

"It better get this worry straightened, and my mind untraveled if I am to have any comfort on this ride," he said aloud as was his wont to do when out in the open alone. Everything happens to a man who rides too much leeway to that indefinite inside guide saying, "Do this! Let that alone!" And yet that guide hasn't failed me when I've listened to it."

He let the pony have the rein as he looked ahead with unseeing eyes.

"What made me take this day? First, everybody is well enough to be left for two or three days, good time for a vacation, and Stewart can take care of emergencies always. Second,

I promised Jim I'd see that his letters got to him straightaway. Third, yes, third, something said, 'Go now!' But there's the other side. Why go on the back of a snowstorm? Why not keep the Jim's letter a day or two? It's in my hands. And why mistrust a man who calls himself 'innocent' Thomas Smith? That's it. It's no innocent there's no place on the wide Kansas prairies for a man Thomas Smith. He'd better get back to his home and his real name at once."

The doctor smiled at the thought, then he frowned at the cold wind and the shifting snows above the trail.

"You are a fool—a stack of fools," Dr. Horace Carey, to beat out of town miles on miles on a foot or errand over a lost trail, trusting your instinct that never lost you a direction yet, and all because of an inward call to an untraveled doctor Smith's other day will do as well. And here's where I may as well cut off these notions of being led by inside signals. What should make me think of a danger in a man I never saw before, and who will probably go out on the stage to-morrow morning? Oh, well, the Lord made us as we are. He knows why."

He wheeled the pony about and began to trot toward Carey's Crossing. Suddenly he halted.

"Let me see. I'm not twenty miles

along, though I've come at a good rate. I believe I'll cut across northward and hit some of the settlers up on Big Wolf Creek for the night. Lucky I've no wife to worry about me."

A wave of sadness swept over the man's face—just a sweep of sorrow that left no mark. He turned abruptly from the trail and struck in a definite direction across the snow-covered prairie. Presently his path veered to the north, then to the northwest.

"I know an ugly little creek running into Big Wolf that's the dickens to cross. I'll clear right over it even if it takes longer. After all, I'm doing just what I said I wouldn't do. I don't know why I didn't go on, nor why I am tacking off up here. Something tells me to do it and I'll do it."

But however changeable of mind he seemed to himself, Dr. Carey was a man who formed his judgments so quickly upon them so promptly that he seemed most stable to other men. He rode forward now to a land wave that dropped on one side to a cross, a quarter of a mile away, where black shrubbery marked the water line. A long swell of wind swung down the valley, whirling the snow in eddies before it. As the doctor's eye followed them, he suddenly noted a red scarf lift above the tallest clumps of bushes and flutter out to its full length, then drop again as the wind swell passed.

"There's nobody in fifteen miles of life. I reckon that scarf blew there and caught some time this fall when somebody was going out on the trail. Mighty human-looking thing, though. It seemed waving a signal to me. But I must hurry on."

He hastened at a gallop up the ridge away from the creek, his mind still on that red scarf flung about by the winter wind.

"It was a strange thing," he thought, "but every human token is startling out here. Why that red scarf?"

The doctor had a plainman's ear as well as a plainman's eye. As he listened, through the wall of the wind borne along the distance, he caught the words of a song, low and headlong like a plaintive cry for help:

Though, like the wanderer,
The sun gone down,
Darkness be over me,
My rest a stone.

Yet in my dreams I'd be
Nearer, my God, to thee,
Nearer to thee.

It was a woman's voice and Carey focused about to listen. He knew it came from the house behind the red scarf. So he changed his course and hurried around a bend in the stream to the other side of the brush where Virginia Aveland's house in June.

"I'm afraid there's not even a lone rest on here, Madam. Can I be of any service to you?" he said, lifting his hand toward his cap in semi-military salute.

Virginia stood looking at the stranger with a half-comprehending gaze. She had been less than an hour beside the bushes, but it had seemed to her like many hours. And the terrifying certainty of a night alone on the prairie made the sudden presence of a human being unreal to her.

"I've your husband," said Dr. Carey, of Carey's Crossing, and I was striking across the prairie to the Big Wolf settlement when I saw your scarf and heard your singing. I took them both to be distress signals and came over to see if you needed me."

(To be continued.)

To stop the rattling of a window, cut a clothes peg in half, and insert it between the sash and the frame. Then your sleep won't be disturbed on a windy night.

The Makers' Corner

Butter and Cheese Makers are invited to send contributions to this department, to ask questions on matters relating to cheese making, and to suggest subjects for discussion.

W.O.D.A. Winter Dairy Exhibition

THE cheese and butter exhibition, held in connection with a convention of the Western Ontario Dairyman's Association at Woodstock, was one of the strongest ever held by the association. An increase in the number of butter entries was recorded. The Toronto Produce Exchange trophy, a silver shield, which represents the respondents in points scored in butter (except 1-pound prints) went to R. A. Dennis, of Strathroy.

