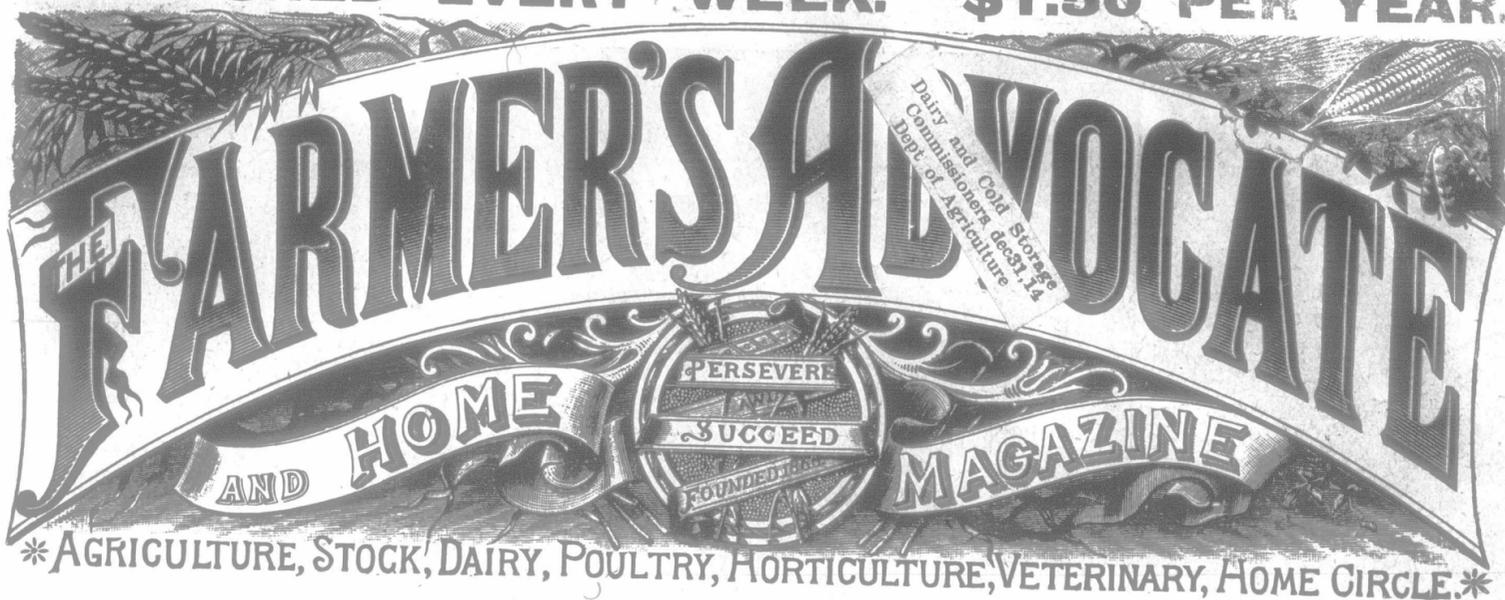


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VOL. L.

LONDON, ONTARIO, JANUARY 14, 1915.

No. 1164

Free

We will give absolutely free for the asking to any farmer, stock or poultry raiser one of our new, revised books. This book tells how to feed all kinds of farm stock and poultry, and gives the common diseases with symptoms, what treatment to be given, etc. Tells how to build poultry houses; how to avoid all manner of diseases of both stock and poultry; tells how to raise calves without using milk; explains fully all the high-class stock and poultry remedies and foods we manufacture. **FREE**

Royal Purple Stock Specific

What we claim for our Royal Purple Stock Specific, the great farm animal conditioner and fattener:—

In conditioning and fattening horses you can do more in four weeks by using our Royal Purple Stock Specific than you could do in two months without it. You can fatten horses with this Stock Specific you have never been able to fatten before. Try it on the worst animal you have on your place.

A cow will gain from two to five lbs. of milk per day while in the stable by using our Stock Specific.

You can fatten steers a month earlier on the same feed by using this specific.

You can market pigs one month earlier and have larger and better pigs, thereby saving a month's labor and feed. One \$1.50 tin will be sufficient to develop six to eight pigs for market.

Use this Stock Specific with all your animals during the winter and early spring, as it will make them digest the hard winter food properly, and a great deal less food will do. After you have used this Stock Specific a short time you can keep your animals in just as good condition by using two-thirds the ordinary amount of fodder you would have to give them without it. A small quantity of this will keep your horses in first-class condition all during the winter season and bring them out fat and sleek for the farm work in the spring. In our book we publish 400 testimonials from people all over Canada who have used our stock and poultry remedies and foods.

Mr. Geo. Mapes, of Bondhead, says, "After experimenting with a great many stock foods I was convinced there was very little virtue in any of them but your dealer insisted on my trying Royal Purple Stock Specific, saying it was different from the others. I keep ten to twenty horses and about the same of cattle. This Specific, in my opinion, is certainly in a class by itself as a conditioner and it is the best I have ever used."

Mr. Norman C. Charlton, Scott, Sask., says, "I am from Ontario. I have fed your Stock Specific in Brownsville. My cows, while using it made the largest average and tested five points over average at C. M. P., at Brownsville. I know you make the highest class conditioner on the market."

Dan. McEwan, the veteran trainer of fast horses, says, "I have used your Royal Purple Stock Specific continually for five years and in all that time I have never had a horse in my stable off his feed. I consider it the greatest conditioner on the market."

Malcolm Grey, of Komoka, says, "In regards to the feeding of Royal Purple, I had two lots of hogs. To the first lot I fed Royal Purple Stock Specific as directed, and sold them when six months, seven days old. They averaged 196 pounds. On the second lot I did not use any Royal Purple and when the same age they averaged only 150 pounds. They were the same breed and one lot had as good a chance as the other."

We have fed Royal Purple Poultry Specific also with excellent results. I would not like to be without Royal Purple in the stable."

Put up in 50c. packages and \$1.50 tins. These tins contain four 50c. packages.

"It's a Hen's Business to Lay—
It's Our Business to Make Her Lay."

Royal Purple Poultry Specific

Is entirely different from our Stock Specific and will keep your birds healthy and vigorous. It will make them lay just as well in winter as in summer. We are safe in saying this Poultry Specific is now being used by 75 per cent. of the poultrymen in Canada who are in the poultry business to make it pay.

Jno. C. McKinley, of Kent Bridge, Ont., states, "Since using Royal Purple Poultry Specific my hens lay all winter, and in the spring are in fine condition. We are now fattening a bunch of chickens. They look to be much bigger, fatter and stronger than those we tried to fatten without the Specific. I cannot recommend it too highly."

Mr. Lyman A. Whitman, New Albany, N.S., states he has used three boxes of Poultry Specific commencing Jan. 15th. The egg production increased at once. He states he finds it of great value for young chickens and turkeys.

Mr. Faulds, of London, one of the largest "show bird" men in Canada, says, "While using Royal Purple Poultry Specific I have never had disease in my flock. I have cured absolutely at different times severe cases of roup with your Roup Cure on birds which I have imported."

Royal Purple Sweat Liniment

Will cure all sorts of lameness, sprained tendons, etc. An excellent liniment for sore throats or rheumatism in people.

Mr. F. W. Moore, of Bradford, states, "I had a valuable horse go lame and tried several remedies, also employed a clever veterinary but it did not improve. Your agent in Bradford advised me to try Royal Purple Liniment. To my surprise one bottle effected a permanent cure."

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Will cure all the common diseases of poultry such as roup, pip, canker, swelled head, diphtheria and typhoid fever in fowl.

Mr. Gottfried Wein, of Crediton, Ont., states he had a large flock of turkeys last fall which commenced to die off three and four a day from roup and swelled head. He commenced using our Roup Cure and it not only saved the balance of his flock but it cured a great many of the birds that were already infected with the disease.

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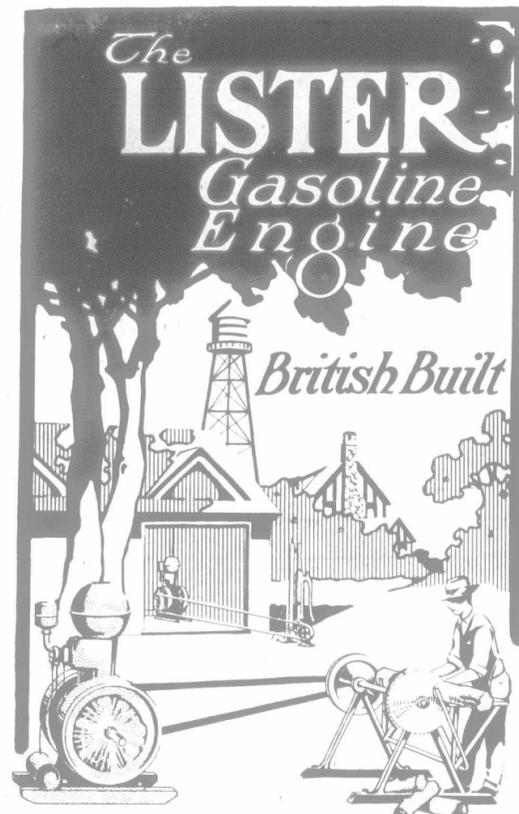
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7	40	22	5, 5 1/2, 7, 7, 7 1/2, 8	.24
7	48	22	5, 6 1/2, 7 1/2, 9, 10, 10	.25
8	42	22	6, 6, 6, 6, 6, 6, 6	.27
8	42	16 1/2	6, 6, 6, 6, 6, 6, 6	.29
8	47	22	4, 5, 5 1/2, 7, 8 1/2, 9, 9	.28
8	47	16 1/2	4, 5, 5 1/2, 7, 8 1/2, 9, 9	.30
9	48	22	6, 6, 6, 6, 6, 6, 6	.31
9	48	16 1/2	6, 6, 6, 6, 6, 6, 6	.33
9	52	22	4, 4, 5, 5 1/2, 7, 8 1/2, 9, 9	.31
9	52	16 1/2	4, 4, 5, 5 1/2, 7, 8 1/2, 9, 9	.33
10	48	16 1/2	3, 3, 3, 4, 5 1/2, 7, 7, 7 1/2, 8	.35
10	52	16 1/2	3, 3, 3, 4, 5 1/2, 7, 8 1/2, 9, 9	.35
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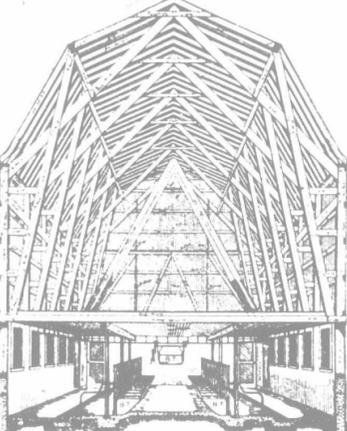
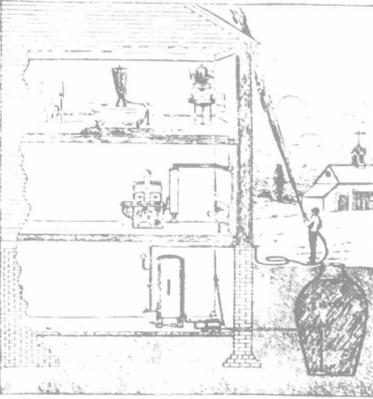
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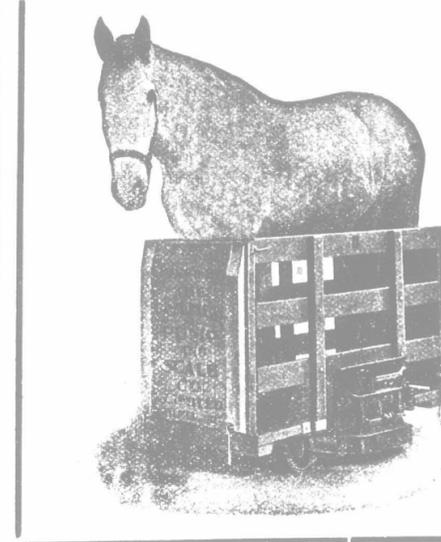
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The highest award in the Whole Milk Creamery Butter Class was made to Thomas Sadler, of Oelwein, Iowa, upon butter made with a De Laval Power or Factory Separator—score, 96½.

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The highest award in the important Gathered Cream Creamery Butter Class was made to the United Dairy Co., of Chicago, which uses both De Laval Separators and Milk Clarifiers, the prize-winning butter being made from cream gathered mainly from farm users of De Laval Hand Separators—score, 96¼.

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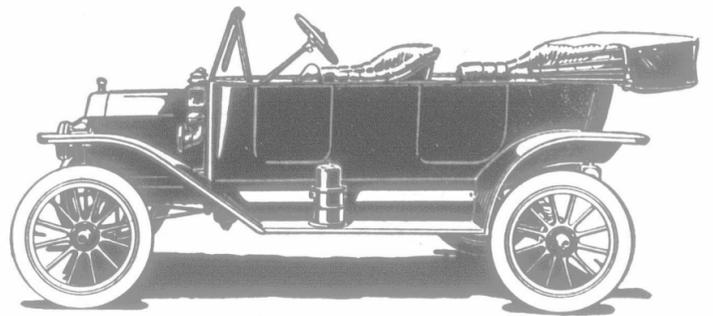
The highest award in the Farm Dairy or Home-Made Butter Class was made to Austin C. Higgins, of Andover, Mass., who happily is not only a De Laval user but a De Laval Local Agent—score, 96.

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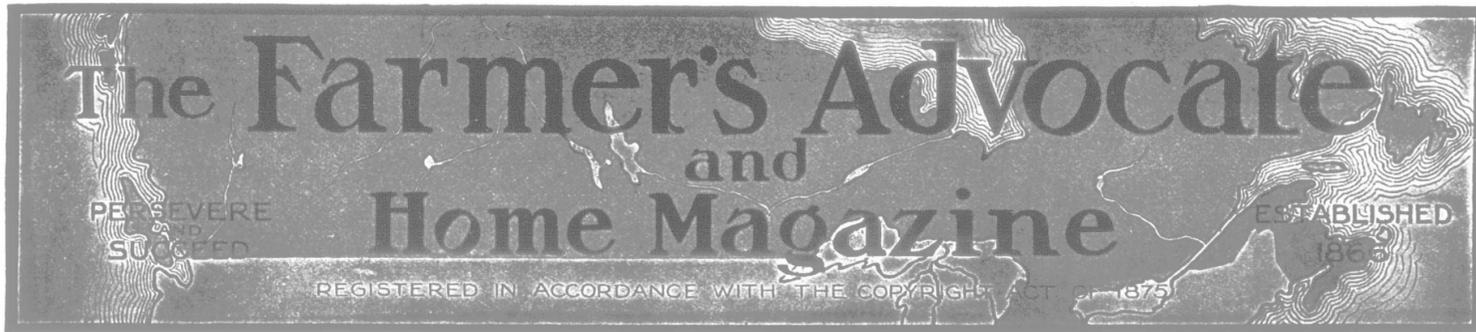
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Vol. L.

LONDON, ONTARIO, JANUARY 14, 1915.

No. 1164

EDITORIAL.

Have you put your ice in yet? It will be needed next July.

It is difficult to produce the best dairy products without nature's cooler, ice.

It is about time for the fellow "who has seen a thousand Januaries without a thaw" to begin to prophecy.

Walt Mason says that some men are afraid to chop too hard for fear the noise will drown the sound of the dinner bell.

Spring means a return to life, but unless something unlooked for happens it will mean death and destruction in Europe on a scale not yet comprehended.

If the rush of farm produce to market at certain seasons could be spread over the entire year there would be less danger of increased production forcing prices down.

We have often heard it said that cutting feed makes it go farther, but judging from the way cattle clean it up it goes rapidly cut. One thing, however, of which we are sure, there is less waste and the cattle get all there is in the feed.

If you have ten cows you need at least thirteen tons of ice, a ton for each cow, and three tons for the refrigerator and other purposes. Of course, more ice would be advisable, and two tons per cow is not considered too much by some experienced dairymen.

When the "Increase Production" campaign is at its height is a good time to apply some of the energy to the live-stock branch of farming. We must not forget that live stock is the sheet anchor of mixed farming, and that without it increased grain production is not possible.

With all due deference to our worthy correspondent, Peter McArthur, this is a good time to patch bags, not with hay nor with binder twine nor yet with wire nails, but with real patches cut from other bags beyond repair and sewed on neatly. A man can do this between chores.

If ever there was need of well-attended, spirited meetings of live-stock men it is this year. Members of the various associations should attend their annual meetings. There seems to be a crisis approaching in the live-stock industry in Canada, and live-stock interests must be prepared.

The real help you may do another by relating your success with some crop by certain methods of preparing the land and cultivating it, can scarcely be estimated. In this issue a correspondent points out that it is the duty of farmers to tell others through "The Farmer's Advocate" how they achieve results. He had an experiment in potato growing, and all our readers are given the benefit of his findings. Volumes of valuable information, the kind our readers are after, might be told by these people. Every one has a different experience, and each has learned something by experience which another would like to know. Our columns are open to these articles which are deemed among the most valuable published.

Organizing the Selling End.

Stockmen and farmers generally will watch closely the success of the new live-stock selling association recently formed in London, Ont. This new association to operate in Western Ontario plans to sell by public auction in London all the good stock which its members and other live-stock breeders in Western Ontario consign to it for disposal. It has started right. The capital stock is being sold to stockmen; each stockholder no matter what amount of stock he holds has one vote and one vote only; the capital stock is set high enough to ensure sufficient capital to operate successfully, and the organization needs only the support of the stockmen and an efficient manager to make it a great success. It has already passed successfully over the difficult places which have been the undoing of many other organizations of producers. Too often such associations are formed with altogether too little capital, and the members fail to add to it to keep the organization alive. Each share of stock carrying with it a vote has also been responsible for the crowding of farmers out of successful organizations, a clique of big shareholders soon driving the small holders out, and then they run the business to suit themselves not to suit the farmer. Also, the stock is being sold to stockmen, and the object is not high dividends but a better selling organization for the disposal of live stock. The next big point to get over is that of manager. Too many try to curtail expenditure to such an extent that they fail to see the value of a real good manager, a man who can command a fairly high salary but who is capable of earning that salary. It is better by far to pay a few hundred dollars a year extra towards the salary of a capable manager than it is to lose thousands of dollars through an incompetent, cheap man. The salary difference is simply the difference between efficiency and inefficiency. Of course, it is possible that a high-salaried man may prove a failure, but it is not so probable as with a low-salaried, inexperienced man.

We are glad to see a move being made to organize the selling end of the live-stock business, and hope that the doings of the new association will be such that many other like associations are formed in Canada.

Your Duty as a Member.

The first week in February there will be held in Toronto a series of live-stock association meetings which will be of vital interest to live-stock men this county over. As a member of an association, it matters not what that organization may be, it is the duty of that member to give the association his strongest support, and if it is at all possible, in his own interests and in those of the other members, he should attend such meetings. If every man would decide that the other members were no longer to do his business and that it was something which he should look after himself there would be a much larger attendance at annual meetings and each association would be strengthened thereby. This is not speaking depreciatingly of the business as done by those who do attend, but all that possibly can should come out. "Two heads are better than one", one hundred are better than twenty-five, and one thousand are better than one hundred. Let there be big meetings of stockmen this year. The live-stock industry must "buck up" or the "Increase Production" propaganda

will starve it to death by growing wheat which will in turn starve the land and the land holder until the land will no longer grow a profitable crop. What is true of the live-stock meetings is true of all associations. If you are a member it is your duty to attend.

The Council and the Future.