Cheese and Butter Awards.

Class 1.
Section 1—September white cheese:
1. J. Jos. Skilton, Thornedale, 56.89; 2. C. J. Donnelly, Stratford, 56.85; 3. Jno. Harold Hammond, Moorefield, 56.33, on favor; 4. H. B. Donnelly, Stratfordville, 56.23; 5. N. E. L. H. Schneider, Gads Hill, 56.23; 6. Peter Callan, Woodstock, 56.18, won on favor.

Section 2—September Colored Cheese—
1. H. W. Hamilton, Thorndale, 56.43; 2. J. H. Schneider, Gads Hill, 56.33; 3. C. J. Donnelly, Stratford, 56.33, on favor; 4. Wm. Lynson, Aylmer, 56.16; 5. Wm. J. Johnston, Inverkip, 56.15; 6. Henry Youn, Listowel, 56.07; 7. A. Holland, Verschoor, 56.09.

Section 3—October White Cheese—
1. Peter Callan, Woodstock, 56.81; 2. W. C. Longhain, Thameford, 56.66, won on favor; 3. Harold Hammond, Moorefield, 56.61, won on favor; 4. J. Jamieson, Dochart, 56.56, won on favor; 5. Jno. Robertson, Stratford, 56.56, won on favor; 6. H. W. Hamilton, Thorndale, 56.49; 7. E. M. Johnston, Inverkip, 56.49.

Section 4—October Colored Cheese—
1. Peter Callan, Woodstock, 56.81; 2. E. M. Johnston, Inverkip, 56.59; 3. C. J. Donnelly, Stratford, 56.53; 4. Wm. Brown, Bruceville, 56.43; 5. Wm. B. Brown, Bruceville, 56.43; 6. Henry Youn, Listowel, 56.43; 7. F. C. Eastman, Arkosa, 56.38.

Class 2.
Section 1—Fifty-six lb. box Winter Creamery Butter—
1. R. A. Dennis, Strathroy, 56.49; 2. D. Doan, Southwood Station, 56.48; 3. R. W. Phillips, Sarsfirth, 56.33; 4. E. M. Johnston, Inverkip, 56.23; 5. T. R. Palmerston, 56.49; 6. H. J. Neoh, Tavistock, 56.23.

Section 2—Twenty-one lb. Creamery Prints—
1. R. A. Dennis, Strathroy, 56.91; 2. Geo. W. Phillips, Sarsfirth, 56.35; 3. E. M. Johnston, Inverkip, 56.29; 4. D. Doan, Southwood Station, 56.26; 5. H. A. Clark, Warwick, 56.26; 6. Jno. Robertson, Stratford, 56.26; 7. W. H. Fodock, Kerrwood, 56.26.

Section 3—Fifty-six lb. box October Creamery Butter—
1. W. H. Pollock, Kerrwood, 56.66; 2. H. A. Clark, Warwick, 56.66; 3. W. D. Pinewood, Belmont, 56.16; 4. E. W. Johnson, Forest, 56.27; 5. C. A. Davies, London, 56.65; 6. Trevelyan & Burt, Painsdown, 56.28; 7. D. Doan, Southwood Station, 56.07.

Class 3.
Section 1—Three Canadian Stillon Cheese—
1. Harold Hammond, Moorefield, 56.82; 2. Peter Callan, Woodstock, 56.80; 3. Henry Youn, Listowel, 56.49; 4. Garsden, Bath Lakeville, 56.18; won on favor; 5. H. B. Donnelly, Stratfordville, 56.18.

Section 2—Two Canadian Flat Cheese—
1. E. M. Johnston, Inverkip, 56.99; 2. J. H. Brown, Bruceville, 56.50; 3. Garsden, Bath Lakeville, 56.49; 4. Wm. Lynson, Aylmer, 56.48; 5. Wm. Brown, Trowbridge, 56.41.

The Haller and Martin Co. \$10 in cash, for the highest score on butter exhibited in Class III, colored with Alderney Butter Color, exhibited by Robertson, Stratford; 2. D. Doan, Southwood Station.
C. Richardson and Co., St. Marys, special to buttermaker securing the highest score on butter exhibited in Class IV, colored with Alderney Butter Color, by R. W. Pollock, Kerrwood; 3. H. A. Clark, Warwick.
R. M. Dallingway, Ltd., Stratford, to the cheesemaker securing the highest score on September white cheese, Class 2, section 1. J. Jos. Skilton, Thornedale; 2. Peter Callan, Woodstock.
G. H. Sisson and Co., Ingersoll, to

the cheesemaker securing highest score on September colored cheese, Class 1, section 2. J. H. H. Schneider, Gads Hill; 2. Peter Callan, Woodstock.
J. R. Ford Co., Wyandotte, Mich.; C. J. Donnelly, Stratfordville; 3. W. B. Donnelly, Belmont.
Canadian Salt Co., Windsor, Ont., special to the cheesemaker securing (pens and flats) on cheese (except Stillons) exhibited in any class: 1. J. Jos. Skilton, Thornedale; 2 and 3, tie between H. W. Hamilton, Thorndale and P. Callan, Woodstock.
Special to the buttermaker securing the highest score on butter in any class: 1. R. A. Dennis, Strathroy; 2. Jno. Robertson, Stratford; 3. D. Doan, Southwood Station.
Western Salt Co., Courtright, Ont., to cheesemaker securing highest score on September white cheese, class 1, section 1. J. Jos. Skilton, Thornedale; highest score on October colored cheese, class II, section 2. P. Callan, Woodstock; highest score on 56 pound box creamery butter, class 2, section 1. R. A. Dennis, Strathroy; highest score on 21 pound creamery prints, class 2, section 2. R. A. Dennis, Strathroy.

Do Laval Dairy Supply Co., Peterborough, Ont. silver cup highest score on creaming butter the month of October from collected cream, class 4, section 1. W. B. Pollock, Kerrwood.
W. A. Drummond and Co., Toronto, highest score on 56-pound box butter made from collected cream, pasteurized and properly ripened, class 2, section 1, for class 4, section 1. W. B. Pollock, Kerrwood.
Bank of Canada, highest total score on two cheeses, either white or colored, exhibited in class 1, one cheese white or colored, exhibited in class 2 to be won twice in succession or three times; H. W. Hamilton, Thorndale.
Toronto Produce Exchange, a silver shield for highest score on butter: R. A. Dennis, Strathroy.

Creamery to be Established

W. H. Evey, Algoma, Dist., Ont.

A VERY successful meeting was held at Bar River on Jan. 5th to discuss the propriety of establishing a creamery in the district. The meeting was called by Mr. A. S. Smith, the district representative, and delegates were present from Dean Lake, Little Rapids, Thessalon, Livingston's Creek, Rydal Bank, Clonast, McLeannan, Echo Bay, Sault Ste. Marie, Corah and Goupals Bay. It is but fair to say that the delegates were unanimously in favor of such a creamery, and it was decided to begin operations as soon as possible. Mr. Smith is to correspond with some dairy instructor regarding holding a series of meetings for the purpose of giving information to the people along the line of profits and advantages of cooperative creameries, and to outline the mode of procedure. It is expected that a plant will be started which will accommodate 2,500 to 3,000 cows, the plant to be located wherever the directors may decide, and to cost in the neighborhood of \$15,000 to \$20,000. This amount is to be raised by shares of \$25 each. Any person can take as many shares as he chooses, but can only have one vote.

Dairy Notes

In recognition of his remarkable record of forty-one years of continuous service as cheese maker for the Molra Cheese Factory, in Hastings Co., Ont., the friends of Mr. Anthony Herity, of Molra, recently presented Mr. Herity with an address and a handsome gold watch. The president of the Molra Cheese Factory, Mr. Walter Savoy, presided. Mr. Herity was the first to make cheese in the Molra district.

The Assistant Deputy Minister of Agriculture for Ontario, Mr. C. F. Bailey, who has been in the New England district, has returned and announces that the government has finally decided to cooperate in the establishment of a creamery in that locality. Only 235 cows out of the 200 required have been promised, but the erection of the creamery will be proceeded with. In the spring the government plans to ship in two car loads of cows and sell them at auction to the settlers. Any of the farmers who

need to do so will be able to borrow money through the Loan Commissioner's Department to purchase these animals. In this way it is hoped to increase the number of cows to nearly, if not quite the 300 mark.

Flavor of Creamery Butter

DISCUSSING the question of flavor in creamery butter as it comes on the market, L. A. Gibson, Dairy Produce Grader at Windsor, stated that he found the unclean flavors for the most part traceable to the farm. He said:

"Good flavor in creamery butter is the most important consideration and the most difficult to get. The most common defects we found in the flavor were what we generally term unclean and stale flavors. Stale flavor indicates that the cream had been held too long or at too high a temperature, causing it to ripen or sour of its own accord and develop too much acid. "Unclean flavors come from various sources, but I believe the most common causes are unwashed separators and cans not properly washed, scalded and dried. The unwashed separator flavor was especially noticeable during the harvest season. One or two cans of this class of cream mixed in a vat will affect the whole churning, and the resulting butter will not have the rich, clean, delicate flavor so much desired, nor will it have good keeping qualities.

"Another flavor frequently found, but fortunately only from certain districts, is a weedy flavor, caused by the cross eating what is commonly called 'stink weed,' or other stunted flavored weeds. This is most prevalent in early spring and fall, or during a period of short or dry pastures. When we have a metallic flavor, caused by cream coming in contact with rusty or poorly lined separators, cream cans or other utensils. Other flavors less frequently found are oily, cheesy, greasy, bitter, yeasty and musty, also what is termed a fishy flavor, which develops in certain butters held in storage for some length of time.