One is wrong to a certain extent and correct to a very large degree when he says that all community improvement is brought about through the individual's efforts in his own interest on his own holding. This statement does not pertain so much to educational and social institutions in the district. It relates to the fact that such and such a township is the most fertile, the most thoroughly drained, most heavily stocked with desirable animals, and has its farms and farm homes comfortably and conveniently arranged. It is gratifying to a citizen to be able to claim as his birth place a township that is prominent amongst sister districts as a fertile or beautiful community. The majority of public speakers allude to their respective counties, townships or ridings, only to be challenged or refuted by an associate speaker in favor of his own birthplace. We glory in the forwardness of our own little school section in proportion to the amount of pride we have in the nation or our flag. A feeling of patriotism and loyalty permeates the human being and follows the gamut of various steps down to our own farms and homes, and the man who is most loyal to his home is usually a good citizen and a loyal subject.

While our farms should be improved and made homelike, for homes they are as much as a place of business, there should be a mind in the council that could see beyond the next election day and conceive of a more beautiful township twenty years in the future than the one whose destiny he controls for the brief period of a year. Bridges should be built to last and roads must be improved, but beyond all that there is the general appearance of a township as seen by the passer-through. If we can please the super-critical eye of a stranger we may rest assured that the surroundings will satisfy the native of the community whose home and all are there. The corners in the highway intersections might be ornamented with trees. Weeds and underbrush should be cleaned from the road allowance, and cleanliness made a motto as it should be in the home and on the farm. Councils should include some good farmers who realize the bad effect of noxious weeds growing beside and sometimes up to the very wheel tracks of the highway; men with some conception of what such a practice means to the farmer contiguous to the road who is trying faithfully and diligently to grow a clean crop to re-seed his own fields or those of his neighbors or brother farmers. There is nothing more discouraging to a grain grower than to observe the seeds of thistles and other weeds blowing like down over his fields and lighting here and there throughout the growing crops with the promise of succeeding infestation. A few dollars expended here and there to maintain a road or repair a bridge is not the sole duty of our representative in the council. He should be able to view the whole township as one farm. He should endeavor to keep it clean, to improve it and enhance it as an agricultural district, so when he retires from office there will go with him the knowledge that he has done something to make his community a more livable place and a richer inheritance for the next generation.

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

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Lord Kitchener's Return from Calais.

The last issue of "The University Magazine," Montreal, contains a luminous and candid article by W. Peterson on "The War and Its Origin," in which space is taken to make clear the fact that England did not mean war, and was neither planning nor preparing for conflict. This very "unpreparedness," if we will, supplements the documentary and official evidence, irrefutably vindicates to the world if such were needed, the disinterested intervention of Great Britain on behalf of Belgium and lends moral force to her arms. That this should be kept clearly in the public mind is important, because of the deliberate attempts to justify the reversion of the real aggressor to barbarism and to mislead the unthinking with a cloud of blustering words or an amazing "plaint" of old men like professors Eucken and Haackel, who ought to know better, that "foes had disturbed them in their peaceful work." It was the Kaiser and the war lords who disturbed them and the whole world. An incidental circumstance which we have not noticed chronicled in the newspaper press, brings out like a flashlight the fact that Britain was not contemplating war, but was in word and in truth seeking to avert what, in the end, was forced upon the Empire. Writing from England, a young Canadian, who had been in attendance at the University of Paris, in a communication to a member of "The Farmer's Advocate" staff relates that on the eve of hostilities he crossed the English Channel on a steamboat which was conveying among its other passengers, Lord Kitchener actually on his way back from England via France to Egypt to resume his duties as administrator of the land of the pyramids. When he reached Calais a messenger from the British Government by wire recalled the soldier-statesman to London where the responsibilities of head of the war office were thus unexpectedly entrusted to him in the crisis precipitated. Had England been contemplating war, as sinister apologists have insinuated, it is simply incredible that such a situation would have developed. No! Britain was on the way of peacefulness, to her glory he it said, when she recalled Kitchener of Khartoum from Calais to assume the high and stern duties involved in keeping international faith and in defence of those suddenly assailed by a merciless militarism, now as always the foe of humanity and the enemy of the best interests of the common people.

Nature's Diary.

A. B. Klugh, M.A.

One of the most beautiful spots in the whole world is Lake Louise, in the Canadian Rockies. This exquisite lake is situated at an altitude of 5,645 feet above sea level, and together with Mirror Lake and Lake Agnes, constitutes the group known as "The Lakes in the Clouds." Lake Louise is about two miles long and about a mile wide, and lies in a basin between high mountains. At the end of the lake is Victoria Glacier which reaches a height of 11,355 feet, on the south are Mount Fairview, Aberdeen, and Lefroy, while on the north stand Mount Whyte, Niblock, and St. Piran, all peaks between nine and eleven thousand feet high. The water is of a peculiar and beautiful green, and the changing light at various times of the day and the different atmospheric conditions change the aspect of the lakes as in a transformation scene. But to see it in its perfection one must be up at sunrise—then in the smooth mirror of its surface every detail of its surrounding mountains and glaciers is reflected.

From Lake Louise trails lead in all directions. Ascending a thousand feet you come to Mirror Lake, and further ascent of three hundred feet brings you to Lake Agnes. This little lake lies on a shelf of the world 6,875 feet above sea level, on its south side rises the sheer side of Mount Beehive, and to the west are the rugged peaks called "Castle Crags." From Lake Agnes a little cataract falls to Mirror Lake. From Mirror Lake a trail runs to the summit of Little Beehive, and from this point a most glorious view is obtained. To the east one looks over the Bow River Valley, and over the mountains on the other side of the valley. Some idea of the vastness of this view to the east can be obtained from the fact that fifty-two peaks are in sight at once. To the north you look up the Bow Valley towards Field. To the south is the valley in which lies Lake Louise, with Mounts Aberdeen and Lefroy beyond, while to the west you look over Lake Agnes and Castle Crags.

Going south from Lake Louise you can take the trail to Paradise Valley. This trail, which runs for miles through the lovely alpine woodlands, follows Paradise Creek, a turbulent mountain stream, and crosses it several times. From various points along the trail you get fine views of Mount Temple, 11,626 feet high, the highest peak in this part of the Rockies, a noble, snow-capped, four-sided dome. Leaving the Paradise Valley trail you ascend to Lake Annette, nestling at the foot of Mount Temple. From one side of this little lake one of the sides of Temple rises sheer for some four thousand feet. Truly it is a land of scenic glory, this country about Lake Louise, the gem of the Canadian Rockies.

Why Agriculture Declines.

The Forest Free Press, dealing with the subject of "Why Agriculture Declines," gives some rather interesting figures regarding the status of agriculture in Lambton County as compared with conditions in 1903. The figures are from a report issued by the Provincial Government and from them the comparison has been made which shows the following figures for that county:

Grain produced, 6,936,000 bushels in 1903, and 6,576,000 in 1914, a decrease of over 300,000 bushels; roots, 1,448,000 bushels in 1903, and 1,181,000 in 1914, a decline of 267,000 bushels; hay, 135,000 tons in 1903, and 148,000 in 1914, an increase of 13,000 tons; in live stock on hand and sold there is a slight increase. On the whole the industry of agriculture is not making any progress in Lambton, one of the best counties in the Province, notwithstanding improved farming facilities and the prevalence of better prices. In the same eleven years the farm population has fallen off by thousands, while taxation, both Federal and Municipal, has nearly doubled. The reasons for this lamentable condition are not hard to find. The Canadian auto-cruacy, composed of the manufacturing, transportation and banking combines, have controlled legislation, and have loaded continually increasing burdens on agriculture, until it has ceased to be profitable. The boys raised on the farms do not remain there, but go into the professions and into other lines of business, simply because they find it pays better to do so. There is only one remedy. The electors who are interested in agriculture must do as the managers of the combines do, that is, unite in their own interests. The farmers are the only people who sacrifice their own welfare by refusing to break down party lines, and in spite of their superiority in numbers they have less influence in the framing of legislation than any other class. The war now going on will soon add enormously to the burden of taxation in this country, and all that additional burden will have to be carried by the farmers, unless they unite and break down the auto-cruacy that has been creating millionaires at their expense, and is now planning for further enrichment when the additional taxes have to be levied.

The foregoing is food for thought, not only for the people of Lambton county but for those of all Ontario and all Canada. The same factors which have operated in that county have operated in other counties. The influence of the farming class in framing legislation has not counted for much simply because there has been no unity of purpose on their part to cope with the solid front of other interests. Party lines must be broken before the rural population will get much consideration, the country voter has it in his own hands.

THE HORSE.

A Horse-breeding Association Making Good.

"The Farmer's Advocate" has always stood for community live-stock breeding, believing that in this manner certain sections of country could best promote their own interests in live-stock work by the number of farmers comprising the community, getting together and selecting one breed of each class of stock and combining efforts to make that breed excel. We have just received a letter from the Oak Leaf Horse Breeders' Association, an association formed with the community idea in view, and paying particular attention to the horse end of the live-stock business. The association operates in Leeds County and to date has met with good success. In the annual statements we notice that in 1907 the profits were \$804.80; in 1908, \$603.15; in 1909, \$673; in 1910, \$973.60; in 1911, \$902.55; in 1912, \$884.65; and in 1913, \$1,007.15. Unfortunately our correspondent did not give the returns for 1914.

The association commenced business seven or eight years ago when a number of farmers after considering the matter decided that it would be the best means of improving the horse breeding of their section. They decided on a heavy draft breed as being the most suitable to their conditions, and chose the Percheron as a basis for their operations. They bought an imported Percheron stallion at a cost of \$3,000. It was believed by many that the operation would prove rather a costly experiment, but the figures given show that the association has enjoyed the patronage of the district, and to quote from our correspondent's letter: "When the purchase was made it was thought by many that the shareholders would have considerable discomfort when they realized their disappointment from a financial standpoint, but on the contrary the figures show up in the credit column. That the anticipation of the association in the improvement desired is a success is beyond the question of a doubt. Outside of the shareholders many of the progressive farmers in the county immediately took advantage of the situation, and to-day are in the proud position of being able to show living proof of the above assertion either in the collar or on the halter."

The association has been fortunate in having good men in control, and the officers composed of president, secretary, treasurer, manager and caretaker and a managing committee, were re-elected for the ensuing year. A great deal of the success of the venture is due to the fact that the manager and caretaker has been a very competent man, fortunate in selecting broods. This is a good point for other associations to keep in mind. No matter what the association may be it is absolutely essential to have a competent man, and one interested in the business as manager, for to him is entrusted the greater part of the work which makes for success or failure in any business.

The stallion purchased by the association is now in his thirteenth year, perfectly sound and apparently as good as the day he was purchased. The results in this case should induce other districts to follow suit. It is a big undertaking in some instances for one man alone to purchase a real good horse at the price which he will command on the market. Three thousand dollars is a fairly good price for a horse, and a suitable sire should be available at this figure. Of course, some of the real toppers command more money, but even at \$3,000 it is quite an outlay for one man. A number going in together can easily overcome the difficulty and buy a better horse than one man alone feels that he can afford. However, in the long run the high-priced horse is always the cheapest. This is one way in which such a system is beneficial. Again, getting a number of men interested in one breed ensures a more uniform type of horses in the district, and it is much easier making sales where large numbers of a certain class and bred may be purchased in one small locality. Buyers like to go where they have a big choice, and, especially the larger buyers, prefer to get horses much of a certain type in localities where they can be bought in car loads or larger lots. Of course, it is necessary to have good, honest, energetic men in charge, men who are loyal to the breed chosen and who are ready to stand by their agreement

through thick and thin. Many syndicates have proven disastrous because of some dishonesty or lack of support on the part of certain of the members. Sometimes poor horses were bought at high prices but the price failed to deceive the public, and some man or men reaped a rich reward at the expense of the trustworthy individuals who were "nipped" in the transaction. Where the association starts out with the main consideration the improvement of the horse breeding industry of the community, and all are honest and upright in their dealings, and the right kind of horse is bought at a reasonable price there is no reason why the association should not receive the support of the horse breeders in the locality which warrants success. We are pleased indeed to hear of the success of this

association, and would like to see many more established along similar lines. The first thing is to decide on a breed, then get a few interested parties to take up the matter, purchase the horse, appoint the most capable man as manager, and see that the entire business is carried on as a paying business should be. It is well to avoid as partners in the deal men who are not mare owners themselves, and who are not directly interested in horse breeding. Such outsiders have ruined other like associations. The man not actually engaged in the business in which he becomes a partner is very often the man who needs most watching, and is the first to take advantage of the other partners when opportunity offers. The community breeding of horses should gain favor in this country.

8 pounds of this hay would contain according to analysis only a little over 3 pounds digestible nutrients. Thus it is plain that to get 7.06 lbs. of digestible nutrients something must be added. If we double the quantity of clover hay we have it. Thus with good average clover hay, according to investigators a 1000 or 1100-lb. horse could be kept from losing in flesh if fed sixteen or seventeen pounds of clover hay a day.

But perhaps it is desired to feed a few oats. Suppose we give the horse ten pounds of clover hay, then how many oats will be required to make up the ration? The ten pounds would contain .71 lbs. of digestible protein, 3.7 lbs. digestible carbohydrates, and .18 of digestible fat or 4.5 lbs. all told, leaving 2.5 lbs. to be made up. Five pounds of oats would make it up or about five quarts. Then you have it, five pounds of hay twice a day and a little over a half gallon of oats twice a day, or if desired the oats could be fed at noon, and a smaller feed of hay in the morning with the bigger feed at night. This is generally believed to be the best practice.

But it may be that the feeder would rather feed oat straw. How much oat straw will it require to produce 7.06 lbs. of digestible nutrients? We must get enough to supply .5 lbs. of digestible protein. According to analysis this would require 40 lbs. of oat straw, and this would contain all told a little over 16 lbs. of digestible nutrients, obviously too much straw. No account is taken however of the fact that hay containing more protein, a richer feed, and more palatable is more digestible for the horse. Forty pounds is too much straw to feed so it would be much better to cut this down to twenty pounds, or less, which would supply only about half enough protein but enough other nutrients and add 5 lbs. of oats daily which would make up the protein; or if it would be more desirable five or six pounds of clover hay would make up the deficiency. More could be given if desired.

What about timothy hay? It would require, according to analysis, 17 lbs. of timothy hay to give the necessary amount of protein. This would mean a little over 7 lbs. of digestible nutrients all told, or just enough to supply the demands of the 1,000-lb. horse not gaining or losing in flesh. It would be better, we believe, to give a few oats and in all cases a turnip or two each day, or a few carrots would aid in keeping the horse from going back.

Wheat straw alone is sometimes fed, but it is scarcely possible to maintain a horse on this feed unless something else is added in fairly liberal quantity. Horses have been known to starve to death on this feed, and it would require 65 lbs. of it daily to supply the necessary digestible protein for a 1,000-lb. horse. In conjunction with other feeds a little may be used to fill up but it is not good horse feed, being hard, full of fibre, and low in feeding value.

Corn is a fattening food, and is often given to horses being fitted for sale. Five pounds of it added to a clover, timothy or straw ration would add almost the total required amount of protein or about 4 lbs. digestible nutrients all told, so added to ten pounds of clover hay or ten or twelve pounds of timothy hay it should make a very good maintenance ration.

There are many other feeds which might be discussed, but this should give feeders a very good idea of what is required to maintain a 1,000-lb. horse. Remember that it is a 1,000-lb. horse that these figures have been made out for. If your horse is heavier simply add the proportion he is heavier and figure out the increased amount.

These figures are all based upon analyses made by noted experimenters, and, of course, the an-

The Maintenance Ration for the Horse

The farm horse in winter is generally an idle horse, or if not entirely idle gets only about enough exercise to keep him physically fit. Unfortunately too often he gets less than this amount and stocks in the legs or stiffens up as a result of inaction. As a general thing work horses go into winter quarters a little down in flesh owing to the rush of fall work and the good feeder, who always desires to see his horses in good flesh, feeds them fairly well for a time, gradually slackening as their condition improves until he gets them on a maintenance ration or at least a ration which keeps them from going back in flesh even though they do exercise regularly or do a little work such as drawing up the summer's wood or taking a grist to the mill.

The horse at best is a restless animal and it requires a certain amount of food material to produce the energy dissipated through his pounding around the stall, pawing, rubbing, etc. Investigators who have endeavored to work out a true maintenance ration for a horse have met with difficulty on this account but the farmer wants to know what amount of feed will be required to maintain his horse and at the same time produce the energy to meet the requirements of the restless nature of the animal. Experienced feeders know that it takes more to keep one horse in good flesh than it does another. This is largely due to a difference in disposition, restlessness if you like.

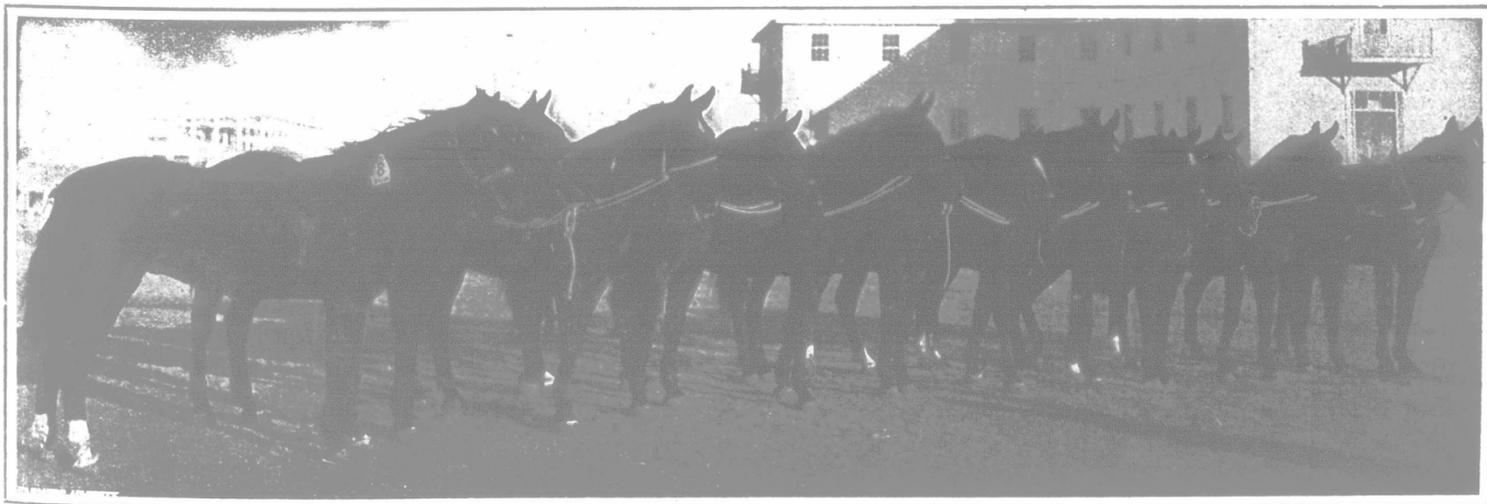
Investigators have found that it requires 7.06 lbs. of digestible nutrients to maintain the weight of a 1100-lb. horse when doing work. Of this amount 2.43 lbs. were required for the up-keep of the body, finally changed to heat and 4.63 lbs. needed to furnish the remainder of heat necessary to warm the body. Nutrients used to furnish the energy required for mastication and digestion are finally converted to heat to warm the body and so are not wasted and not counted in the ration. Of this Henry in his "Feeds and Feeding" says:—"Feeds such as poor hay, corn stover, and straw, which contain relatively little net energy, are lower in price than concentrates which supply much net energy. It is, therefore, usually most economical to formulate a ration for maintenance made up so far as possible of such roughages. So long as 2.43 lbs. of net nutrients are furnished for the up-keep of the body, the other digestible nutrients in the maintenance ration for the 1000-lb. horse may be used up in the work of digesting, masticating, and assimilating the feed. The net nutrients expended in external work and the nutrients used up in the work of digestion, mastication, and assimilation will then furnish sufficient heat to warm the body."