A Toronto Dealer Fined

ON January 9th, A. Loranbaum, a retail merchant of Toronto, pleaded not guilty before Magistrate Kingsford of having had in possession for sale and selling butter contained in a package in such a manner as to give false information as to the creamery in which it was made. A fine of \$30.00 and costs was imposed.



A Favorite in the Dairy

OWING to its many features of superiority the Maxwell Churn has become a prime favorite on dairy farms throughout the country. It is made of selected oak (does not chill like glass or crockery). It is equipped with Roller Bearings, easy running and durable. The handle on lever—can be adjusted for driving to suit your convenience.



CREAM WANTED

Churning cream, also cream for table use. We hesitate to quote prices because the figures for to-day may be too low for to-morrow. Our guarantee is: Prompt Service, Accurate Records, Highest Prices. Write for particulars—it will be worth your while.

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9-11 Church St., Toronto

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Old Dutch

Old Dutch Cleanser

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When you buy a ton of fertilizer remember you are buying what is in the goods and not merely two thousand pounds.

When a smelter buys a ton of gold ore he insists on knowing the number of ounces of gold it contains, and you should know the amount of active Nitrogen, Nitrate of Soda, the gold of the fertilizer.

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THREE CENTS A WORD, CASH WITH ORDER
WANTED.—Married men experienced in farm work. Yearly engagement. Wages \$40.00 per month, free house, garden lot. Apply box 135, Niagara-on-the-Lake.

WANTED TO BUY.—Pure bred Holstein bull, fit for service. Must be from high testing family. Address all information to J. F. Craig, Fitzroy Harbor, Ont.

ADVERTISE in these popular columns, which others find so profitable—costs you only \$1.25 in inch.

Experimentalists Have Had Adverse Season

But Much Valuable Information Has Been Gleaned From the Year's Work

ONE of the themes at the annual meetings of the Ontario Agricultural and Experimental Station, held at the Agricultural College is the varieties of crops best suited to the climatic and soil conditions in various parts of Ontario. To this is generally appended a discussion regarding the sources and quality of seed available. This year was no exception to the rule; in fact, the discussion revealed that the question of seed is a very live one with the many farmers throughout the province this year. Some of them are looking to distant fields for their seed supply for 1917. The discussion of this and other important phases of agricultural work comes at an opportune time, for although the number of farmers who go to Guelph specifically to attend the meeting of the Union is small, there is always a large and enthusiastic audience. At this time a large number of short course students are attending lectures at the college. The winners of the Acre Profit, Hog Feeding and Baby Beef competitions, to the number of over 100, are in attendance. The regular students are also removed from lectures to attend the meetings. The audience is therefore large and attentive, composed mostly of young men eager to learn, and at the age at which attendance at such meetings is most profitable to them.

In his report the secretary, Dr. C. A. Zavis, showed that although the climatic conditions of the season had not been the best for conducting successful experiments, many lessons were gleaned from the season's work. As it thoroughly tested the ability of the various varieties to come through an adverse season. O.A.C. No. 72 oats and O.A.C. No. 21 barley still retained their popularity and made the greatest showing of equal importance both large and small farms. In the tests of spring wheat, wild goose and Marquis proved equal in comparative value. In winter wheat, Imperial Amber proved much superior to the American Banner, its nearest rival; in spring rye, O.A.C. No. 61 compared

with common rye as 100 to 67, in field peas Potter eclipsed Canadian Beauty by 15 per cent., while in field beans Pearce's Improved Tree surpassed Yellow Eye by 15 per cent. In mangolds, Mammoth Long Rod stood first, with a yield of over 232 tons per acre in six tests. In potatoes, Davies' Warrior yielded an average of 301.15 bushels in 104 tests. It gave 22 per cent. of small tubers and was graded at 89 for maleness when cooked, as compared with 100 in Ex-tray Early Europa, the latter variety yielding 89.87 bushels an acre. "The yield of potatoes," said Dr. Zavis, "was the lowest for the last 35 years. This brings up the important matter of the source of seed. Recently it has come to be believed that the best source of our potatoes is not in New Brunswick, nor yet in Alberta, but in New Ontario. Without exception, the largest yields in Ontario have been obtained in Muskoka, about 146 miles north of Toronto."

Seed for 1917. Prof. Murray, of Macdonald College, sounded a note of warning regarding the sowing of Western grown oats. These, he said, might be slightly damaged by frost, and though samples might look very well and weigh 45 lbs. to the bushel, they might be worthless for seed. Most of the oats that came west were fairly reliable, but we would be safer in looking the other way. In the Maritime Provinces the oat crop this year had been excellent, and they had large supplies of excellent oat seed. Not only would this be safer for sowing, but it was also freer from weeds, having fewer wild oats. His advice was to clean up and sow the oats on the farm if the farmer had them of fairly good quality. He would then be sure that no new weeds would be introduced. It would be necessary, however, to secure a great many oats from outside sources, both for Ontario and Quebec.

The organization of potato growers' co-operative associations was discussed by Mr. F. C. Hart, of the Department of Agriculture, Toronto, who (Continued on page 21.)

Progress the Watchword at W.O.

D.A. Convention

(Continued from Page 8.)

value of food stuffs, and that milk had proven to be one of the cheapest, even at prevailing high prices. He strongly urged on the dairymen the necessity of making cheese, as it was more enough to retain men in the business. By the offers that were being made, he was afraid that the best men would not be retained. A higher rate in a great many cases was necessary. Putnam also strongly urged cooperation among farmers, especially in the purchase of foodstuffs.

The work that had been done during the season of 1916 at the Finch Dairy Station, in securing information regarding the reliability of remnant substitutes, was covered by Mr. Hart; the results being given elsewhere in this issue. The results of the experiments along this line at the O.A.C. were given by Mr. T. J. McKinnon. His conclusions were that rennet at a reasonable price was still the most desirable coagulant, but that a mixture of one and a half ounces of rennet and one-quarter ounce of powdered or spongy pepsin, strength 1:6000, was a satisfactory substitute. Home rennet supplies should be used and made as far as possible to help out commercial extracts. Dairy Commissioner Rudick also referred to the work of the Dairy Division in securing a supply of pepsin to help out the rennet supply during the summer.

Produce! Produce! Produce!!!

Mr. N. W. Rowell, who represents the riding in which the convention was held, called upon the dairymen of the province to do their utmost to keep up production. Though positive of the ultimate outcome of the war, Rowell took occasion to strongly urge the seriousness of the food situation of Great Britain, claiming that it would cost our entire national resources to do our share toward sustaining the armistice on the firing line. Mr. W. Bert Roadhouse, Deputy Minister of Agriculture for Ontario, made a case of a carload of butter which had been shipped from Regina to Manchester, Eng. the first car of butter for the English market from the prairie. It had been very favorably commented upon by the trade in the Old Country. He referred to the fact that Great Britain is importing 75 per cent. of her butter, and 81 per cent. of it from sources outside the Empire. This was accounted for to some extent by geographical conditions, but there was a great future for Canadian butter trade. The department, he said, was anxious to cooperate with the dairymen in working out a system of butter grading.

Resolutions.

In addition to the resolutions which originated in the meeting on Thursday afternoon, and which called upon the Department to do the necessary work in motion for the establishment of butter grading, another along the same line came from the resolutions committee. It stated that the department was in sympathy with the plan outlined by the Department to establish the grading of dairy products. The Dairy Standards Act was strongly supported and the extension of the pay by test principle to city milk supply advocated. A strong resolution condemning the oleomargarine trade, and requesting the government to maintain present restrictions, was also enthusiastically supported.

Officers for 1917.

The officers for the ensuing year are: President, R. W. Stratton, Guelph; 1st Vice-President, Jas. Donaldson, Atwood; 2nd Vice-President, T. F. Boyce, Lambeth; 3rd Vice-President, Geo. Mahon, E.C. Woodstock; Directors—J. N. Paget, Canboro; Geo. Mead, Winchelsea; T. Balmain, Stratford; Geo. E. Booth, Ingersoll; Robt. Murray, Springfield; and John Scott, Woodstock.

Fence Buyers--Notice

Any reports to the effect that we have stopped dealing with the consumer are untrue. We are still selling the highest grade of fencing to the user direct, and we expect to continue this course. We believe the fence user has a right to buy direct from the maker, and further, we have the right to give him our best fence.

We are aware that there is an almost universal belief that mail order houses supply goods made to sell at a lower price than the regular grade, and it must be admitted that there is considerable ground for this belief.

But by giving our customers the very best article possible for anyone to produce we expect to sooner or later have it known everywhere that the Page Company sells direct to the user, and sells the same high grade fence it always sold. This policy is rapidly winning for us the fence business of Canada.

We confine our list of dealers to those known for honorable dealings and those who, selling for cash only, are able and willing to do business on a small margin of profit.

It is because so many dealers place profit first and "satisfaction to the customer" second, that we find it necessary in our own interest and that of the farmer, to do the bulk of our selling direct from factory to farm.

THE PAGE WIRE FENCE COMPANY LIMITED.

WALKERVILLE, TORONTO, MONTREAL, ST. JOHN.

New Toronto Address, 253 King St. West.