But there is a minimum protein requirement which must not be overlooked in formulating the maintenance ration for the horse. Experiments have shown this to be from 0.4 to 0.6 lbs. per thousand pounds live weight of the horse. Possibly it would be safe to say that on the average this minimum amount would be 0.5 lbs. per thousand pounds weight.

Then there is the nutritive ratio to be considered but this is not so important with horses as with dairy cows, for instance. A narrow nutritive ratio is not essential in a mature horse. Of course, the younger, growing animal requires a narrower ration than the mature horse. The point is to get enough protein but horses have been known to do hard work on a ration as wide as one to twenty-eight and not suffer. Horses have been tried at a ration giving a ratio of one to three and of one to ten, no appreciable difference being noticed, the little difference if any being in favor of the wider ratio. The nutritive ratio (digestible protein to digestible carbohydrates and fat) may vary widely without injury to the horse. This makes it possible to utilize the coarser horse feeds without danger of getting a ration which is too wide, that is provided the horse gets above the minimum amount of protein. It has been found that even with young horses doing hard work a ratio of one to seven is narrow enough to meet all requirements.

Now we have the amounts of digestible nutrients required, let us see if we can make up a ration from the every-day farm feeds which will fill the bill and feed the idle horse until such time as it becomes necessary to begin preparation for spring's work. On the average farm we find the common feeds hay, oats, straw and sometimes a little corn is used as horse feed, or as a conditioner a little bran or oil cake meal may be fed but these are outside the maintenance ration unless it be that a small feed of the former is given once daily to keep the digestive system in order. Good roots would accomplish this, however, and a turnip or two a day makes a great relish for the horse. Let us assume that the horse weighs 1000 lbs. and the reader can apply the rations to larger horses in larger amounts proportionately. A 1500-lb. horse would require approximately half as much again as the 1000-lb. individual and so on.

Let us take first red clover hay alone. How much, according to our own figures would it take per day to keep a 1000-lb. horse from gaining or losing in weight? We must get 7.06 lbs. of digestible nutrients and not less and 0.5 lbs. of digestible protein. In good average clover hay there would be enough protein in about 8 lbs. to supply the minimum quantity for maintenance and



Cavalry Remounts.

A selection from the draft of army horses presented by Saskatchewan to the British Government.

imals used were kept as far as possible in complete idleness with this exception: in one or two cases they got one-half an hour a day walking exercise. We believe that every farm horse, young or old, should get regular exercise in the winter, and to maintain the energy used up in this exercise it would be necessary, of course, to add to these rations. If a horse is out in the open yard three or four hours a day he will use up considerable energy, and possibly it would be well to add two or three pounds digestible nutrients to his ration. In looking over the rations it is seen that when straw is fed alone it requires large quantities to maintain the horse at his weight, and it is generally thought advisable in feeding straw to add a little grain to the ration, which makes the amount of straw necessary much smaller and improves the ration greatly. We would not advise feeding strictly to anyone of these rations. As pointed out in the beginning different horses require different amounts of feed, owing largely to their difference in disposition, but these should give some idea of the actual amounts of the various feeds necessary to maintain the weight and condition of farm horses during the winter season. These rations are not heavy enough to fatten horses or prepare them for spring work. They are maintenance rations.

LIVE STOCK.

Feeding and Management of Sows During Gestation.

During the period of gestation the sow should be kept in good, strong condition, but not overloaded with fat. Extremes in condition are to be avoided. The very fat sow is apt to be clumsy with her pigs, and sometimes her pigs are few in number or lacking in vitality. On the other hand, the very thin sow will either not do justice to her pigs, or will become a mere wreck herself during the time she is nursing her litter, and the chances are that both these things will happen. A sow may be kept in fairly high condition and will produce satisfactory litters, provided she takes plenty of exercise.

In districts where corn is plentiful, there is a temptation to feed almost exclusively upon corn. Such a method of feeding cannot give the best results, because corn does not furnish enough bone and muscle-forming constituents to properly develop the unborn pigs. It is also rather too fattening and heating to feed in large quantities to a sow at this stage. It is true that corn may be fed, but, as in the case of the boar, it must be fed with judgment. The ration recommended for the boar—namely, equal parts ground oats, and wheat middlings—will answer very nicely for the sow. The proportion of corn, if fed, should not be over one-third of the meal ration, and wheat middlings or bran may be used to dilute the corn meal without oats. In cold weather, if sows have a good deal of outdoor exercise, they may be fed more corn with safety than when they are kept pretty closely confined.

A meal ration which is preferred by the writer to all others is equal parts ground oats and middlings, leaving out corn altogether. It is possible, however, to use a wide variety of feeds, so long as the feeder realizes the importance of furnishing considerable bulk and of restricting the proportion of heating or highly fattening feeds.

As in the case of the boar, the sow requires something besides meal, and the furnishing of some such feeds as roots, or alfalfa, or red clover hay, is even more important than in feeding the boar. Skim-milk is also excellent, but is not always available for sows.

In summer a pasture field will furnish the bulky part of the ration, and, if sows are in good condition to start with and are given a good pasture, they will get along very well without other feed for two or three months. They should be given a little meal for several weeks before farrowing, to accustom them to its use, and render the change less violent when they are taken into the pens. With regard to the quantity of meal, the feeder must be guided entirely by the condition of the sow.

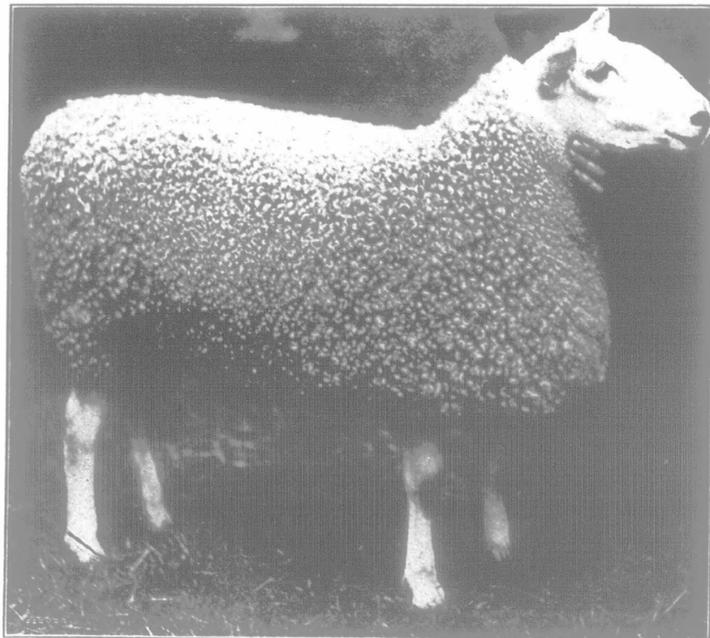
Meal may be fed either wet or dry. When roots are fed, a good plan is to mix the dry meal with pulped roots, though the feeder has wide latitude in regard to the methods he may see fit to follow.

In cold weather, when sows are fed outdoors, very little water should be used in mixing their feed. It will be found better to furnish them with water separately, should they require it. If they are fed roots they will take very little water in cold weather. It should be seen to, however, that they have water when they need it, and in hot weather an abundant supply of fresh water is very important.

A record should be kept of the date of service of each sow, so that the date of farrowing will be known in advance, and due precaution taken. A week or two before farrowing the sow should be placed in the farrowing pen, so as to become

accustomed to her surroundings and changed conditions before the pigs are born.

Constipation is the bane of the swine breeder, and if the sow becomes constipated before she farrows, the chances are that she will lose her pigs and possibly her own life. Constipation, therefore, is one of the main things to be guarded against at this time. When it once occurs very little can be done to overcome it and save the pigs, so that it is almost altogether a matter of prevention. If a sow is taken directly from a pasture field, shut up in a pen, and fed upon an exclusive meal ration, trouble is almost sure to occur. Radical changes in feeding are to be avoided, and the ration should be kept practically the same after taking the sow into the pen as it was before. If anything, the feed should be made rather more sloppy, and the green feed or roots should be supplied the same as they were before the sow was taken in. A small amount of linseed meal (oil meal) or ground flaxseed added to the ration is also helpful in preventing constipation. The wisdom of feeding meal to sows while on pasture for a time before they farrow can be readily appreciated, as it prevents a violent change in their ration. The sow should also be given a chance and encouraged to take exercise.—Prof. G. E. Day, in Bulletin 225.



The Best Leicester Ram at the Royal, 1914.

Up With the Pure-breds.

Editor "The Farmer's Advocate":

We used to point at our Jersey cows with a great deal of pride and say, "These are pure-bred." There was a certain exultation in the feeling that there was no foreign blood mixed with those Jerseys. It was true that they were pure-bred, and upon this fact there rested a great deal. We could often hear references from possible buyers when they would say, "You have the pure stock, haven't you? I will know where to get them now." Every sale, whether of a choice specimen of young bull or two or three heifers, always carried with it the conviction of the pure blood.

There are other considerations to take up in regard to the pure bloods. A man likes to own something of a little bit better grade than his neighbor, and if he can be exclusive to a degree in respect to the privilege of ownership he likes it all the better. To possess the only herd of pure-bred Jerseys or Berkshires in the community is some distinction, and if these same animals have captured the first premium at the fair the owner feels pleased beyond measure. It brings inspiration for greater accomplishment as well as content.

From every viewpoint the pure-breds are the most economical and the most profitable. Economical, because he who owns them is generally satisfied and usually doesn't feel inclined to waste his energy and time in making a fruitless search for something better, or in worrying about his future possibilities, provided he is a person who understands how to take care of his stock as far as the best treatment and consideration of that breed is concerned. It saves time for purchasers when looking round for good stock if they know one can be depended upon to supply their wants. Pure-bred stock generally command a big price without the usual demonstration of protest when the buyers hear of the cost. Buyers are usually willing to pay the price asked if it be not exorbitant and the stock is pure beyond dispute. They know they will have to pay for the real pure-bred.

Some farmers apparently believe that pure-

bred stock is a luxury which can be afforded only by the most progressive farmers, rather than an investment which would add greatly to their own income. Not long since a farmer and myself were in conversation as regards the raising of this class of stock, and after I had mentioned the advantages to be derived from them, he replied: "Pure-bred stock is all right and would no doubt pay, if one could sell it at high prices for breeding purposes, but I'm confident I couldn't do it. I'm obliged to sell my stock in the open market and cannot afford to pay high prices for stock to breed from." This is doubtless the opinion of a great many other farmers.

But let us look at the matter from another standpoint: First, let us see if it is such an expensive matter to get the foundation stock. Suppose a farmer goes to some reliable breeder and buys just one cow already in calf; she drops a heifer calf, and suppose she drops heifer calves half the time, and that her female progeny do the same after two years of age, for a period of ten years. How much of a herd would that farmer then have? By figuring it up, it will be found that if there were no losses, he would have a herd of 32 females, all old enough to become producers at once, besides 31 males to be disposed of in the most profitable manner possible to him.

This rate of production is, of course, extreme and in most cases would probably not be attained, but it is within the bounds of possibility with proper attention to details on the part of the breeder. It would, however, not be necessary that this rate be maintained to give the average farmer a good herd of pure-bred cattle within a single decade, from his original investment in one good cow. Considerable culling out could be done and still have a good herd. If the start were made with sheep instead of cattle, the figures given would be easily attainable with ordinary care, or if hog raising were made the speciality a sufficient number of good ones could be procured from a single female within a period of ten years to supply the entire community with foundation stock for pure-bred herds. With horses the result might be expected to

parallel those with cattle.

Viewed in this light, what farmer will say that he cannot afford to buy a pure-bred animal to get a start in the pure-bred business? Even if he has to pay two or three times the value of an ordinary grade for the first individual, every one of the animals which he produces will have a much greater value than scrubs. The increased value of live stock produced in a single decade would more than pay the first cost of an individual of good quality together with the increased service fees for the use of pure-bred sires, even if all the stock were sold in the open market. But this would not be necessary, for others in the neighborhood would be after them for breeding purposes at more than their market prices.

Johnson Co., Ill.

W. H. UNDERWOOD.

THE FARM.

Use Your Own Power.

Editor "The Farmer's Advocate":

Recently we had a survey in this county (York) and afterwards a vote to decide whether or not we should "put in" Sir Adam Beck's "hired man," namely, Hydro Electric. This was carried by an overwhelming majority in this township (Whitchurch), indeed it was a case of the Beck men first and the rest nowhere, only some 70 odd men going out to vote against it. In the meantime the "big interests" are doing all that they can to stop this popular vote from being carried into effect, but we believe if the township authorities "get busy" and put up a fight as they should, for public ownership, we shall yet see the wheels on farms here being turned by the mighty Niagara.

At present we are making out with other kinds of power; I run a 32-inch circular saw to cut hardwood, it being driven by two light horses and a Holstein bull weighing about twelve or thirteen hundredweight. His dam has a record

of 16,000 lbs. of milk in 12 months but this does not put him out of the working class, and he has to take his turn on the tread power two or three times every week. This he has done for two winters. He is two years old and sometimes has cut a load of soft wood all alone. I have seen him chew his cud for an hour steady walking about three miles an hour. We also drive a cutting box, 12-inch mouth, and can cut hay or straw as fast as a man can pitch it comfortably when we have everything running right. I figure that it will do easily the work of a six horse-power engine, and some men say ten. All you have to do is to drive them on and release the brake. We would not be without it for many times its cost, and with a sharp saw it will handle body hard wood six inches through as fast as hands can put it to it. We have a small pumping mill eight feet for pumping with and believe that with these two, the tread for heavy work, and the windmill for pumping, we have the cheapest combination possible, because we are utilizing the power which we already have, or rather which would go to waste, but still we would throw our hats up for Hydro and public ownership, and, say we, more power to Sir Adam's elbow.

York Co., Ont.

CHAS. W. GANE.

Plowing Down Rye a Success With Potatoes.

Editor "The Farmer's Advocate":

Dear Sir:—As this is the slack season I have time to write a few lines. I appreciate the farmers' letters in your paper very much and I feel it is a pleasure, perhaps a duty, to do my part if it is possible, towards added interest in its pages to some one.

Several things occurred last summer worthy of perhaps a moment's notice on my little farm and I believe we as farmers should be more like brothers telling one another of our real good things, and sympathizing and helpful to each other in our troubles, I wish to mention several of the real good things I found recently.

Last May, after seeding, being rather scarce of manure for my prospective potato patch, I arranged my plans thus: I wanted about three acres; I only had about 40 loads. I planted one acre by turning under well-worked soil and 30 waggon loads of manure and as I had heard of people ploughing rye under, and the owner before me having sown some the previous fall I ploughed under 1½ acres the 6th, 7th, 8th of June. It was 6 ft. tall out in head and I planted as I ploughed and after harrowing top-dressed with 12 loads of manure per acre. These plots were close together and results made me feel quite friendly toward the rye.

On the first heavily manured piece I had 140 bags salable potatoes but the dirt clung to them rather too much. Sandy loam inclining toward clay loam would be descriptive of the soil. In my rye field I had 180 bags of cleaner potatoes owing to the rye in which the potatoes seemed to lay, the rye straw still partially remaining and keeping the dirt from coming in contact with the potato. I wish to recommend the rye especially in soil inclined to clay. In sandy soil I would turn it under about the 24th of May, as it would rot more quickly and help feed the ground and in clay soils the heavier the soil the longer I would wait as the feeding of the soil is then probably not so important as to aerate and sweeten and to keep from baking is more necessary also it would have a tendency to cause the clay to warm up faster and then last of all, the more matured; when plowed under, more complete would be the wrapping up of the potatoes and when dug they shine from afar in their whiteness a wrapping not done by expensive hired help as they do in apple districts with fancy boxed apples but done day by day by nature. Is this not important, nature wrapping, cleaning, making ready for the market basket? Quality counts now—days, not quantity.

Dufferin Co., Ont.

FRANKLIN E. C. BETTSCHEN.

The big battleship seems but a poor match for the submarine, and some experts claim that with the fortress the dreadnaught is soon to be a thing of the past. It is believed that there is more chance of improvement in submarines and big guns than in battleships and forts. Inventions to destroy life may yet prove the main factor in a permanent peace.

Some of the awfulness of heavy artillery bombardment may be imagined from the statement that the projectile from a 42 centimeter gun bursting in a beet field made an excavation twenty-one feet deep and over sixty feet across the top, and the earth removed was so evenly and far distributed that its whereabouts could not be noticed. No wonder fortresses are obsolete.

Some Hints on the Value and Storage of Ice on the Farm.

Editor "The Farmer's Advocate":

Winter is here again, and it spells out "business as usual" for Jack Frost is evidently working overtime just now in his persistent efforts to produce the earliest and best crop of ice that we have ever had on our ponds, lakes and streams. I am sure that the commercial ice-men are realizing the value of these "cold snaps" to their business next summer, but I am not so sure that all our farmers are alive to the value of ice in their business, and fear they are not taking advantage of these days to make preparations to store the crop which nature is so bountifully providing, hence this article.

Ice may be put to many valuable uses on the farm, chief of which are the following:—to cool quickly the milk after it is drawn from the cows, and thus make possible its preservation in good condition until disposed of; to "hold" sweet cream; to keep butter, eggs, fresh meats, and fruits in the hot season and thus to have a greater variety and a more nourishing quality of food for the table use, and to provide available means for making ice cream, cool drinks, and other delicacies that too few of our country folk enjoy very often during the hottest and busiest season of the year. A very large proportion of our farmers may enjoy all these benefits for good ice is usually accessible in most districts, and the ice house, refrigerator and ice-cold-water tank are inexpensive items of the farm equipment. Let us make the ice harvest a record-breaker this winter and give the uses of ice a fair trial next summer.

Some of our readers, however, may not have an ice house, but, perhaps, would desire to store a quantity of ice this winter for the first time. It is not too late yet to provide a suitable ice house for a temporary one may be made with little trouble or expense in the woodshed, under

1 foot wide on each of the four sides and the bottom, and 2 feet on the top of the ice for sawdust. Thus if 20 tons of ice are needed the ice house would have to be 12 feet square and 12 feet high, inside dimensions, to accommodate the mass of ice which would occupy 20 x 45 or 900 cubic feet, or a space 10 ft. by 10 ft. by 9 ft., and also the amount of sawdust necessary for packing on all sides of the ice. It is highly advisable in building an ice house to make it long enough to provide a small milk room or dairy at one end.

As stated above, the building should be made of wood as it is a much poorer conductor of heat than other building material, such as brick, stone, iron and concrete. Use 2 x 4's for the sills, plates, studding and rafters, and 2 x 6's for the joists. Place the studding 2 feet apart. Construct the walls as follows:—Nail well-seasoned rough lumber on the outside of the studding, making close joints; then on this up and down over the studding nail 2 inch by 1 inch strips on the wide edge and finish with drop-siding. Nail all well. In order to provide good circulation between the two boardings leave the space between them open at the top by omitting the last board under the roof, and when putting on the drop-siding leave an opening 1 inch wide in it near the ground by placing one board of the siding with its lower edge drawn outwards made fast to the inner boards and studding by small blocks of wood. Build the ice door in two or three sections hinged to open outwardly, and cut pieces of 2-inch plank for placing on the inside to prevent the sawdust filling against the doors. Put on a pitch roof and cover it with wooden shingles. Build a simple ventilator on the ridge and a latticed opening or louvre in each gable for ventilation. If the walls are left open at the top as suggested there will be good ventilation in all directions through the top of the ice house, one of the most important factors in the keeping of ice.

Simpler and less expensive forms of an ice house than the one I have described may be used with very good success often, but in the long run the best is the cheapest and by all means the most satisfactory.

The harvesting, that is, the cutting, hauling and storing, space will not permit me to discuss at any length; suffice to say that this should be done co-operatively for the good reason that an efficient outfit consisting of ice plow, loading device, etc., could then be used to good advantage in lessening the cost, labor and inconvenience of this somewhat unpleasant work.

These few suggestions regarding the value of ice on the farm, the approved method of storing it to reduce the waste to the minimum, and the most effective system of harvesting the same, the writer trusts will be acted upon by a great many readers of this article, for he is convinced that too few of our farmers appreciate the value of the ice crop to their own business in the good old summer time.

Bulletin 207, of the Ontario Department of Agriculture discusses the ice question very fully and should be in every farmer's hands.
O.A.C., Guelph, Ont. R. R. GRAHAM.

Practical Hints on Storing Ice.

Editor "The Farmer's Advocate":

As the season of ice harvest is at hand and as many of those who store a supply for farm use in summer have but a comparatively small quantity to be preserved it is necessary that this receive the best attention possible in storing that labor be not in vain. Frequently the experience has been that in late June we look but ice has disappeared and we are discouraged in our effort to store this useful, and in most cases necessary, adjunct to the farm home and dairy. There are two or three factors necessary to successful preservation of the ice supply viz. drainage from below, some ventilation and good insulation. As a consequence the ice house need not be an elaborate structure as those requisites may all be found in more cheaply constructed houses. The most



Newtonian. Supreme champion at Norwich, junior champion at Birmingham and Smithfield.
A yearling Shorthorn steer.

an open shed, in an empty silo or mow, or in some old, worn-out building about the place, or even a new and more modern one may be erected if the weather be mild for a few days. In either case, particular attention should be given to the following points, the neglect of which is the reason why a good many farmers have poor success in keeping ice throughout the hot weather. These points are:—the selection of a cool and shady location for the ice house where the air circulates freely; the use of lumber for building material; banking the bottom of the house to keep the warm air from getting under the ice; good drainage, either natural or artificial from beneath the ice; free circulation of air in all directions through the top of the ice house; clean and dry packing material such as good sawdust well tramped in on all sides of the large mass of ice; very close packing of the cakes of ice; filling the chinks with finely broken pieces of ice to exclude the air as well as possible; storing the ice in freezing weather, and covering the remaining ice wall with dry sawdust each time any is taken out during the hot weather.

In planning for the building of the ice house, two primary estimates must be made; one, the amount of ice required, and the other, the space to hold it. As to the first, if the ice keeps well, 1½ tons of ice is enough to store for cooling the milk of each cow, and about 3 tons for the refrigerator and other minor uses. To figure size of ice house allow 45 cubic feet for one ton of ice when it is packed very closely and without sawdust among the cakes, and provide for a space

frequently used insulating material is sawdust, most used because in most localities it could, until quite recently, be had for hauling from the mill. Usually the ice house is prepared by throwing last year's sawdust, outside some time before ice packing begins and if weather is cold it is left out until warm days threaten the ice. The best results can only be obtained by keeping the insulating material dry. The best method we have tried, or seen tried is that of keeping the sawdust inside. Throw it on boards placed in the attic of the ice house and as storing proceeds keep the outside packed and tramped with the dry sawdust and if any new sawdust must be added let it be on the top. If from green timber it may be partially mixed with some of the dry material and heating be prevented. When spring weather comes give close attention to the ice-house, keeping the sides well packed. If ice is packed in this way each cake comes easily from its place, not having been left to thaw and freeze to its neighbor; there is very little waste on the surface layers and ice may be kept throughout the whole season. We have uncovered the bottom tiers of ice in an ice-house when putting up the next season's supply, almost as well preserved as when placed in storage the previous winter.

When through with our last year's pack we were informed by a butcher of considerable experience that if layers were placed one on top of the other in such a way as to break joints it also added materially to the keeping of the pack. We have not tried this method as yet, but pass it on as one that may be worth trying.

In conclusion we say "if at first you don't succeed try, try again." Our adequate ice supply adds comfort to the farm home and dairy in ways that those who do not provide it can learn only by experience.

Middlesex Co., Ont.

C. M. MACFIE.

THE DAIRY.

Methods of Creaming Milk II. EVOLUTION OF PAN SETTING.

Editor "The Farmer's Advocate":

When the early settlers came into Canada there were neither pans nor cans for setting the milk, and cream separators had never been dreamed of. The milk was probably set for the cream to rise in wooden troughs, hollowed from a basswood log, similar to the old-fashioned sap buckets familiar to our youth. These were difficult to cleanse, but they were cheap and as soon as they became too foul they could be burned, thus killing the microbes and making a hot fire at the same time. A new milk pan could easily be hollowed from a log with adze or axe.

After the wooden trough probably came, the unglazed crock and pan, made of earthenware. These were a slight improvement on the wooden vessel, but not much, as they were porous and difficult to clean. Next came the glazed crockery-ware, in which the porous pans were coated with a hard enamel making them sanitary, but these were heavy to handle and easily broken.

Tin pans having seams came next, and these were a great improvement over anything previous as they were light and not easily broken. They had one defect, the seams, not to well soldered, collected milk and that was difficult to cleanse properly. Someone happily thought of the plan to press pans from a block of tin thus doing away with seams, and this form of shallow pan continues to the present although some use granite or enamel-ware pans. The objection to these latter is that if the granite or enamel chips, as it will do if a pan falls, there is a spot in the pan very difficult to keep clean. On the whole, we prefer the tin pan pressed from block tin. These pans should be about four inches deep and ten to twelve inches in diameter.

SHALLOW PAN METHOD.

As soon as possible after the cows are milked, the milk should be strained into the pans, filling to within one-half inch of the top, so as not to spill when handling. A nice, cool cellar, free from odors, having a cement floor, windows screened, and no draft blowing over the pans to dry the cream and make it "leathery," is a good place to set the milk pans for the cream to rise. A pantry or refrigerator containing eatables, or a cellar with vegetables are not good places for pan setting, as the cream absorbs these flavors more or less and the butter is apt to be tainted.

The milk should set quickly—no jarring or disturbing of the milk in the pans should take place. It is for this reason that shelves or "springy" floors are not good for holding pans of milk set for the cream to rise. A cool cement floor is the best place, but one needs to be sure that cats, mice or rats can not get at the milk or cream. One scarcely relishes cream or butter after a mouse has committed suicide in the pan of milk. Flies also and bugs of all descriptions must be kept out of the milk cellar.

In 24 to 36 hours the cream should be removed by loosening it from the edge

of the pan with a thin-bladed knife, then allow a little skim-milk to run over one point to wet the pan, which will prevent the cream sticking. Then glide the cream into cream can or crock, taking as little milk as possible. There is a "knack" in doing this which is acquired only by experience. The old-fashioned perforated skimmer of saucer shape should be used only when the milk has become "lopped" or thick, a condition which should be avoided, although a slight "lopper" on the edge of the pan will do no harm.

After skimming, the pans should be emptied, washed first in cool water, then hot water, and be placed out of doors in the air and sunshine for at least twelve hours if this is practicable.

Before using, the pans should be rinsed with cold water to remove dust, and also to prevent the milk sticking, thus making unfavorable conditions for the cream to rise and also for washing.

In winter, so long as the milk does not freeze, the cream will rise on pans even in cold weather, hence it is not necessary to set the pans in a pantry, or on a table near the stove for the cream to rise, as some people imagine.

DEEP SETTING.

Following shallow-pan setting came deep setting or what some call the "creamer" method—incorrectly called, sometimes, the "creamery" plan. In order to have good results, the can should be about 8 inches in diameter and 20 inches deep, having neither glass nor tap in the side, and a simple cover such as a tin or granite plate. All the fancy frills on these cans mean added expense and extra labor to keep clean, with little or no corresponding advantages.

Immediately after milking, strain the milk into as many cans as may be needed, filling to within half an inch of the top, so they can be handled without spilling.

These should be set in cold water, having the water on the outside as high as the milk on the inside of the cans. A box, barrel, trough, or cement basin may be used for holding the water and cans, and this should be protected from the sun. In most cases, it will be necessary to use ice in the water to cool it properly and keep it cold until the cream rises, which requires from 12 to 24 hours. (We do not, as a rule, favor lowering cans of milk into a well, where the water is used for house or stock, as there is great danger of spilling some milk into the water and spoiling it. A better plan is to pump the water from the well for cooling the milk.)

To remove the cream from deep cans use an inverted, cone-shaped dipper or skimmer, having no wire rim at the top, so that the skimmer will readily go through the cream layer without disturbing it. Fill the dipper, then empty the cream into can or crock until all the cream is removed, when the milk should be emptied from the setting or creamer can, the can washed and put out of doors for a few hours before using. The main point to observe for good results in this method is to have the water cold, and maintained at a temperature of 45 degrees F. or under, but not below freezing (32 degrees F.) until the cream rises. A temperature of 50 degrees F. or above will cause an excessive loss of fat in the skim-milk from deep setting, for reasons which we explained under the theory of creaming.

Dr. Babcock has suggested that low cooling is necessary in order to prevent the formation of what he calls "Lacto-fibrin" in the milk, which entangles the fat globules and prevents them rising. This explanation has not been generally accepted.

THE CREAM SEPARATOR METHOD.

Since 1876 this method has been growing in popular favor, especially since the introduction of hand power machines, by which a farmer can cream his milk on his own farm as effectively as at a factory, where large power machines are used.

The best place for a cream separator on the farm is in a room adjacent to, but separate from the place where the cows are milked. This room should have a cement floor, sanitary walls, have screens on doors and windows, and the machine and room should be kept clean and free from dust.

The best kind of power is electric, where this is available. A small motor can be driven from an electric light wire, and thus save one person's labor at small expense after installing.

The best time to separate, or cream the milk, is immediately after milking, as the conditions are then most favorable. If separating but once a day, or if the milk is cold, it must be warmed to 80 degrees or 100 degrees F. before creaming.

The bowl should be warmed and wet with warm water before allowing any milk into it. About one pint of warm water should be put into the bowl, when speed is about half up. This is especially necessary in winter. During the run speed must be maintained uniform at that required by the manufacturer, which is usually marked on the handle of the separator. There is need of a simple, cheap speed indicator, showing at what rate the bowl is revolving at any time, because speed is such an important factor in get-

ting good results as we saw in the previous article.

As soon as all the milk has entered the bowl add about one pint of warm water (80 degrees to 100 degrees F.) to flush out the cream. Warm water is better than skim-milk, for the reason that the water is about the same specific gravity as the cream in the bowl, hence displaces it more readily than does skim-milk which is heavier than the cream.

The flushings may be allowed to go into the cream, but the operator should guard against allowing too much of this into the cream pail, which causes the cream to be too thin. As soon as all the cream is out, another pail should be put under the cream spout, or the spout be turned, into the skim-milk vessel, although there is danger of the bowl rubbing on the covers where the turning is not done carefully. This tends to spoil the covers and to throw the bowl out of balance.

All parts of the separator which come in contact with milk should be washed at once after using, and not once a day, or once a week as some practice, so it is said, although we can scarcely believe this to be true. A little soda in the wash water loosens the slime and removes the grease. The slime should be removed onto a piece of paper and be burned, not given to stock or chickens, as there is danger of spreading disease, if it be fed, or is thrown carelessly outside. Disease germs, if present in the milk are found in the bowl slime, or separator "mud."

After washing, the separator parts should go out in the air or sunshine in summer, and be hung near the stove, or other heater in winter. We have strong faith in fresh air and sunshine as disinfecting agents, hence advise dairy vessels to be placed outside whenever practicable.

The cream should be at once cooled in ice-water after separating, and before mixing with the cream of previous separations. Lack in this particular, and not properly washing the machine, together with too low speed are the main weaknesses of the hand separator method of creaming, assuming that a machine of standard make is used and that it is working properly in a clean room.

SPECIAL POINTS.

1. If the machine vibrates it is probably not level, the spindle may be bent, the bowl is out of balance or the bearings are worn or too tight. A vibrating machine never does good work.

2. If the cream is too thick or too thin adjust the cream or skim-milk screw, and look to the speed and feed.

3. Test the skim-milk to see if "close skimming" is being done. If over .05 per cent. fat is found in the skim-milk and the speed is up to, or slightly above, normal, the probabilities are that the machine is out of order and needs the attention of manufacturer or agent.

4. If milk is found in the frame or bowl casing it indicates improper joint at the junction of the bowl parts, improper adjustment of bowl to the covers, or the milk is allowed into the bowl before full speed is up and before the centrifugal force has made the rubber ring expand to fill the space between upper and lower part of bowl where the joint is made.

5. Should the machine run heavily, use kerosene to clear the bearings and use only a good brand of mineral separator oil—never vegetable oils, such as castor oil, as this gums and clogs the machine.

6. In spite of all our care there are bound to be variations in the fat percentage of the cream, due to irregularities in speed and feed, fat content of the milk and various other things of which we know very little, hence we need not be surprised if the tests of our cream vary as much as five per cent. from one delivery to another, or even from one month to the next, as it is practically impossible to have the cream of uniform test day after day.

Summing up, the shallow pan and deep pan or can methods will produce good cream if we have the conditions right; and we can make as good a quality of butter by these creaming systems as by the modern separator; but where more than five or six cows are kept, a cream separator will be a paying proposition for creaming the milk. However, the separator, and separator cream need some attention, as there are persons who produce poorer cream and make an inferior quality of butter after buying a separator, as compared with before, because they have not observed the necessary precautions, thinking the separator all that was needed.

O. A. C.

H. H. DEAN

Nothing is more valuable on the farm than a good supply of pure water. There is a shortage of water in many localities this winter, and where this is the case stock often do not get enough to satisfy their requirements. When "good digging" comes next summer new wells should be put down to ensure against a recurrence of this inconvenience and source of loss.

POULTRY.

The Cost of Producing Eggs.

It is rather difficult to come at a fair average cost of producing eggs, but it is generally conceded that on the average farm, where the hens are well fed, it will cost from \$1.00 to \$1.25 per year for feed. To this must be added, of course, the cost of hatching and growing the chickens to laying age. We believe that many farmers feed their hens on much less than \$1.00 each per year, but these are not all good feeders and they do not get the best results from their poultry. From experimental work done some time ago in the United States the average egg yield of the first year of laying was estimated at 166 eggs, this, of course, with extra good laying strain of hens and up-to-date feeding methods. It was estimated there that it cost on the average 69 cents each to hatch and grow chickens to laying age, and the average cost of keeping the mature bird (laying hen) one year was \$1.26. Adding the \$1.26 and the 69 cents, which was the average cost to hatch and grow, makes \$1.95, which must be returned the first year of laying to pay expenses. If the hens average 166 eggs, or nearly 14 dozen eggs each, the average price per dozen which would be required to pay expenses would be only 14 cents. Eggs average much higher than this during the season, but it is obvious that the greatest profit would be made from the eggs produced in winter when prices range around 50 cents per dozen rather than in summer when they drop to in the neighborhood of 20 cents. It is said that the average production of hens in Ontario is less than 100 eggs each annually. At a production of 100 eggs, if it costs \$1.95 to mature the chicken and keep it the first year of laying, eggs would have to average about 23½ cents per dozen in order to pay the cost. With a fair percentage of these being produced in winter the production should average this amount, but the hen that lays only 100 eggs in the year usually lays these eggs when every other hen in the country is laying, and when they are lowest in value, namely, spring and early summer.

The hen that lays 200 eggs in a year is the hen that lays the most winter eggs, large production and winter laying go together. The poultrykeeper who strives for large production must get winter eggs in abundance, and these give him a better chance to make profits from his hens. We doubt whether, at present prices of grain, a hen can be well fed for a year on \$1.25, especially in confinement. Of course, on the farm, which is undoubtedly the place to produce eggs economically, the hen with a free range has an opportunity to forage a good part of her living during the summer months, and the cost of feeding in winter is not so high as where feeds must be purchased from a dealer. For instance, almost every farm where poultry is kept has a supply of manure or sugar beets, or has access to red clover or alfalfa leaves. These materials go a long way toward winter egg production and cost very little on the farm. Grain also is available at first cost, and where skimmed milk may be had a small quantity of this soured will do the work of the more expensive meat foods which the man who is obliged to purchase all his food must get in order to obtain high egg production.

Another point we would like to mention is the value of table scraps for poultry. On the farm these generally go to the pigs where they are of considerable value; but, especially where no pigs are kept, they can be used to good advantage with the poultry. Potato peelings, apple peelings, scraps of meat, bread crusts and all such material may be put in a kettle together and boiled up, the whole making a very suitable mash for chickens and one which may be fed in the middle of the day with good success. It is these little things that go to produce profit in poultry keeping by increasing the egg production and reducing the cost of feeding to a minimum.

Steadily Improving

Editor "The Farmer's Advocate":
Please find enclosed \$1.50 being renewal of my subscription for 1915. In spite of the cry of "Hard Times" among the members of the general press we find "The Farmer's Advocate" at the top of its class and steadily improving. Many thanks to you for consistently being the Farmer's Advocate.
Elgin Co., Ont. JOHN BRADDON.

As a Friend in Need

Editor "The Farmer's Advocate":
May I take this opportunity of expressing my great appreciation of "The Farmer's Advocate" which I read from cover to cover and have received great help from it, also have often been cheered up by "Hope's Quiet Hour" which comes to me as a friend in need during my quiet hours.
Simcoe Co., Ont. CHAS. FULLER.

HORTICULTURE.

Report of a Pruning and Spraying Demonstration in Middlesex Co.

Editor "The Farmer's Advocate":
In the fall of 1913 at the request of the Elderton Fruit Growers' Association, the Agricultural Department sent W. F. Kydd to look over the ground and select trees for a demonstration orchard. Two rows in our young orchard which has been out about twenty-five years were selected containing twenty-five trees of McIntosh Red. When planting this orchard, among other new varieties, I planted fifty McIntosh but although I sprayed to a certain extent the apples on these fifty trees were, with the exception of one crop, not fit for packing, so I had two rows grafted to Baldwin and Spy. The loss was from scab or fungous disease, and so badly did they spot and crack as to be unfit even for home use. The trees selected in the old orchard were the standard varieties, two rows (twenty-eight trees) Spy, Baldwin, Greening, King, Golden Russet and two trees Fall Pippin. These trees had been pruned regularly according to the old methods. The Department sent an expert pruner, Mr. Smith, of the St. Lawrence district, who, with his men, gave the trees a thorough pruning and heading back. The McIntosh being younger did not require so much heading back. This pruning work was witnessed by many of the local fruit growers and some were of the opinion that the trees were ruined. As soon as the spraying season opened, I. B. Whale, District Representative of the Ontario Department of Agriculture, took charge and gave all the trees three thorough sprayings and the McIntosh a fourth, the first or dormant spray, lime sulphur, the others with

about seven hours. The other sprayings as previously mentioned were done with the power sprayer, a boy driving and two men holding nozzles and it required about five hours each application.
Middlesex Co., Ont. E. T. CAVERHILL.