**Experimentalists Have Had Ad-
verse Season**

(Continued from page 20.)

stated that there were eight or nine organizations of this kind in operation, one or two of which were producing potatoes alone. They were found all the way from Itany River to Pelee Island. It was too great a waste of effort to haul potatoes from British Columbia, Alberta and New Brunswick when such excellent crops could be secured from Ontario in average years. Mr. Hart then outlined some of the benefits of organization, strongly emphasizing the necessity of establishing legal grades. Mr. Andrew Elliott, of Galt, also gave a striking address on potato culture. These two addresses will be referred to in a later issue of Farm and Dairy.

Production of Animal Food Stuff.
In dealing with the subject of feeds, Prof. Geo. E. Day pointed out that much advice was being given to the farmer. "Some of this advice," he said, "has been good; some of it has been bad, but the bulk of it has been absolutely useless." He would not advise, but would attempt to point a danger signal and check, if possible, the alarming decrease in the number of farm animals in Canada. This decrease was more marked this year than ever. Depletion of live stock meant the lessening of crop returns. Last fall returns from crops to the man who had kept live stock were fairly good, while the other farmer had met almost a total failure. Those who were tempted to sell were reminded of the high price that live stock is almost sure to bring after the war, and also the cost of re-stocking the farm, perhaps at famine prices if depletion is carried to too great an extent. There was no occasion for panic.

Fertilizers Increase Potato Yields.
Dr. Zavits stated that last season six different tests were made with fertilizers in varying quantities. Results for five years showed that the returns were small from tests where no fertilizers were used, the yield varying almost directly in proportion to the amount of fertilizer. Still greater yields at reduced costs were obtained when commercial fertilizers and cow manure were used, but the greatest yield at lowest cost was from 20 tons of cow manure used alone.

Cabbage as a feed for dairy cows was discussed by Mr. H. Sirrett, Brighton. The manure was sown broadcast on a well prepared seed bed in the orchard, strong plants were roughly selected and transplanted in the field with a machine made for the purpose. This was done about the first week in July after the weeds had been put under control. Very little additional attention was given the plants. In the fall the cabbage were stored in the root cellar, being placed no more than four feet deep, and during the winter he had fed it out to cows as source of succulent food. He had never used anything which increased the milk flow as much as the feeding of cabbage.

Soil Management.
A paper on the farmer's apple orchard was discussed by R. S. Dunstan, B.S.A., Northumberland Co., Ont., and Prof. MacLennan, of the O.A.C., gave a short paper on the home vegetable garden. These will be reproduced in a future issue. The management of the soil was admirably dealt with by Mr. H. D. Bell, of Chicago, a graduate of the O.A.C. By lantern slides and by demonstration, Mr. Bell showed that the physical condition of the soil had much to do with the amount of growth of a plant in the soil, of the amount of water retained, and of the amount of air and bacteria contained. Organic matter, he

said, was necessary to any soil so an acid in holding water; it opens clay soils; binds sands together and holds plant food. It carries manure and green crops plowed under were the best sources of organic matter in soils. Free circulation of air was necessary, because it brought about the condition that made food for the plant roots easily available. Good drainage was essential in securing an abundance of air in the soil. The soil must contain all the plant food necessary for the proper growth. Those most lacking are generally nitrogen, phosphorus and potash. Nitrogen could be secured by plowing down legume crops and manure; the phosphorus and potash from fertilizers. Lime was also often necessary to sweeten soil and help provide food materials for the plants. Soils should be studied to find out what is lacking and the deficiencies should then be supplied.

In his presidential address Mr. J. B. Fairburn scored the spending of money on needless luxuries. These sentiments were strongly endorsed by his successor, Mr. Sirrett, who said that a start could be made in economy by lessening the activities of automobile manufacturers, who were drawing many badly needed men from the farm.

The officers for the ensuing year are: President, H. Sirrett, Brighton; vice-president, H. B. Webster, St. Mary's; secretary, Dr. Zavits; assistant secretary, W. J. Squirrel, O.A.C.; treasurer, A. W. Mason, O.A.C.; directors, Dr. G. C. Creelman, Hon. Nelson Montiel, Stratford; A. A. McKenney, Administrator; P. S. McLaren, Perth. The representative of the O.A.C. student body on the directorate is Norman James.

parts of tincture of iodine and glacial acetic acid. The treatment may be continued for several days, as appears necessary.

Swollen Glands

"I HAVE a yearling heifer and the glands of her neck are swollen just at the point of the jaw. She has trouble breathing just as much as wheeze and cough a little sometimes.—A Reader, Northumberland Co., Ont.
The symptoms indicate tubercula disease of the glands of the throat, for which practically nothing can be done. If not tubercular the following treatment will reduce the glands: Rub well once daily with an ointment made of two drams each of iodine and iodide of potassium, mixed with two ounces of vaseline.