Growing Tomatoes for the Early Market

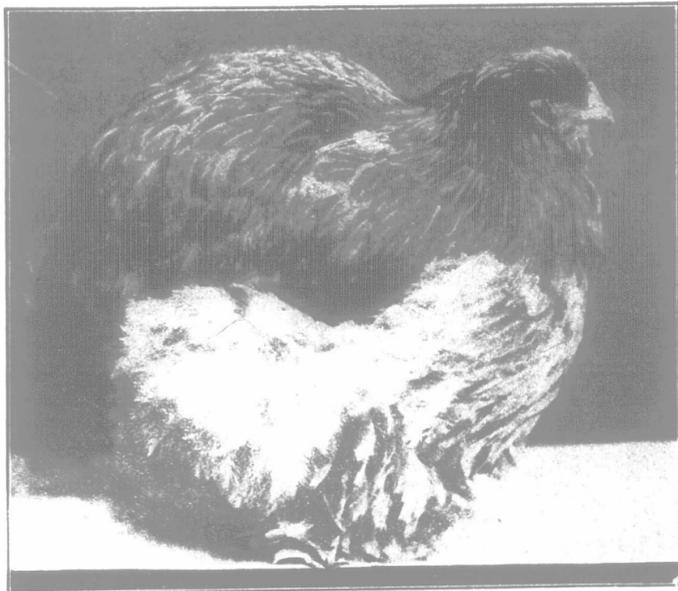
Editor "The Farmer's Advocate":
In growing outdoor tomatoes for the early markets when prices range from \$1.50 to \$2.00 per eleven-quart basket, there are a few points that must not be overlooked by the grower who would obtain these prices for the early part of his crop. The man who can ship a fair percentage of his crop while the markets are in this condition will have no difficulty in disposing of his produce and of making his crop pay. The first and probably most important point is the preparation of the land. We have found by experimenting that we get the best results from land that has been well cultivated and heavily manured just before planting appears to develop the plants at the expense of at least the earlier fruits, and as it is the early fruits that pay us best we are prepared to sacrifice a little in productiveness later on in the season if we can get the first two or three trusses to set and swell to a fair size, and ripen while the prices are high. The land should be cultivated as soon as it is dry enough to work in the spring and be kept stirred until planting time to conserve as much moisture as possible.

We aim to have good "stocky" plants with the first truss of bloom set, ready to plant out at the end of May or the first week in June. We usually plant some out earlier than this and take the risk of getting them killed by late frosts. If the season proves favorable, and there are no late frosts, these plants generally give us our most profitable crop, so that when plants are plentiful it is worth while taking the risk. Of course, some years we are caught and have to replant, but even then the loss is not very great and we think it pays us to do it, as the higher prices from a successful crop more than pay for the loss of a few plants and the labor of setting them out.

We raise our own plants starting the seed in the greenhouse in March and pricking off into four-inch paper "dirt bands" as soon as the plants are big enough to handle. These are moved into cold frames when the plants have started to grow and are kept growing steadily until planting out time, when they are loaded onto the wagon and drawn to the field where furrows are plowed out as needed about four feet apart. The dirt bands are stripped off and the plants set in the furrow and soil drawn round the roots with a hoe. Usually we have three men setting out plants and one with a hoe covering the roots. We find the paper dirt bands are a great help in giving the plants a good start as the roots are not disturbed in any way and the plants scarcely feel any check from moving. The bands are cheap, they reduce the cost of planting out, and what is quite important, they save time during the busiest part of the year.

By raising our plants in this way and planting on land that has been deeply and thoroughly cultivated but is not too rich we have been able to ship tomatoes as early as any grown in Ontario. Last year we shipped every other day for three weeks when prices were between \$1.25 and \$2.00 per basket. We give the plants a very light dressing of commercial fertilizer about every two weeks until fruit begins to ripen and cultivate every week as long as we can do so without injuring the vines. Last year we made experiments with some plants trained to a single stem and tied to stakes. We found that the fruit ripened a little earlier than it did on plants that were not tied up and was cleaner and smoother, but we have not yet tested this method out fully enough to satisfy ourselves that this is a more profitable method than the old one of allowing the plants to lie on the ground.

Strain as well as variety appears to influence the earliness of ripening to a greater extent than



A Champion Hen.

Buff Cochin hen from the Hobbhurst Poultry Yards, Whitby, Ont., and winner of the female championship over all breeds at Guelph, and pronounced by some judges the most wonderful hen ever produced.

the addition of arsenate of lead, using my big power sprayer and covering trunk, branches and foliage thoroughly with the spray.

Some of the McIntosh did not bloom but we packed thirty-nine barrels, thirty-four No. 1 and five No. 2 besides what were required by Mr. Whale and myself for exhibition purposes. This demonstration we considered an unqualified success.

On the two rows in the older orchard the heading back was much more severe and the results not quite so good. The two trees of Fall Pippin were nearly all No. 1 grade of large size and good color, but the apples on the winter varieties although perfectly free from scab, fungous and codling injury did not seem to mature and color quite so well as on the trees of the same varieties growing beside them and pruned in the ordinary way without heading back. This was more noticeable near the ends of the large branches that were headed back. Our theory is that the sap did not continue to reach the apples of the later varieties, where so severely headed back, some of the branches being quite large where cut and we think probably this severe heading should be done in June and the end of limb waxed as in grafting. We cannot give the percentage, our winter apples were all packed No. 1.

Regarding the spraying, it required fifty-five pounds of arsenate of lead and forty-five gallons commercial lime sulphur. Two men applied the first spray with a hand pump and it required

is commonly supposed. Varieties that have given us good results are Earliana and one of our own raising known as the Ideal. We save our own seed, selecting the best fruits from plants that give us the earliest ripe fruit and appear to possess good yielding qualities. In this way a strain can be built up that will give ripe fruit several days earlier than will the ordinary strains of the same varieties.

Norfolk Co., Ont. C. GAUTBY.

Forcing Vegetables in the Cellar.

Farmers have a direct advantage over other people in the means at their disposal for providing themselves with fresh vegetables during the winter months. A bulletin issued by the Agricultural College, of Ohio, lists all these various means under two heads, namely storage and forcing. The matter of storing, of course, must be practiced in the fall before freezing, yet it is not too late even now to acquire a few roots or crowns of various vegetables that may be wintering over in the ground and re-instated in the cellar, when they may be forced into early production. Rhubarb and asparagus may be handled in this way, but it would have been better had the crowns and roots been taken up in the fall and allowed to freeze. Eliminating the trouble of procuring these roots or crowns from the frozen ground, they are just as good when taken in the winter. A few crowns of rhubarb could be taken up six or seven weeks before the fresh article was required. They should be installed in moist earth in the cellar and imbedded right side up. The temperature of the room should be 50 degrees or more, if possible. The stalks will begin to grow in a short time, and they may be cut until the crown shows signs of exhaustion. These crowns may be refrozen and returned to the garden in the spring if desired. A dozen good crowns will supply an ordinary family.

It is more difficult to procure the roots of asparagus for this purpose, but if they could be obtained some, three years old or over, might be put in the forcing room in the cellar and covered to the depth of about five inches. The soil must be kept moist at all times. These asparagus tips should be ready for cutting in about twelve weeks after the forcing is started, and the growth may be kept up for three or four weeks. The temperature should be maintained at between 55 and 65 degrees.

Winter Care of Asparagus.

Much of the success with asparagus results from treatment at other times than during the growing season, in fact, the yield depends but little upon the care it receives during the early growing months of summer, while the fall, winter and early spring treatment is largely responsible for the production. Prof. Montgomery of the Ohio State University claims that the tops should be cut and burned at the close of the season. The season in this case does not refer to the cutting period but after autumn frosts have come. This management serves a two-fold purpose. First, it destroys many of the spores which are responsible for the prevalence of asparagus rust, and it eliminates to a large degree the hibernating places for the asparagus beetle during the winter season. A sharp hoe or scythe is used to cut the tops which are gathered into large heaps and burned. It is out of the question to try to work large tops into the soil without some previous treatment, and the organic matter they would supply would possibly be added cheaper in some other way.

The next step is to apply stable manure to the ground during the winter after the ground is frozen. Twenty to thirty tons per acre, evenly spread, is advised. The manure should remain on the ground until spring, when the coarser portion may be removed to allow a thorough disking of the ground before the edible stalks approach the surface. Such treatment largely increases the organic matter in the soil, adds fertility, protects the plants from excessive freezing, and, providing the mulch is removed in early spring, advances the growing season. If the mulch is not removed early in the spring it only serves to retain the frost in the ground and thus delay growth. The crop of cuttings depends very considerably upon the after-growth of the plants and upon the fertilization and cultivation which is given to the plantation.

FARM BULLETIN.

C. V. Robbins Holstein Sale.

Owing to its being lost in the mails a marked catalogue giving buyers and prices at C. V. Robbins big Holstein sale did not reach this office, and we are unable to give a full list of buyers. Mr. Robbins writes that the attendance at the sale was fair, but the day was very cold. Wellandport is not in a Holstein district, and most of the buyers were from a distance. While the

prices were not phenomenally high they were fair considering the prevailing financial stringency. Mr. Robbins also intimates that it is rather difficult to hold a successful auction sale, and retain as foundation stock the best animals in the herd. Three sisters bred at Willowbank brought \$870; three two-year-old heifers brought respectively \$200, \$195 and \$150; four yearlings averaged \$101 each; five bull calves under eight months of age averaged \$72.50; a three-months-old son of Spring Brook Queen Canary 2nd brought \$130; seven heifer calves averaged \$160 each, many of them being only about three months old. It was a very successful sale, and, as Mr. Robbins bred up this good herd, is "more proof of the pudding."

The "Royalton" Holstein Sale.

The sale at the "Royalton Stock Farm," on Dec. 22nd, showed that Holstein breeders are doing business as usual notwithstanding the cry of war depression. The day was very, very cold and roads were blockaded, but where there was a will there was a way, and representatives from every part of the Province were there, some not arriving until the sale was half over. The cattle were choice, good size and in fine condition. The young stock showed the results of good selection in herd bulls and in good feeding as calves by very few faulty cows. Mr. Gilbert's foundation cow, which he purchased some eight years ago, was sold in the ring, and she looked as nice and fresh as in her younger days and realized nearly the same money.

A tent was placed next to the stock stables, and the cattle brought onto the sale platform. The bidding was spirited and everything went rapidly, showing that Holstein men need no coaxing for a good thing. David Coughell produced some fine material and in grand condition, and for quality and record they did not go to their value. T. M. Moore, of Springfield, wielded the hammer.

The following is a list of cows and young stock selling for \$100 and upwards. The herd bull Ormsby Hartog 16174 was not sold. A reserve bid of \$300 was placed on him. He is a grand herd header, large, good bone, smooth, and his stock, just beginning to arrive, are of the very best:

Hengerveld Beauty.....	\$160.00
Veeman Beauty.....	110.00
Dorliska Princess.....	100.00
Princess Abbekerk Dorliska.....	180.00
Lily Bess 2nd.....	135.00
Bessie Beets De Kol.....	145.00
Lily Bess Abbekerk.....	145.00
Lily Posch De Kol.....	160.00
Celicia Beets De Kol.....	175.00
Celicia Pauline De Kol.....	160.00
Celicia Abbekerk.....	160.00
Frances Fairmount.....	135.00
Francis Fairmount Veeman.....	160.00
Dorel Netherland.....	115.00
Dorel Netherland Abbekerk.....	112.50
Teake May.....	230.00
Kathleen Ormsby Paladin.....	200.00
Molly May.....	145.00
Molly May Beets De Kol.....	190.00
Molly Abbekerk.....	150.00
Molly Korndyke (six months).....	100.00
Verstella Wayne.....	125.00
Bermude Aaggie Mercedes.....	130.00
Nancy Wayne of Yarmouth.....	195.00
Dorliska Wayne.....	165.00
Clara Houwtje Wayne.....	185.00

Winter Notes.

By Peter McArthur.

Why is it that a yearling steer small enough to poke through any crack in the fence that leads to mischief, and that doesn't look much bigger than a good calf loo's as big as a side of a house when turned into beef? If I had been away when the slaughtering was done and had come on the suspended carcass unexpectedly, I would have thought that the biggest cow on the place had been killed. And it didn't seem any smaller when I started in to cut it up for curing. I hunted up a chart in a cook book and commenced to do the work scientifically and artistically. After cutting the carcass into quarters I followed the chart until I discovered that it was meant to show the best cuts, and each cut was so big that it would have to be cooked in a sugar kettle. I saw that I would have to cut each piece into smaller sizes, and I had no specifications to help me. Not being posted in animal anatomy I was just as likely to start sawing a bone lengthways as crosswise. It didn't matter what direction I cut in I didn't go far until I struck a bone. It seemed to me that the animal must have had about twice as many bones as it needed. It took me a whole forenoon to cut one fore-quarter into sizeable boils and roasts, and I made up my mind that I wouldn't take up the butchering business unless driven to it by necessity. In the afternoon a man who was used to that kind of work came

along and started to carve the remaining quarters with an axe. He did the three quarters in about the same time as I was doing one, and he was entirely welcome to the job. It seems to me that the makers of charts for beef-cutting should go more into detail than they do. The one I have cuts each side into only sixteen pieces, and I found it necessary to cut each side into forty or fifty pieces. This left altogether too wide a margin for original research work, but the job is done, and we can stand a siege for the remaining months of the winter. This is the way it used to be in the "good old days," when every farmer killed a beef in the fall.

This winter the business of churning has forced itself on my attention, and I am fervently hoping that the Hydro-Electric will come through this district so that I can turn over the job of churning to Niagara Falls. A good, persistent water power is about the only thing that can attend to a churn properly at this time of the year. In the summer-time it didn't bother me. We have a barrel churn of the kind that you work with a foot tread, and as the butter usually came in a few minutes in the summer-time churning was no harder than a brisk walk. But the last churning I had to do took over an hour, and I was out of breath, and felt as if I had walked from here to Montreal before it was done. I overworked the muscles in the backs of my legs so that when I went out to do the chores I walked like a horse with the spring-halt. The trouble I had reminded me that in olden times churns used to be bewitched, and I was getting suspicious that some one with the evil eye had overlooked the cream, but when I began to talk in this way I was gently set right. I was told that the trouble was due to the fact that the cows had been milking for six months or more, and that I was lucky to be able to get the butter in an hour. I was also told that in some homes churning is regarded as a regular form of indoor exercise. Sometimes they churn for a whole week and then give up without getting the butter. This does not make me feel particularly cheerful, for I understand that the longer the cows have milked the longer it takes to get butter, and before spring I shall probably be putting in all my spare time on that churn tread-mill. The worst of it is that the churn is too heavy for the children to be able to work it, and I have to do it myself. If the Hydro-Electric doesn't come to my rescue I may be forced to get one of the old-fashioned dasher churns of the kind that we used to have a riddle about.

"Big at the bottom and small at the top,
With a thing in the middle that goes whippity-whop."

The children can work that and solve riddles at the same time.

I notice that Mr. Klugh has been asking for information about the Bob-Whites or Quails. They used to be quite plentiful in this district, but last year they became scarce, and this year they seem to have disappeared altogether. Three years ago there were two large flocks on this farm, and flocks on every other farm in the neighborhood. I used to see their tracks crossing the road in all directions, but although I have been driving quite a bit I haven't seen a quail track since the snow fell. This is quite a disappointment, for I was hoping that when the little trees that had been planted in the wood lot grew large enough to afford cover we should have plenty of quail. Although the little trees are still small there is abundant cover, for since the cattle were fenced out several thick briar patches have made their appearance. They are just the kind of places that I used to approach on tin-toe in the old evil days when I ranged around the country with an Indian Chief muzzle-loading shot-gun. I thought the rabbits had also disappeared for there were no tracks during the first week or two of the cold weather, but now they have beaten paths leading to the orchard where they find frozen Ben Davis's. I would gladly exchange all the rabbits for one pair of cherry Bob-whites.

Ontario Apples Win Again.

For the second time Ontario apples have won the grand sweepstakes at Rochester in competition open to the world. This is a duplication of similar winnings last year. The first prize apples on this occasion were exhibited by W. V. Hamilton, of Collingwood, who grew the apples in his own orchard. The second prize in the same class was won by fruit grown on a demonstration orchard operated by the Provincial Fruit Branch. These two entries competed in the only class open for competition outside the State of New York. These results plainly manifest the superior quality of Canadian-grown fruit.

B. Leslie Emslie, formerly head of the German Potash Syndicate, Toronto, has received an appointment under the Agricultural Instructors' Act and has gone to the Agricultural College, Truro, N.S., to commence his new duties.

Dairymen of Eastern Ontario Meet at Peterborough.

On thirty-eight different occasions the Dairymen's Association of Eastern Ontario has met in annual convention. The last assembly was held in Peterborough, on January 6th and 7th, 1915. Several years ago the same institution directed its members to that town to hold their annual rally, and while the industry has grown in that period of time and questions relating to the business are just as important, numerous and difficult to solve, the farmers in the Peterborough district did not respond to the invitation to be present in as large numbers as they did on the former occasion. The weather was unfavorable, during one day, that is true, yet the farmers of Eastern Ontario each year neglect one of the greatest opportunities of the season to keep in touch with their own business and at the same time learn more about it. All sorts of activities are compassed about this year by peculiar and trying circumstances, and the general slowing-down and tightening-up in all expenditures from the largest to the smallest may have accounted to some degree for the smaller attendance than is customarily recorded by the Eastern Dairymen's Convention. Again after nearly four decades of vigorous work the Association has acquired a certain degree of perfection in the manufacture of dairy products, and, as we approach that point of superiority and as the farmers approach that degree of excellence, it is felt that little improvement can be made, and human nature assumes a shroud of self-satisfaction. Eastern Ontario dairymen can yet improve in their products, and they should not think of their position as impregnable or unassailable. Other provinces are being heard from, and it is up to the dairymen of Eastern Ontario to put forth every effort and attain and maintain the highest pinnacle of perfection in the manufacture of their products. Although not attended as it should have been the Convention was interesting, and conducted in such a way that features relative to the production of milk and all its products were discussed and the smally problems untangled. It was mutually agreed upon by all the members in quiet conversation that the addresses delivered at the Convention this year were the best that have ever been presented to that body of men.

The thought of the Convention was, if so many men can be of one mind and all were agreed as to this, that the chief failing with the industry is the lack of sufficient fodder produced on the farm to feed the herd in a suitable manner the year round. Mr. Publow asserted that, in his opinion, eighty per cent. of the cows in the country could be made to double their production if adequate quantities of fodder were produced. And further still in spite of the instruction at first hand and the liberal amount of literature handed out to the farmers the same old defects still exist, and only fifty per cent. of the producers handle their milk and land it at the factory in such a condition that the makers are able to put out a first-class article. The other fifty per cent. spoil the whole leaven. There is a sunny side to the circumstances surrounding this industry, however, and it is that milk is now being better cared for, stables are made more sanitary, and cleanliness is contributing to the up-building and improvement of the enterprise.

For the year now past J. A. Sanderson, of Oxford Station, has been President of the Association, and in opening the Convention he drew attention to the important features of the work during his regime. A year ago, owing to changing conditions, there was more or less discontent and uneasiness in the minds of some dairymen, particularly producers. The results of the past season's business, in receiving the highest prices ever paid in the history of the industry, has proven that the uneasiness was unwarranted and should convince the dairymen of Eastern Ontario that they need have no hesitation in engaging in this branch of agriculture as extensively as their conditions will allow. For some years past the officers have been forced to report annually a decrease in exports of cheese from those of the previous years. Nineteen fourteen is no exception in this regard. However, while the decrease in exports from 1912 to 1913 was about nine per cent., the decrease from 1913 to 1914 is only about five and one-half per cent. Relative to this condition the President drew attention to the fact that the average selling price of cheese during 1914 was about one cent per pound greater than that of 1913. When this increase in selling price is taken into consideration, the cash receipts for 1914 will total very little under those of the preceding year.

The creamery business has for some years shown a steady growth, and during the last season three more creameries have commenced operations in Eastern Ontario, while several factories equipped for making both cheese and butter are increasing their output of the latter each year. The butter produced in Eastern Ontario is consumed largely at home, consequently export statistics are of little value, yet those now to

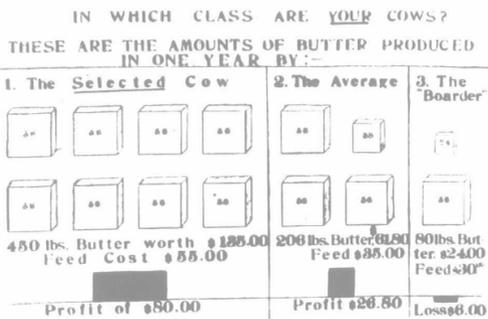
hand are gratifying in that they show a growth. Prior to 1912 exports in butter were a negligible quantity, while in that year 70 packages were sent out. This grew to 1,728 packages in 1913 and to 7,300 packages in 1914.

The urban milk and ice-cream industry has made rapid strides which naturally accounts for a large part of the decrease in the production of cheese.

PROGRESS IN COW TESTING.

C. F. Whitley, in charge of the cow-testing division of the Department of Agriculture, at Ottawa, reviewed the old story of cow testing, but with it brought new evidence of the great value of that practice on dairy farms. As a result of his work dairymen formerly content with 4,000 pounds per cow now talk freely of 7 and 8,000 pounds of milk as a herd average, and the same men aim even higher. Mr. Whitley's arguments in favor of cow testing are always grounded on actual experiences on Canadian dairy farms. In taking a survey of 650 herds in five eastern provinces of Canada he contrasted the best cow in each herd with a poor one, the lowest yield but one, and obtained the following result: Valuing fat at 30 cents per pound and allowing \$35.00 as the average cost of feed, each one of the best cows gave as much profit above that feed cost as was made by fifteen cows of the poorest type. This comparison of 1,300 representative cows surely points out one great want. A better supervision and direction of willing, but at present quite erratic, cow energy is urgently needed on many a farm to-day, with fifteen to one the odds are altogether too unequal.

The argument is timely in view of the claim that there is an investment by dairymen of from \$500 to \$1,000 for each gallon of milk produced per day. Thus the efficiency of each cow is no slight consideration in our huge business of milk manufacture.



What Three Cows Have Done.

The accompanying chart gives us a diagram, the comparative yield in boxes of butter of three types of cows. The first selected, both fed and bred for production, is a five-year-old grade that gave 11,630 pounds of milk, 450 pounds of butter worth \$135, with a feed cost of \$55. Her clear profit is \$80. Such cows and better ones have been discovered through cow testing. The second is the average yield of 8,200 cows as collected by the dairy recorders at thirteen dairy record centres in Ontario, Quebec, and Prince Edward Island, namely 206 pounds of butter worth \$61.80 at a feed cost of \$35, thus leaving a profit of \$26.80. This is the average of the cows recorded in the milk testing associations at these centres, and would probably be very much better than the average yield of all cows in the Dominion. The third is the type unmasked by cow testing, desired by no one. In this case it is not just one lone individual cow, but it is the average yield of a herd of ten cows in Ontario, 80 pounds of butter worth \$24, and the owner estimated it cost \$30 to feed each cow. The loss is obvious.

If more evidence is required in favor of cow testing considerable light is shed by the fact that in one creamery in Prince Edward Island over thirty patrons, members of a cow-testing association there took in double the amount of money per cow last year than they did four years ago, while the other patrons show little or no increase. "So it is," said Mr. Whitley, "in many other districts there is nothing to prevent any factory of 500 cows, if its patrons take up cow testing in earnest, handling extra money annually to the extent of \$8,000. We have men in Ontario and Quebec now obtaining 1,000 and 1,500 pounds of milk per cow more than they did two years ago. Scattered all over we find instances like this. The man who has been cow testing now milks 8 cows and gets 20 more cash than the man who does not weigh and sample."

This is indisputable evidence that cow testing is a practice that should be adopted much more largely on dairy farms in Canada.

MORE AND CHEAPER PRODUCTION.

Increase in production was discussed by Prof. J. H. Grisdale, Director of Canada's Experimental Farms. In his remarks he asserted that farmers could control the milk produced by their cows. In the first place they could breed better and along with that provide good housing, well lighted, well ventilated, comfortable and hygienic stables. In this regard he did not advocate the expensive kind of construction, and said that some of the most undesirable barns he had seen in regard to these former requirements cost twice as much as they should. They were spacious where room was not required. They were dark and poorly ventilated. Mr. Grisdale declared that a good stable could be built with two ply of boards and paper at a cost of \$150 per cow.

Some foods are necessary and they happen to be those that can be easily produced in Eastern Canada, and if these feeding stuffs are dispensed to the cattle liberally and intelligently the milk production can be liberally increased. In one section the Director procured a bunch of heifers, such as would be picked up easily in that community, and they found when these heifers freshened that their production was in some cases double that of their mothers. In one community in Quebec cows were chosen from herds that were only averaging \$12 to \$13 per cow per season. Now, some of these cows from those herds are returning \$45 per cow. The cost of food was doubled, but the returns were trebled. Cheap feeding means abundant feeding at all times with no deprivations of fodder when the cows are dry.

With regard to pastures the Director considered them the most expensive way of feeding cattle, and asserted that all land on the farm should be brought under cultivation in a systematic way. Some system of crop rotation should be followed, but the specific systems should be worked out by the farmer himself. There is one principle, however, to be recommended, and that is that the hoe crop follow the hay crop, and third should come the crop of grain.

Relative to machinery the speaker advocates large implements, the two-furrow plow, the four-horse harrow and the wide drill. Experience on Central Experimental Farm has taught the Director that he can lower the cost of cultivation per acre about 10 per cent. below what it was sixteen years ago when horses and when labor were cheaper than they are to-day. The cost of cultivation per unit has been cut in two by using an intelligent system of crop rotation and large implements to carry on the work.

BREEDING UP A DAIRY HERD.

For many years the discussions at the Conventions have been largely scientific, but this year F. R. Mallory, of Frankfort, a live-stock breeder, was called upon to treat a very practical subject, namely, "Building up a Dairy Herd." On account of favorable circumstances and records for thirty years, Mr. Mallory was able to outline the growth of their own herd of cattle. His grandfather, thirty years ago, became discontented with the brindles and line-backs that were producing 2,000 pounds of milk during the factory season. He paid \$750 for a pure-bred bull, and at the same time procured a pure-bred cow. The bull was a good investment, but the cow was a disappointment. To-day there are in Ontario 300 descendants of that one cow. She produced a miserably small amount of milk and her progeny did the same. However, after six years of breeding the herd had a different color, but in milking capacity they had improved very little. The old gentleman was a breeder but not a weeder or feeder. For fourteen years Mr. Mallory's father then carried on breeding operations on their farm, and unlike the beginner of this improvement, he culled severely and sent pure-breds with pedigree to the butcher. At the end of fourteen years the herd averaged over 7,000 pounds. This asserted Mr. Mallory was done more by weeding than by feeding. The speaker himself has been able not only to double but to treble the records of production which his father handed over to him when he assumed the reins of management, and the herd has accomplished some feats that are considered phenomenal in the dairy world. Mr. Mallory referred to their personal experience only to show how a dairy herd may be improved and built up.

It is easier work now said Mr. Mallory than it was thirty years ago, for the opportunities at the disposal of the farmer are very much superior to former days. The operation of building up a herd depends upon the man, his pocket book and his tastes. If production only is desired grades will do, except the sire, which should be a pure-bred. "The day of the scrub sire is gone."

With regard to the value of pedigree Mr. Mallory directed attention to the fact that one cow might make a phenomenal record yet her ancestry, not being high producers, left this "freak cow," as it were, without any guarantee

that she could give her owner progeny like herself. "Many cows come from no where, make a good record, yet they go no where," said Mr. Mallory.

He preferred a fair cow with three generations of reasonable producing capacity behind her rather than an individual with great capacity and with poor ancestry. The speaker admitted that his greatest knowledge regarding cows came from the milk scales and the Babcock Test, and that was the only way he could be positively sure of a good cow.

Going more deeply into the principles of breeding the speaker advised against harsh crosses, and illustrated by referring to a cow too dark in color being crossed with a strain which was very light, the resultant of this cross would possibly be to get a very badly-colored individual. Similarly with regard to production. If a strain giving 40 pounds of milk and testing 4 per cent. be crossed with a strain giving 100 pounds testing only 2½ per cent., the cross would be just as likely or more likely to give an offspring with a record of only 40 pounds testing 2½ per cent. Breeders should work up to rather than jump at high production.

G. G. PUBLLOW'S REPORT.

The Convention always awaits with interest the report of G. G. Publow, the Chief Instructor of Dairying for Eastern Ontario. The condition in which the industry is found each year is detailed in the Instructor's report. According to the speaker's records the total number of cheese factories in operation during the last season was 846, being 36 less than one year ago. Of these 846 factories 8 were destroyed by fire during the summer, and 5 were closed owing to the shortage of milk supply. The sanitary condition of most of the factories has continued to improve, and it was necessary to close only one, and that for only a few days, to enable them to clean up and make the required alterations.

During the last season 435 factories have expended a total of nearly \$70,000 for the purpose of repairing or improving. This expenditure is considered quite satisfactory considering the present state of financial institutions.

Special attention was directed by Mr. Publow to the great shortage or decrease in the total milk supply. This was considered due to one or more of three things. First, a very much lessened number of cows there being over 33,000 less than last year; second, the dearth of grass, green fodder and water, and third, the continuance of the cheese factory patrons to yield to the inducements offered by creameries and ship their cream to the city. The latter reason may perhaps seem more real if note is made of the fact that there were 2,339 less patrons in 1914 than there were in 1913. The actual number of pounds of milk delivered to the factories between May first and November first was 843,629,539. From this milk 77,085,587 pounds of cheese were manufactured, and those who follow the figures of cheese production will recognize at once that there has been a big falling off in this regard. The actual shortage is 9,014,796 pounds, and allowing 85 pounds per box these figures represent a shortage of over 107,000 boxes. One redeeming feature in connection with this shortage in the production of cheese is that the production of milk has shown an increase of 170 pounds of milk per cow, which in spite of dry weather is certainly encouraging. Still another indication that the dairymen are appreciating the need for better business methods and better feeding, is shown by the large number of silos built during the year, there being nearly 900 new ones, and, if this form of improvement continues, another year should show a greater increase in the average of milk per cow.

It seems, however, that the question of the percentage of fat in the milk is being neglected too much, for during the season of 1914 the average test for Eastern Ontario was lowered by .02 per cent. According to Mr. Publow's report it required two-tenths of a pound more milk to make a pound of cheese than it did the previous year. Weather conditions and the peculiar circumstances of the season also entered into this reduction in the quantity of cheese from a pound of milk.

Strides have been made by many patrons in caring for and cooling their milk, but their labors have been partially lost by other patrons of the same factory failing to do likewise. The better patrons are, therefore, asking "what is the use of cooling our milk when our neighbors do not and it all goes into the same vat?" This is something the Dairymen's Association and dairy instructors must endeavor to solve.

With regard to creameries it may be said that 35 regular creameries operated in 1914, 3 new creameries were built since 1913, and in addition to these 33 combination factories made butter during the spring and fall, and 123 factories manufactured butter from the whey. During the six months, May first to November first, the 35 regular creameries made a total of 3,091,823 pounds of butter which sold for an average price

of 24½ cents per pound; this being about one cent per pound less than for the previous year.

Owing to the short time which elapses between the manufacture and sale or consumption of this butter, very little of it is inspected, yet from what the instructors and experts know of its character they are of the opinion that its general quality could be improved. This has been demonstrated when Ontario's butter has gone into competition with butter from Quebec and some of the Western Provinces. The greater source of defects lies in the generally poor quality of the cream supply, and so long as the present methods of purchasing cream are continued very little improvement can be hoped for, even although our butter makers are as capable as those of other provinces. As a remedy for this Mr. Publow said, "If a system of grading cream and butter were adopted it would seem to be the proper method of overcoming the difficulty, and while such a plan may have its difficulties at first others are already reaping its advantages, and what others can do we also can."

THE SEDIMENT TEST.

The milk sediment test as a means of further improving the cheese-factory milk supply was discussed by Frank Hens, London, Chief Dairy Instructor for Western Ontario, who said that in his mind how best to get further improvement of the milk supply is a problem worth looking into. The report of the dairy instructors, made on their regular visit to each factory, asked the question, "Condition of milk as to sediment." The answer often is "considerable," "some," "too much." The appearance of the milk strainers in many of the factories indicates that the instructor's judgment is not overdrawn. The speaker remarked that he had no desire to see imposed on milk producers any unnecessary or unreasonable restrictions, yet he further remarked that there was no reason why the comparatively small percentage of those who deliver over-ripe or tainted milk should not be expected to produce milk equally as fit for cheese making as the majority. In justice to the careful, painstaking patron every effort should be made to have all milk arrive at the factory in equally good condition.

Bacteriologists have shown and frequently call attention to the fact that large numbers of bacteria may be carried into milk by clinging to substances such as bits of straw, hairs, road dust, stable dust and fecal matter, and that some definite relation exists between the keeping quality of the milk and the amount of sediment it may contain.

Relative to the curd test the speaker said, "It is a useful factor in determining the special milk that is producing a bad flavor in the cheese, and its use should be continued." However, the weak point in the Curd Test is that the average patron finds it difficult to recognize abnormal flavors, because he has not been trained to understand the significance of the odor and appearance of the curd.

During their experiments and trials with the disk method in Western Ontario, many patrons at the different factories did come in and watch the instructor make the test. When presented with the "disk," on which was shown the quantity of sediment filtered from a pint of milk delivered by them, they were astonished and could hardly believe that such an amount could possibly be there. The test appeals to the producer's sense of pride, and in nearly every case they expressed a desire to have their milk arrive at the factory in a cleaner condition.

Mr. Hens explained the advantages of the sediment test in the following summary:

The presence of sediment indicates careless methods in milking, and, therefore, the probability is, that the milk is seeded with a large number of undesirable organisms.

The test is a simple method of accumulating in one spot where it may be seen the amount of sediment contained in a pint of milk, and thus enable the operator to judge approximately from the appearance of the "disk" the total sediment in the can of milk.

If the milk is not sufficiently cooled this condition will usually be indicated by the appearance of little clots of dried cream on the "disk." This means loss of cheese making material.

Used in connection with the curd test it makes a combination more effective than the curd test alone.

It places the responsibility on the individual patron and leaves little chance for argument on his part.

The patron with few exceptions take a reasonable view of the test, as it is something they can see and understand. They look upon it as a test that indicates not only the better methods of the careful patron, but reveals the shortcomings of his careless neighbor. Personal pride in the clean, satisfactory condition of the milk when delivered is awakened.

Good judgment must be exercised by the operator in making use of the test, offensive comments withheld and an effort made to get the patron to understand that, all that is intended, is to point out the facts, with the desire of get-

ting his co-operation. Simply let the appearance of the "disk" do most of the talking at first, as it will eventually appeal to the patron from a logical standpoint.

Improvements have been secured through cooling of the milk, the installation of cool curing rooms, the pasteurization of whey, in better methods of manufacture and in more sanitary factories. "The milk sediment test I believe to be worth trying out in order to see if it is not possible to promote further and continued progress in sanitary methods of milk production."

DAIRYING IN SWITZERLAND.

Dairying in Switzerland was treated in an interesting manner by J. A. Ruddick, Dairy and Cold Storage Commissioner for Canada. By the use of slides interesting features of Swiss Dairying were thrown upon the canvas, and the pleasing language of the speaker in explaining these views made a very interesting lecture. Mr. Ruddick visited Switzerland as an official delegate from Canada to the Swiss International Dairy Congress, which was held in Berne, Switzerland, June 8th to 12th, 1914, and in addition to the convention visited many other points of interest in Europe.

The manufacture of cheese and condensed milk are the two most important branches of the dairy industry in Switzerland. A form of co-operation in the manufacture of cheese has been in operation since the twelfth century. Cow testing has been systematically practiced by some Swiss dairymen for over forty years. Their method of cheese making calls for no special mention, but the production of milk, especially in the matter of yield per acre, has been carried to a point far beyond that which has been generally reached in Canada. Where the cattle are stabled the utmost care is taken to preserve every ounce of manure, the liquid is drained into concrete tanks from which it is carried on wet days and sprinkled over patches of recently cut grass. The number of dairy cattle kept per square mile of arable land for the whole country is just about 100, but in the less mountainous cantons like Berne the number is as high as 256 per square mile.

The real alpine pastures begin at an altitude of about 2,500 feet, and extend upwards nearly to the limit of the vegetation, or somewhat over 8,000 feet. Goats are pastured in some places as high as 9,000 feet above sea level.

PAYING FOR MILK.

The first real stand regarding the way milk and cream should be collected and paid for was taken by Geo. H. Barr, Chief of the Dairy Division at Ottawa. During his remarks he said, "Patrons of the factories will average up as dairymen just about as well as makers will average up as makers," and advised that manufacturers or factory owners should endeavor to get a better class of men in the factory. "Cheese will not go wrong if the right man is in the factory, for he has more influence in a district than a dozen instructors. He is in touch with the men, and by using his influence with them he can get them to do better work than the instructor can do. Patrons should be paid for improvements they make relative to this."

Mr. Barr drew attention to remarks which had been made regarding progress in Alberta, where it is claimed that grading of cream had done more in two years than preaching and exhortations and abundant literature had done in ten. The speaker could not denounce too strongly the pooling system as a method of dividing funds. In this system the man with a low-testing milk is simply getting the money that belongs to his neighbor who is sending milk with a high fat content. By the use of charts several methods of paying for milk and experimental results were explained, namely, the fat and casein method, the straight fat method, fat - 2 method, and the fat and calculated casein method. He objected very strongly to the pooling method, but said he would be willing to adopt one of the four previously mentioned and stand by it.

Several references were made to the status of the butter industry of Ontario by L. A. Zufelt, Superintendent of the Dairy School at Kingston. For some years there has been a migration from the cheese factories to the creamery. Formerly the butter business looked good, but now Mr. Zufelt declared "The butter situation is in a critical condition."

We have practically no foreign market. For some years British Columbia consumed a large quantity of Ontario's butter, but this Province could not supply them with sufficient quantities and importations from foreign countries was the result. In this competition Ontario's products suffered severely. The speaker declared that the system of dairying in Eastern Ontario was verging on socialism rather than on co-operation. All patrons wanted the same price for their milk and all factories wanted the same price for their cheese. They were not only pooling milk in the factories, but the cheese were being pooled when sales were made. Mr. Zufelt was in favor of patrons being paid for their milk on its merits and selling cheese in the same way.

PRESENT-DAY AGRICULTURE.

Notwithstanding all that is being said today about increasing opportunities in farming, about farming as 'a profession,' and the farmer's 'noble occupation,' it remains true that very few farmers are prominent citizens, very few enter public life, and most of them are forced to be content with small returns for their labor." In these words Prof. J. B. Reynolds, of the O. A. C., Guelph, drew the attention of his audience to the status of present-day agriculture. Recently a number of questions were submitted to the students at the Ontario Agricultural College, questions relating chiefly to this: did they intend to follow actual farming after leaving the College and if so, why? If not, why not? One hundred of those who replied were born on the farm, 89 of them in Ontario.

Out of those students who expressed intentions of going back to the farm only four emphasized the profitableness of farming, while the remainder based their reasons on attractions which are largely sentimental. Of those who find a farm life distasteful, 33 mention long hours as a reason; 24, said too much grind, no opportunity for amusement and recreation; 17, poor returns; 13, lack of capital; 10, lack of labor; 7, lack of conveniences, and 4, Sunday work. These reasons are largely economic, and, to the speaker, were well taken. Prof. Reynolds testified, from an experience of three years in managing a farm, that long hours are quite unnecessary. Cows should freshen in the fall and reduce to a minimum the summer chores, which should be done before, not after, six o'clock. Furthermore, if these objectionable features of farm life can be adjusted, "if they can be assured of a modest income, of freedom not from hard work but from slavery, of reasonable opportunity for cultivating their minds and their social instincts, all right and worthy demands upon life, these boys," said Prof. Reynolds, "would be satisfied to follow farming."