Heart Trouble

"I PURCHASED an Oxford Down lamb this fall and she has taken sick. She looks all right, but when she caws herself or moves around quickly, she will pant, get weak and fall down. She does not feed very well. What is the cause and the cure?—E. L. Alonzo Dist., Ont.
This is due to weakness of the heart. She may recover, but the action of medicine is doubtful. Keep her as quiet as possible and give one-half teaspoonful of tincture of digitalis in a little water three times daily.

Abortion

"I HAVE a mother and her two daughters which will not carry their calves the full time. The mother lost her calf at four months, and her two-year-old heifer lost one at four months. What is the cause and what can I do for them?—A Constant Reader.

This indicates infectious abortion. The latest and probably the most approved treatment is the administration of three or four drams (according to size) of medicinal methylene blue, twice daily for a week. Then after a lapse of three weeks, repeat the treatment and continue at like intervals during the whole period of gestation.

Notes, Queries and Answers

Infectious Ophthalmia

ONE or two of my sheep are blind, and three more are badly affected. The ball of the eye is white, as though covered with scum, and whites of the eye are red as blood. One of two of them is in two weeks since I noticed them, and I have been putting burnt alum in them, but it does not seem to do any good. What can I do for them? They are Southdowns, all of three year olds, and are fed on good clover hay and kept in a good shed at night. W. Meek, Wright Co., Ont.

This is infectious ophthalmia and it is probable that a large percentage of your flock will contract it unless the diseased ones be promptly isolated. The treatment you are giving is rank cruelty. Try a little in your own eye and then you will have an idea of what it means to the sheep to be punished periodically. Isolate the diseased in a comfortable place excluded from draughts and strong sun light. Get a lotion made of 16 grains sulphate of zinc, 20 drops fluid extract of belladonna and 2 ounces distilled water. Bathe the eyes well three times daily, and after bathing put a few drops of the lotion into each eye.

Ring Worm

MY calves have rings around their eyes, from which the hair has disappeared. The skin appears whitish and is scaly.—Ont.

Ring Worm appears most commonly in cattle as a round, slightly raised, bald patch, being seen especially about the head and neck of a calf or yearling. Older cattle, other animals and men are subject to the trouble. It is caused by minute vegetable parasites which grow under the skin, something like mildew on a grape leaf.

Ring Worm can be rather easily cured by giving the spots a good scrubbing with soft soap and water, then treating them once each day with equal



Buy Early
Present Seed Prices. Sacks free.
O.A.C. No. 10 Oats, unregistered, \$1.15 bus.
O.A.C. No. 11 Oats, registered, \$1.50 bus.
Banner Oats, unregistered, \$1.10 bus.
O.A.C. No. 21 Barley, unregistered, \$1.85 bus.
O.A.C. No. 21 Barley, registered, \$1.55 bus.
Wheaton No. 1, Golden Glow, Loaming, Bailey, White Cap, Longfellow, Compton's, North Dakota, etc., North Dakota Corn bus. Black cured in bags, \$2.00 bus. Black cured in bags, \$2.50 bus.
SEND US YOUR NAME
and address and we will mail you free one of our 1917 catalogues just as soon as they are off the press. This is full of information which every progressive farmer wants to know. No obligation, just plain facts—clear our prices are low, freight in Ontario and Quebec if your order amounts to \$25.00 or more. Mail us a post card with your name and address without delay.
We are buyers of Alfalfa, Alfalfa, Red Clover, Timothy, and Seed Grain. Send samples. We are especially in need of Hay Buckwheat, Spring Oats, Emmer, Danks, Oats, and Rye. Also, Black Hulls Harley, Two-rowed Barley, Broom Corn, Corn, Hairy Vetch, and Peas—Tree Beans, Siberian and Hungarian Millet.

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Make 1917 a Record Year

It can be done by resolving to keep a close record of all your animals. It is very valuable. You like to have a certain amount of information about your animals always at hand. Just think what it would mean to you if you could instantly turn up the date of birth, records, and all other information relating to any animal in your herd.

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gives you the means of providing this data with the minimum amount of trouble and expense. It provides for name and number of the animal, date of birth, by whom bred, milk production, and full service record. Has space for name of calf, sex, and disposition of it. To live stock breeders they are simply invaluable and indispensable. Write for samples and prices to

LIVE STOCK DEPARTMENT
FARM and DAIRY
PETERBORO, ONTARIO

Market Review and Forecast

TORONTO, Jan. 18.—In summing up the conditions at the present time in wholesale markets...

DAIRY PRODUCTS. Creamery butter at Montreal, according to statistics published at the end of the year...

LIVE STOCK. Light runs on the cattle market were tended to raise quotations throughout the week...

WHEAT. During the week prices on No. 1 northern lowered again, until at high of winter wheat in price of exports account...

ELMCREST HOLSTEIN-FRIESIANS

Never before have the prospects for dairying been as bright as now. Here is a splendid opportunity to get in right at the right time...

HIGHLAND LAKE FARMS. Jointly with J. Alex. Wallace, of Simcoe, we have leased for the great young bull...