To demonstrate to his hearers that reasonable returns could be expected from a farm managed in a capable manner, the speaker assumed a farm capitalized at \$12,000 which included stock, equipment and buildings. The debit side of the farm accounts on such a holding should be somewhat as follows:

Wages, married man, per year.....	\$ 450.00
Threshing, silo filling, occasional labor.....	150.00
Feed, concentrates for milking cows.....	200.00
Taxes.....	50.00
Seed (clover, corn, garden seeds).....	65.00
General expenses (blacksmith, vet, etc.).....	75.00
Insurance.....	10.00
Depreciation on buildings and imple- ments \$5,600 at 5 per cent).....	280.00
Interest, \$12,000 at 5 per cent.....	720.00
Proprietor's labor income.....	1,000.00
Total.....	\$3,000.00

This constitutes a gross expenditure of \$300.00 per acre. Depreciation, interest and proprietor's labor income are three items that most farmers seldom consider or think worthy of a place in the debit column, but Prof. Reynolds proved to the dairymen that depreciation and interest were as sure as taxes, and that a capable farmer was worthy of the \$1,000 income if he realized \$300.00 per acre from the land. If he did not realize it perhaps he did not earn it. To balance the accounts the returns from a 100-acre farm were set down in the following manner:

Cream from 15 cows, \$80 each.....	\$1,200.00
Six cows at \$60.....	360.00
Calves.....	50.00
Apples.....	300.00
Poultry and eggs.....	150.00
Hogs, 30 at \$4 each and 30 at \$14.....	540.00
General produce (potatoes, grain, etc.).....	1400.00
Total.....	\$3,000.00

The returns thus set forth for a 100-acre farm were based upon the revenue from a 63-acre farm for which Prof. Reynolds has complete accounts. In many cases had the amounts been in proportion to the smaller farm income, the total would have been larger.

All this might be accomplished without slavery, but the manager must be up to date and be a modern farmer. If he can live comfortably and realize \$30.00 per acre the life is what Prof. Reynolds understands by present-day agriculture.

FACTORY AND FARM WELL WATERS.

The home and factory water supply was discussed by Dr. W. T. Cornell, of Queens College, Kingston. This is a matter of vital importance to the community, but one not considered by the majority of people in their routine of domestic or factory economies. Dr. Cornell classified the different kinds of wells and demonstrated the probable source of contamination. Deep wells, of course, which draw their water from the rock and which do not allow of contamination from above, are the most satisfactory so far as

objectionable bacteria and other infection are concerned. Most soils are excellent filters and tend to purify the water as it percolates downwards through the layers of earth, but almost all the purification takes place in the first 6 to 10 inches of soil, so that if drainage water is carried below this it remains largely unaltered to seep down into the subsoil and enter any neighboring well that permits of seepage into it. Next to location great care should be exercised to see that soil about the well is kept clean, free from manure, slop water or other refuse. Most important of all would be the proper protection of the well. This is best effected by having the upper 6 feet of the well curbing cemented, the well mouth built up above surrounding area and covered with a cement platform. Further, a cement platform should surround the well for 4 to 6 feet, the fall being away from the mouth.

FIRST PRINCIPLES OF DAIRYING.

Dairymen listened attentively to the words and teaching of Prof. H. H. Dean, of the O. A. C., and on this occasion he discussed the first principles of dairying. The four factors that have to do with success in dairying are soil, feed, cows and the man. Of the first factor here set forth Prof. Dean favors clay soils, and said that the best farms and the best men were usually found on clay soil. Relative to feeding it appears that little progress is being made. While feeding stuffs are soaring higher and higher milk products have not had a proportionate increase in price. The speaker favored buying concentrates, especially those rich in protein, chief among which is cottonseed meal at the present time, but put his views into the following rhyme: Canada's Capital C's, Corn, Clover, Cows and Cheddar Cheese.

"There never was a time in the history of dairying," said Prof. Dean, "when so much good dairy stock was available for farmers as at present, yet it is difficult to sell good male animals at reasonable prices. These animals would do much to improve the milk-producing capacity of cows, but farmers are unwilling, or unable to invest in this class of stock. No man should be satisfied with cows that produce less than 6,000 pounds of milk, or 250 pounds of butter per cow yearly. Many dairy farmers now are adopting standards of 8,000 to 10,000 pounds of milk, and 300 to 400 pounds of milk-fat per cow in a year."

"Alter all, it is the man beside the cow, working for and with the cow, who largely determines success or failure on the dairy farm or in any line of dairy manufacture and commerce. The dairyman needs to be a reader, a thinker, a worker and above all CLEAN."

WHAT MILK IS, AND ITS CHARACTERISTICS.

During a time when all are practicing economy the address of Prof. R. Harcourt, Guelph, was opportune and instructive. In his discussion he revealed the fact that milk combined with bread or cereals provides nourishment for the body at a much smaller cost than does meat or other foods. It contains all of the four classes of nutrients—proteins, fats, carbohydrates and mineral matter—in more nearly the proper proportions to serve as a complete food than any other food material. For the adult it is too bulky, and can well be used with a food rich in carbohydrates to supply the greater amount of energy exacted by the grown person. Further more, at the prevailing prices it is economical.

Prof. Harcourt believes that skim-milk should enter more largely into human consumption. The average skim-milk contains nearly 10 per cent. of milk solids or nutritive ingredients, while whole milk contains about 13 to 14 per cent. The chief material removed from the milk in skimming is the fat. Thus, naturally, the skim-milk must be richer in the valuable protein materials than the whole milk. The value of the skim-milk is not generally appreciated. Taken alone it does not satisfy the sense of hunger, but it is a cheap source of very digestible proteins, and when taken with bread or used in cooking it forms a very nutritious addition to the diet. Two and one-half quarts, or five pounds, of skim-milk will furnish nearly the same amount of protein and will have about the same value for food as a pound of round steak.

ADDRESS NON-TECHNICAL.

The Director of Dairying for Ontario, Geo. A. Putnam, congratulated the dairymen upon the success they had achieved, and intimated that progress would be slower as the products improved and came near perfection. The sediment test and its results appealed to the Director, and in his address he spoke encouragingly of its future use in Ontario. The dairymen were urged to use their influence in their home communities to better conditions socially, and make it possible for the young men and women now growing up to be good citizens. Mr. Putnam encouraged medical inspection in schools and improved surroundings for the buildings. Rural communities might also make use of the travelling libraries issuing from the Department of Education, and

avail themselves of the opportunities often so envied in the urban dweller.

In one of the best addresses of the Convention Dr. C. C. James, Commissioner of Agriculture for Canada, plead for a greater production during the coming season. He claimed that in this tangible way Canadians who remain at home would show their greatest patriotism in this time of strife. It is intended that a convention of expert and successful agriculturists will soon be convened, and they will exert themselves in the direction of increasing production during 1915.

The Hon. James Duff, Minister of Agriculture, spoke optimistically to the dairymen at the Convention, and promised them the best efforts and assistance of the Government in their behalf.

With the exception of two directors the officers for 1915 remain the same as for the season now past. President, J. A. Anderson, Oxford Station; 1st Vice-President, J. N. Stone, Norham; 2nd Vice-President, R. G. Leggett, Newboro; 3rd Vice-President, Jos. McGrath, Mount Chesney; Treasurer, Jas. R. Anderson, Mountain View; Secretary, T. A. Thompson, Almonte. Executive Committee: Henry Glendinning, Manilla; G. A. Gillespie, Peterborough; W. H. Olmstead, Bearbrook; Jos. McGrath; Nelson Stone, Norham; R. G. Leggett and Neil Fraser, Vankleek Hill.

Happenings in Australia.

Though the plant breeder has executed much serviceable work in Australia, some of the best varieties of wheat have come from chance sources. This was so, for instance, with Dart's Imperial. The farmer after whom the wheat is named saw some heads standing out above the others in the field and he set them aside for sowing until he had enough seed to lay out a field. Another instance of the same kind has resulted in the fixing of a new variety, called Hard Federation. It is an off-shoot of the ordinary Federation, but has the advantage of being much harder and is a better flour producer. Three years ago a couple of heads of a lighter color were noticed showing up in the crop of Federation. The grain was secured and replanted, but it was noticed that they at length lost the light appearance and the head in the field now is as brown as the parent. Tests of the grain and the resultant flour have been most satisfactory. This season the new kind will be largely planted. The case goes to encourage the system of seed selection.

The breaking-up of the large sheep estates in districts where the farming industry is extending is generally deplored as a loss of studs well-known for the enterprise of the founders. But figures show that the rate of wool per sheep is increasing. In 1904 the clip averaged 7 lbs. of wool per sheep and 2½ lbs. for lambs. In 1914, ten years later, the average had risen to 10 lbs. 4 ozs., and lambs 3 lbs. 3 ozs. Then there is the weight for carcass sheep, which has gone up from 50 to 60 lbs. a few years ago to 60 to 80 lbs. now. In 1893 the sixty million sheep in New South Wales returned 363 million pounds of wool in the grease, valued at £9,700,000. In 1903 the yield of 28,700,000 sheep was 227,004,000 lbs. of wool, valued at about £8,000,000. Last year 31,041,000 sheep gave 388,000,000 lbs. of wool, worth £13,700,000. It might be mentioned that the apparent discrepancy in the number of sheep of one year and another was the result of drought when heavy losses occurred.

An interesting colonizing scheme is afoot in Tasmania. The idea is to settle co-operatively fifty farmers from different parts of the world, including a fair proportion from America and Canada. The Government is to find the land in one block to permit the settlement under the leasehold system. The Government will subsidize the settlers in the work of road construction. Schemes of this sort ought to succeed, providing they are not made communistic. In Australia so far all the communistic settlements have failed miserably. So they always will while the existing sort of human nature is with us. A cause of dissatisfaction must always be that one suspects the other of not doing a fair day's work and of misusing the socialistic implements on the farm. But if each farmer runs his own holding independently of the other he can benefit immeasurably by the co-operation which will be possible with the worthy neighbor. Indeed co-operation is the one thing needful in rural settlement.

Whether the experiment is justified or not, the New South Wales State Government is going to make the attempt to farm wheat on a colossal scale in the hope of giving relief at a critical time and in order to aid the Motherland in time of trouble. It is now being arranged that the Government will put under crop at least 100,000 acres of wheat on its own account. If the super-

vision is efficient there is no reason to fear the result. But therein lies the danger. In all such enterprises the one thing needful is capable oversight. The largest wheat farm in Australia used to be at Iandra, where the late Mr. Greene farmed at least 20,000 acres each year, but he did so with the aid of a number of capable share farmers. Even if the scheme does not succeed it may have the good effect of calling into prominence some of the grievances of which the farmer is constantly complaining, especially the lack of effective transport and other matters during their busy season.

In addition to the proposal of the N. S. W. Government to farm 100,000 acres of wheat the same authority is spurring the farmers up to plant increased areas by guaranteeing a minimum price of four shillings a bushel. New settlers are to be granted advances on their improvements and assistance in the purchase of horses and implements. Those who have been hit badly by the recent drought are to get seed sold them on extended terms of payment. The other wheat states are also offering inducements to the farmers to increase their yields. Given a favorable season Australia should pretty well double her export.

Considerable interest is taken every year in the records put up by the expert shearers. They are locally known as Dreadnoughts. This season, Dan. Cooper, one of the swifts, shored in one day of eight hours, 222 sheep. About the same time in another shed, Conn. Quinn put through in the day 230, and B. Mehan 236. It will be seen that as these men are paid at the rate of twenty shillings per 100 sheep they make a fine cheque at the end of the season. The system generally is for each station to let its shearing to contract

companies. These naturally engage the swiftest men to get the shed cut out as rapidly as possible. These swifts lose no time in moving from one shed to the other with their plant and in doing so use road motors. Two years ago the shearers' union decided against contract shearing. The vote was, of course, warmly supported by the slower men, but up to the present there has been no attempt to put the decision into operation. The inference is that the swifts would cut away from the union and cause trouble.

As in the case of all millionaires' exaggerated stories are frequently told about Cattle King Kidman. But the facts given by his own lips before the Meat Commission the other day are interesting. His leaseholds, he said, run into thirty-one million acres, for which he pays the Crown rents amounting to £15,000 a year, which cannot be regarded as excessive considering the tremendous area. He owns a few freehold properties and is interested in a few companies, including a wad of 15,000 shares in Bovril, Ltd., owning a large station in North Australia. He told the Commission emphatically that he was not in any way connected in a proprietary way with the American Beef Trust any more than that he now and again sold them meat. One contract this year with the Armour's was for 5,000 head at 15 shillings per hundred pounds. He estimated that at that time he owned 250,000 cattle, 200,000 sheep, and 20,000 horses.

It will no doubt be remembered that a few years ago there was a hub-bub in London about the worm nodules found in Australian beef. As a result the health authorities took action and prohibited the entry of briskets to the London market. This meant a heavy loss to the ex-

porters. It was generally believed at the time that the trouble was really caused by the hostility of the Beef Trust as the Australian article was getting a footing against the Argentine product. An expert was sent to investigate the matter in Australia, but so far without any light being thrown on the problem. All the time, however, experts declared that there was no danger in consuming this meat and that with care the nodules could be easily cut away. Time has worked a few changes. The Beef Trust is now implanted in Australia. Only the other day, Swifts' manager said in his evidence before the Meat Commission that to lose these briskets was a sinful waste of good food. Which looks like influence in the direction of getting the embargo removed.

Sydney, Australia. J. S. DUNNET

Plumes of fire are dropped from the clouds on undefended towns and cities. The United States is silent. Deadly mines are strewn on the high seas. The United States is silent. Buildings dedicated to religion, art, science and charity are razed to the ground. The United States is silent. Enormous fines, far in excess of military necessities, are levied on ravaged cities. The United States is silent. Seven millions stand emaciated in Belgium. The United States is silent. The Hague Conventions are thrown into the scrap basket. The United States is silent. But—the dollars of American trade are threatened. And the United States protests. It is the duty of the United States to protect the commercial rights of her citizens. But it is also the duty of the United States to protect the civilization of the world. Above all nations is humanity.

—Hamilton Holt in "The Independent"

Toronto, Montreal, Buffalo, and Other Leading Markets.

Toronto.

Receipts at the Union Stock-yards, West Toronto, on Monday, January 11, numbered 118 cars, comprising 2,228 cattle, 1,486 hogs, 585 sheep and lambs, and 103 calves. The cattle trade was steady. Choice steers, \$8.15; good, \$7.75 to \$8; medium, \$6.70 to \$7.25; cows, \$3.50 to \$7; bulls, \$5 to \$7; stockers and feeders, \$4.50 to \$6.50; milkers, \$50 to \$85; calves, \$5 to \$10. Sheep, \$6 to \$7; lambs, \$7 to \$9. Hogs, \$8 weighed off cars; \$7.75 fed and watered, and \$7.35 f. o. b. cars at country points.

REVIEW OF LAST WEEK'S MARKETS

The total receipts of live stock at the City and Union Stock-yards for the past week were:

	City.	Union.	Total.
Cars	51	330	381
Cattle	645	4,224	4,869
Hogs	952	8,841	9,793
Sheep	770	1,966	2,736
Calves	36	286	322
Horses	19	20	48

The total receipts of live stock at the two markets for the corresponding week of 1914 were:

	City.	Union.	Total.
Cars	9	381	390
Cattle	140	4,015	4,155
Hogs	114	9,982	10,096
Sheep	85	2,099	2,184
Calves	36	339	375
Horses	28	58	86

The combined receipts of live stock at the two markets for the past week show a decrease of 9 cars, 714 cattle, 303 hogs, 53 calves, and 38 horses; but an increase of 552 sheep and lambs, compared with the corresponding week of 1914.

Receipts of live stock for the past week were moderate in all the different classes. The cattle as a rule were of better quality, and all offerings sold readily at good prices, which reached as high as \$8.25 for one choice load. Stockers and feeders sold at about steady quotations; milkers and springers were more plentiful, but not greater than the demand called for, and were all taken at prices from \$50 to \$90 each. Veal calves remained about steady, although the receipts were light. Sheep and lambs, of which the supply was moderate, sold about steady, quality considered. Hogs sold up to \$8 weighed off cars, and we heard of \$8.25 being paid for two car lots.

Butchers' Cattle.—Choice heavy steers

sold at \$8 to \$8.25; good to choice, \$7.50 to \$7.75; medium to good, \$6.50 to \$7.25; good cows, \$5.75 to \$6.50; medium cows, \$5 to \$5.75; canners, \$3.75 to \$4.50; bulls, \$4.75 to \$6.75, and a few reached \$7 during the week.

Stockers and Feeders.—Trade in feeding cattle has been very quiet. One or two choice loads of short-keep steers of choice quality weighing 900 to 950 lbs. each, sold at \$6.50 to \$7. Good steers, 800 lbs. each, sold from \$6 to \$6.25; medium, \$5.75 to \$6; stockers sold from \$4.75 to \$5.50.

Milkers and Springers.—There was a little more activity exhibited, and all offerings were sold at \$50 to \$95 each, the bulk going at \$60 to \$75.

Veal Calves.—Receipts moderate, and prices steady. Choice calves, \$9.50 to \$10.50; good calves, \$8 to \$9; medium, \$7.50 to \$8; common, \$1.75 to \$7.

Sheep and Lambs.—Trade for sheep and lambs was good, considering the quality offered. Sheep, ewes sold at \$5.50 to \$7; heavy ewes, \$4 to \$5; rams, \$4 to \$4.50; culls, \$2.50 to \$3.50; lambs of choice quality, weighing from 80 lbs. to 90 lbs., sold at \$8.25 to \$8.75; heavy lambs, \$7 to \$7.75; cull lambs, \$6 to \$6.50.

Hogs.—Selects, fed and watered, sold at \$7.50 to \$7.65; \$7.15 to \$7.25 f. o. b. cars, and \$7.75 to \$8 weighed off cars.

BREADSTUFFS.

Wheat.—Ontario, No. 2, \$1.10 to \$1.12, outside; Manitoba, at bay ports, No. 1 northern, \$1.34; No. 2, \$1.31; No. 3 northern, \$1.26, new crop.

Oats.—Ontario, No. 2 new, white, 50c. to 51c., outside; Canadian Western oats, No. 2 new, 62c.; No. 3 new, 59c., track, bay ports.

Rye.—88c., outside.

Buckwheat.—71c. to 72c., outside.

Barley.—Ontario, No. 2, 68c. to 70c., outside. Manitoba barley, 66c. to 70c., lake ports.

Corn.—No. 3 yellow, old, 88½c., Toronto; new No. 2 yellow, 70½c.; Canadian corn, 81½c., Toronto.

Peas.—No. 3, \$1.60 to \$1.65, car lots, outside.

Roller Oats.—Per bag of 90 lbs., \$3.10 to \$3.25.

Flour.—Ontario winter wheat, 90 per cent., \$4.60 to \$4.65, seaboard, Montreal or Toronto freights. Manitoba flour—Prices at Toronto were: First patents, \$7.10 in jute, and \$6.60 in jute for second patents; strong bakers', \$6.10 in jute; in cotton, 10c. more.

HAY AND MILLFEEED.

Hay.—Baled, car lots, track, Toronto, No. 1, \$16 to \$17; No. 2, \$14 to \$14.50. Straw.—Baled, car lots, \$7.50 to \$8.50. Bran.—Manitoba, \$25 to \$26, in bags.

track, Toronto; shorts, \$27 to \$28; middlings, \$29 to \$30.

COUNTRY PRODUCE.

Butter.—Receipts have remained about steady; prices steady. Creamery prints, 31c. to 33c.; creamery solids, 29c. to 30c.; separator dairy, 28c. to 30c.

Cheese.—New, 16c. for large, and 16½c. for twins.

Eggs.—New-laid, 50c. per dozen, by the case; cold-storage eggs, 30c., and selects, 32c. to 34c.

Honey.—Extracted, 11c. to 12c. per lb.; combs, per dozen sections, \$2.50 to \$3.

Beans.—Primes, \$2.60 to \$2.75; hand-picked, \$2.75 to \$2.90.