LAKEVIEW HOLSTEINS. Are still in the lead. The latest Holstein year book shows that they held possible at both Toronto and London Expositions...

RIVERSIDE HOLSTEINS. For Sale, Choice Young Bulls, sired by grandson of Pontiac Kentucky, and King Johanna...

VILLA VIEW HOLSTEINS. Is a 29-lb. grand-dam and holstein and only one bull ready for service...

Two Young Bulls For Sale. Sired by Dutchess, Colantha Sir Mona who sired Lakeview Dutchland Air, the Canadian champion...

MAPLE VILLA STOCK FARM. Offers for sale two 4-yr. old cows, good producers, good size and in good condition...

HOLSTEINS. Could save 18 cows or heifers bred to the Great Bull KING SIGIS POND. Myrtle, C.P.R. Manchester, O. R. H. HOLTBY.

AVONDALE FARM OFFERINGS. We have a few young bulls sired by King Pontiac Artis Canada and 1500 for \$500. All good from young dams...

AYRSHIRE BULLS. Two yearling bulls, sired by a brother to the champion R. O. P. two year champion R. of York...

JERSEY NEWS

THE O.A.C. JERSEY SIRE. Jersey's most important sales of the most important, 1916, one of Brampton's greatest achievements...

HAY AND STRAW.

R. 1 wack, here, new, \$12.00 to \$12.50; car lots, \$1.40 to \$1.60; 1 cent; straw, 2 hay is quoted at \$13 in car lots.

SEEDS.

Alsike No. 1, \$18.00 to \$19.50; No. 2, \$9 to \$10.50; No. 3, \$7.00 to \$8; red clover, 1 lb. bush, 1.10 to \$1.00.

POTATOES AND BEANS.

New Brunswick, in car lots, \$2 to \$2.50; western, in car lots, \$1.60 to \$1.80; Japanese, hand-picked, 40 bush, \$1.65; 50 Canadian, hand-picked, \$1.75; 100, \$1.85.

HONEY.

7-lb. tins, 13c; 10-lb. tins, 15c; 15-lb. tins, 16c; 20-lb. tins, 17c; 25-lb. tins, 18c; 30-lb. tins, 19c; 40-lb. tins, 20c.

EGGS

Wholesale produce men decline the prices of eggs are getting firmer and that fresh eggs are generally getting cheaper.

Vertical text on the left side of the page, likely a list of items or prices, partially obscured.

What the Morning Paper Tells

THE morning paper tells us the most important events that have happened during the past twenty-four hours.

But not all the wisdom of the world combined is able to reveal the secrets that lie hidden in the next twenty-four hours.

And what of the events of the incoming year—to what chance and change we and our fortunes will be exposed: we should reflect that—

Of all human institutions there are no others as secure as mutual life companies; they weather the fiercest financial gales.

Let us begin the new year with adequate life insurance: it lasts; other securities depreciate or become worthless; the life policy remains.

Whatever may be the fluctuations in the value of stocks, bonds or real estate during the forthcoming year, your life policy is unaffected.

In view of the uncertainties of the future there is no other "security" that will give you such absolute satisfaction as a policy in

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Assurance Company of Canada
Waterloo, Ontario



Make Your Dairy Pay

Even though you have no more than two or three cows, there are good reasons why you should have a Primrose cream separator. For one thing, it is a cream saver. The Primrose has a record of skimming out all the cream except the last drop or two in each gallon of milk. You cannot buy a closer skimming machine.

Of the many reasons for this close skimming, we can mention only two good Primrose features—the double cream outlet and the regulating screw in the skimmed milk outlet. It is important that the cream have a free outlet from the bowl, plenty of room to escape without cutting or crushing the large fat globules which make such smooth, rich butter and give quality and value to the cream. Therefore, we not only place no screw in the cream

outlet, but we provide a second outlet as large as the first. Through these the cream finds easy passage after its complete separation in the bowl.

If a less dense cream is wanted, a turn of the screw in the skimmed milk outlet forces a thin edge of skimmed milk into the cream channel, thinning the cream but not interfering in any way with the closeness of the skimming.

These and other valuable Primrose features are fully described in catalogues which we will send promptly. Write us for them, addressing the nearest branch house.

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WEST—Brandon, Man.; Calgary, Alta.; Edmonton, Alta.; Estevan, Sask.; Lethbridge, Alta.; N. Battleford, Sask.; Regina, Sask.; Saskatoon, Sask.; Winnipeg, Man.; Yorkton, Sask.
EAST—Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.



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PEEERLESS Perfection is one of the easiest fences to erect, because it stays "put." It can be erected over the most hilly and uneven ground, without buckling, snapping or kinking. Every joint is locked together with the well-known "Peerless Lock." The heavy stay wires we use prevent sagging and require only about half as many posts as other fences.

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