Potatoes.—Canadian, car lots, per bag, track, Toronto, 55c. to 60c.; New Brunswicks, 65c. per bag, track, Toronto.

Poultry.—Live-weight prices: Turkeys, 14c. to 16c.; ducks, 11c. to 13c.; hens, 7c. to 10c. per lb.; spring chickens, 10c. to 12c.; geese, 8c. to 10c. per lb.

HIDES AND SKINS.

City hides, flat 16c.; country hides, cured, 15½c. to 16½c.; country hides, part cured, 15c. to 16c.; calf skins, 17c.; kip skins, 15c.; lamb skins and pelts, 90c. to \$1.25; horse hair, per lb., 40c. to 45c.; horse hides, No. 1, \$3.50 to \$4.50; wool unwashed, coarse, 17½c.; wool unwashed, fine, 28c.; wool washed, coarse, 26c.; wool washed, fine, 28c.; tallow, No. 1, per lb., 5½c. to 7c.

FRUITS AND VEGETABLES.

There has been a light trade in fruits and vegetables during the past week. Apples, Canadian, Spies, \$1.25 per box, \$3 to \$3.50 per barrel; Russets, \$3 per barrel; Tolman Sweet, 75c. per box, \$2.75 per barrel; Ben Davis, 75c. per box, \$2.25 per barrel; Snows, \$2 to \$3.50 per barrel. Bananas, \$1.50 to \$1.75 per bunch; cranberries, \$5.50 to \$7.50 per barrel, \$2.40 per box; grape fruit, \$2.25 to \$3 per case; limes, \$1.25 per hundred; lemons, Messina, \$2.75 to \$3 per box; California, \$3 to \$3.50; oranges, Florida, \$1.75 to \$2.25 per case; California navels, \$2 to \$2.75 per case; Mexican, \$2 per case; pine-apples, \$2.75 to \$3 per case; strawberries, 50c. to 60c. per box; beans, \$3.50 to \$4 per hamper; beets, 60c. per bag; Brussels sprouts, Canadian, 35c. per 11-quart basket; American, 20c. per quart; cabbages, 25c. to 40c. per dozen; \$1 to \$1.25 per barrel; carrots, 50c. per bag; celery, Canadian, \$3.50 to \$3.75 per case of 5½ to 6 dozen; California, \$4 to \$4.50 per case; cauliflower, new, \$3 to \$3.50 per case; onions, Canadian, \$1.35 per bag; parsnips, 60c. per bag; spinach, \$1.25 per hamper; turnips, 30c. and 35c. per bag.

Montreal.

Live Stock.—Choice cattle continued scarce on the local market. Consumption at the present time is by no means large, and occasional church holidays tend to reduce demand still further. Prices continued fairly steady, the tone being, if anything, rather firmer. Some fine steers have been bought at 7½c. to 7¾c. per lb., while good were quoted at 6½c. to 7c., and medium at 6c. to 6½c. Common ranged somewhat lower. Cows sold around 5c. per lb. up to 6½c., and bulls at 5½c. to 7c. Ontario lambs were in good demand, at 8c. to 8½c. per lb., while Quebecs sold at 7½c. to 7¾c. Sheep were in moderate demand, at 4½c. to 5½c. per lb. The supply of calves was small, and prices ranged from \$3 to \$5 for common, and up to \$15 for the best. The market for live hogs was firm in tone, and selected lots changed hands at 8½c. to 8¾c. per lb., weighed off cars, slightly above the previous week's prices.

Horses.—It was said that army horses were still being dealt in at \$175 each for light, and \$195 for heavy. Heavy draft horses, weighing from 1,500 to 1,700 lbs., were quoted at \$275 to \$300 each, and light draft, weighing from 1,400 to 1,500 lbs., at \$150 to \$200 each. Broken-down old animals were quoted at \$75 to \$100 each, and fancy saddle and carriage animals sold at \$300 to \$400 each.

Dressed Hogs.—Dressed hogs were a little higher. Abattoir-dressed, fresh-killed hogs were quoted at 11½c. to 12c. per lb., while country-dressed ranged from 10c. to 10½c. per lb. for light, and 9½c. to 9¾c. for heavy.

Poultry.—Demand for turkeys was fair. Frozen and fresh were quoted at from 17c. to 20c. per lb., wholesale, while chickens and ducks were 13c. to 15c. Geese were 11c. to 13c., while fowl ranged from 12c. to 13c. per lb.

Potatoes.—The supply of potatoes was fairly liberal, and prices continued low, at 60c. for Green Mountains in car lots ex track, per bag of 90 lbs. Single bags were 70c. to 75c.

Honey and Syrup.—The market held steady. Maple syrup was quoted at 60c. in small tins, and up to 80c. in 11-lb. tins. Sugar was 9c. to 10c. per lb. White-clover comb honey was 16½c. to 17½c. per lb.; extracted, 12c. to 13c.; dark comb, 14½c. to 15c., and strained, 7c. to 8c. per lb.

Eggs.—Cold-storage stock was going out for export. Fresh eggs were quoted at a decline, at 50c. per dozen. Selected cold-storage were steady, at 31c. to 32c. per dozen. No. 1 cold-storage stock was 28c. to 29c., and No. 2, 25c. to 26c. per dozen.



Sale Notes

We collect or discount sale notes for farmers.

Notes left for collection are secure against fire or burglary, and the makers are notified of the due date.

When paid, the money goes to your credit without any trouble on your part.

We shall be glad to furnish you with the note forms free of charge.

The Bank of Nova Scotia

Capital and Reserve \$17,000,000
Total Assets - - \$80,000,000

BRANCHES OF THIS BANK in every Canadian Province, and in Newfoundland, West Indies, Boston, Chicago and New York

Butter.—The market showed little change. Choicest September creamery was quoted at 29½c., and fine at 28½c. to 29c.; seconds, 27½c. to 28c.; Ontario dairy, 24c., and Manitoba, 23c. per lb.

Cheese.—September Ontario cheese was 15½c. per lb. for either white or colored, and October makes were ¼c. below these figures. Eastern cheese was ¼c. to ½c. below Western.

Grain.—Ontario No. 2 white oats were higher, at 55½c.; No. 3 at 54½c., and No. 4 at 53c. per bushel, ex store. Canadian Western were also dearer, being 61½c. No. 1 feed were 60½c.; No. 2 feed, 59½c. American corn was 82c. to 83c.

Flour.—The market for Manitoba flour was higher all round by 50c. per barrel. Manitoba first patents, \$7.20; seconds, \$6.70, and strong bakers', \$6.50 in jute. Ontario patents were still \$6 per barrel in wood, and straight rollers \$5.50 to \$5.60, bags being \$2.70.

Milled.—Bran was still \$25 per ton in bags; shorts, \$27; middlings, \$30 including bags. Mouille sold at \$35 to \$36 per ton for pure, and \$33 to \$34 for mixed.

Hay.—No. 1 pressed hay, Montreal, ex track, was \$20.50 to \$21 per ton; No. 2 extra was \$19.50 to \$20, and No. 2, \$18.50 to \$19.

Hides.—Beef hides were steady and firm last week. Prices were 17c., 18c. and 19c. for Nos. 3, 2 and 1, respectively. Calf skins were 16c. and 18c. for Nos. 2 and 1, respectively. Sheep skins were also higher, at \$1.50 each. Horse hides were steady, at \$1.50 for No. 2, to \$2.50 each for No. 1. Tallow was 6c. per lb. for refined, and 2c. to 2½c. for crude.

Buffalo.

Cattle.—Receipts were liberal last week, and buyers had a come back from the previous week, when the supply was light and prices abnormally higher. Last week, trade was generally 25c. to 50c. lower, and even at the decline market ruled slow and dull throughout. There were something like thirty to thirty-five cars of shipping kinds of steers—those running from 1,150 to 1,350 pounds—and while these were pretty well cleaned up, it was well into the Monday session—the heavy day of the week—before much trading was done. Butchering cattle generally showed about a quarter decline, some medium kinds of light steers and heifers being very bad sale, with choice and prime grades moving in good season. Bulls showed mostly a quarter take-off. The yards have been for the past several weeks "modified," that is to say, all stock was regarded as coming from "clean" sections, this arrangement having been made with the Federal Government at a time when a congestion prevailed, as a result of heavy runs, and it was impossible to properly unload and handle the excessively large numbers, but since conditions are again normal, the Federal Government insisted that the "modified" and "certified" yards be again maintained, all stock out of clean sections, where no certificate of inspection is necessary before shipping, being yarded in these yards, while in the "certified" section, all stock which has to come marketward, under a veterinarian's certificate of inspection, will be cared for. Under the arrangement, however, all "certified" stock can be sold to New York City, and this gives a good outlet, as previously stock from "certified" section could only be disposed of to local killers, who did not fail to take advantage on days when receipts were heavy and in excess of the outlet. Receipts of cattle last week reached 4,600 head, as against 2,775 for the previous week, and 4,575 head for the corresponding week last year. Not many Canadian cattle included in the run last week, the supply being mainly a medium kind of steers and females. Quotations:

Shipping Steers.—Choice to prime, \$8.75 to \$9.25; fair to good, \$8.35 to \$8.50. Butchering Steers.—Choice heavy, \$8.25 to \$8.50; fair to good, \$7.75 to \$8; yearlings, \$8 to \$9. Cows and Heifers.—Prime, weighty heifers, \$7.75 to \$8; best handy butcher heifers, \$7.25 to \$7.50; best heavy fat cows, \$6.50 to \$7; good butchering cows, \$5.75 to \$6.25; canners, fair to best, \$4 to \$4.25. Bulls.—Best heavy, \$7 to \$7.50; good butchering, \$6.25 to \$6.75.

Hogs.—Liberal receipts last week, the grand total for the first five days being 57,500 head, as against 40,600 head the previous week, and 44,000 head for the same week a year ago. Monday, best grades sold at \$7.40 and \$7.50, and light grades ranged from \$7.50 to \$7.75. Tuesday's market was strong, and Wednesday values were ten to a quarter lower, light grades showing the greatest decline. Thursday, light hogs were steady, with best grades showing a dime advance, and Friday, under a hundred-car supply, values were declined fifteen to twenty-five cents, bulk of Friday's sales on best grades being made at \$7.15, while Yorkers, lights and pigs ranged from \$7.25 to \$7.40, latter figure taking two decks of lights and pigs from across the river. Roughs ranged from \$6.25 to \$6.60, and stags, \$6 down.

Sheep and Lambs.—On the opening day last week, top handy lambs sold generally at \$8.75, and values the next three days were fifteen to a quarter higher, Tuesday's sales on tops being made up to \$9, while Wednesday and Thursday top handy lambs brought from \$8.75 to \$8.90. Friday's market was very slow, and while top was \$8.75, not many brought above \$8.65. Weighty lambs were very unsatisfactory sale, some prime ones, averaging a little over 90 pounds, selling Friday at \$8.35, while heavy lambs were quoted as low as \$7.25. Sheep the past week were scarce and strong. Top for ewes last week was \$5.90, but general range on these was from \$5.25 to \$5.75. Best wether sheep sold at \$6.25, and yearlings went from \$7.50 down. Receipts the past week figured 37,800 head, as against 26,100 head the week before, and 40,800 head a year ago.

Calves.—Marketing last week showed approximately 1,950 head, as compared with 1,300 head the previous week, and 1,425 head a year ago. Prices showed a narrow range, tops the first five days selling from \$12 to \$12.50. Culls mostly \$9 down, and common fed calves quotable as low as \$4.50.

WHOLESALE PRODUCE MARKET.

Butter.—Creamery prints, 37c.; dairy, choice to fancy, 33c. to 34c.; fair to good, 30c. to 32c.
Cheese.—New, fancy, 17c. to 17½c.
Eggs.—White, fancy, 39c. to 40c.
Dressed Poultry.—Turkeys, choice, per lb., 23c. to 25c.; fowls, choice, per lb., 15c. to 16c.; chickens, fancy, 16c. to 17c.; ducks, per lb., 17c. to 18c.; geese, per lb., 13c. to 15c.
Live Poultry.—Turkeys, per lb., 19c. to 20c.; chickens, choice to fancy, 15c. to 16c.; geese, per lb., 13c. to 15c.; ducks, 16c. to 17c.

Chicago.

Cattle.—Beeves, \$5.65 to \$9.70; Western steers, \$4.90 to \$7.60; cows and heifers, \$3.10 to \$8; calves, \$7.75 to \$10.50.

Hogs.—Light, \$6.70 to \$7.10; mixed, \$6.80 to \$7.15; heavy, \$6.75 to \$7.15; rough, \$6.75 to \$6.90; pigs, \$5.25 to \$7; bulk of sales, \$6.85 to \$7.10.

Sheep and Lambs.—Native, \$5.80 to \$6.75; yearlings, \$6.90 to \$7.90; lambs, native, \$6.90 to \$8.90.

Trade Topic.

A SIGN OF THE TIMES.

The Imperial Life Reports a Very Satisfactory Year's Business.

That the European War is not having the disastrous effect upon the business of our Canadian financial institutions that might have been expected is daily becoming more apparent. Very satisfactory reports have already been published by some of the banks, and now the Life Insurance Companies know in a general way the success which has attended their operations during 1914. If the experience of The Imperial Life Assurance Company of Canada is any criterion, this great business has again demonstrated its ability to weather any financial storm, to provide security which can stand the test of any business disturbance, and to pay to its patrons increased profits, while hundreds of industrial and commercial institutions are passing their dividends. The Imperial Life Assurance Company report that their new business for 1914 was practically the same as that of 1913, and that the loss of business through lapses was very much below what was expected. The death losses were only about 50 per cent. of the expected. A particularly gratifying feature of the year's business was the opportunity afforded during the past few weeks for securing gilt-edged investments at prices to yield higher rates of interest than ever before. This did not effect appreciably the interest earnings in 1914, but it will have a very beneficial effect in 1915 and following years. The average rate of interest earned by The Imperial Life upon its investments in 1914 was again well above 7 per cent. J. F. Weston, Manager of The Imperial Life, states that with the growing appreciation of the value of life insurance in the minds of Canadians the prospects are bright for even a more successful business in 1915.

Gossip.

NOTICES OF MOTION TO COME BEFORE SHORTHORN BREEDERS' MEETING.

The following notices of motion have been filed with the Secretary, and will be considered at the forthcoming annual meeting of the Dominion Shorthorn-Breeders' Association, to be held on February 2nd, at the Carls-Rite Hotel, Toronto:

By Robert Miller:—That the Dominion Shorthorn Breeders' Association change the rule with regard to recording Shorthorns wherein it says that all ancestors must trace to animals recorded in the 40th or preceding volumes, to read "the 50th or preceding volumes of the English Shorthorn Herdbook."

By Harry Smith:—That a rule be added to our Rules of Entry as follows: "No application for registration shall be considered where the sire of the animal offered for entry was less than eight months old at the time of service, or where the dam of the animal offered for entry was less than nine months old at the time of service."

By Harry Smith:—That in order to furnish adequate representation to all parts of the Dominion, the election of directors on the Board of the Dominion Shorthorn Breeders' Association should be based proportionately on the amount of bona fide membership fees paid by each Province. This to be done by dividing the total membership fees by the number of directors in this Association, and then dividing the membership fees received from each Province by the units thus furnished, which will give the number of representatives which that particular Province is entitled. In the event of any Province not furnishing a sufficient amount of membership to be divisible by the unit in question, or if any Province does not furnish fees to an amount greater than one-

half the unit, such Province may, for purpose of representation, be united with an adjoining Province. When the amount of the fees derived from any Province, after being divided by the unit, leaves a larger balance than one-half of the unit, such Province to be entitled to another representative."

"That the Directors from each Province be selected by the members of the Association in that particular Province in such manner as may be found feasible and practicable."

"That in order to safeguard the interests of all the members of the Association, any resolution passed at a general meeting of the Association should be confirmed by a majority of the Board of Directors."

"And that such alterations, additions or amendments be made to sections two, three and four of Article five of the Constitution of this Association as may be necessary for the incorporation of the foregoing motion in the Constitution of this Association."

LIST OF SALE DATES CLAIMED

- Jan. 20, 1915.—A. Kennedy & Sons, Paris, Ont.; Holsteins.
- Jan. 26, 1915.—Victoria Pure-bred Stock Association, A. A. Knight, Lindsay, Ont., Secretary.
- Jan. 27, 1915.—Brant District Holstein-breeders' Club, N. P. Sager, St. George, Ont., Sec.-Treas.
- Feb. 3, 1915.—The great Canadian Shorthorn sale, Union Stock-yards, Toronto, Robt. Miller, Stouffville, Ont., Manager.
- Feb. 5, 1915.—W. F. Elliott Box 54, Unionville, Ont.; Holsteins.
- Feb. 9, 1915.—Southern Ontario Consignment sale, 80 head of Holsteins, at Tillsonburg, R. J. Kelly, Culloden, Ont. Secretary.
- Feb. 10, 1915.—East Elgin Holstein-breeders' Consignment sale, at Aylmer. Gadon Newell, Springfield, Secretary.
- Feb. 11, 1915.—Annual Norfolk Holstein-breeders' Club sale, W. H. Cherry, Hagersville, Secretary.
- Feb. 12.—P. D. McArthur, North Georgetown, Que.; Ayrshires.
- Feb. 17, 1915.—Estate of the late Otto Suehring, Sebringville, Ont.
- Feb. 25, 1915.—N. H. McConkey, Stratfordville, Ont.; Holsteins.
- March 3, 1915.—Annual Provincial Sale of pure-bred stock (beef breeds), at the Winter Fair Buildings, Guelph, J. M. Duff, Guelph, Secretary.
- March 24, 1915.—Oxford District Holstein-breeders' Club, W. E. Thomson Sec.-Treas., Woodstock, Ont.

Questions and Answers.

- 1st—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.
- 2nd—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.
- 3rd—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.
- 4th—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Miscellaneous.

Double-acting Hydraulic Ram.

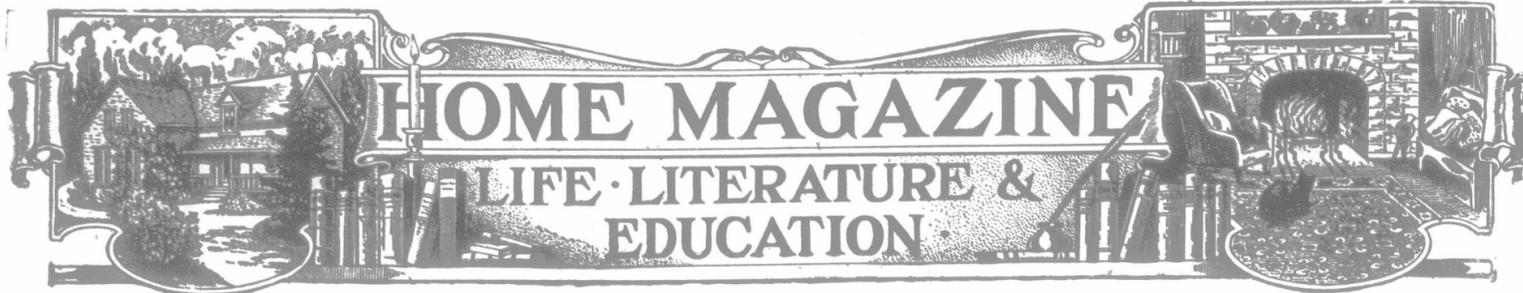
1. We have a spring we would like to take up to the house with a hydraulic ram. It is about fifty rods from the house, and beside a small stream, and the spring not being very strong, would be very pleased to know how to put in one of those double-acting rams that the stream of water could be used to send the spring up.

2. Where could one of those rams be bought, and what is the price?

G. D. M

Ans.—1. The double-acting hydraulic ram is installed in just the same way as the single-acting ram, except that two drive pipes must be laid, one from the stream to the ram, and one from the spring to the ram. The fall in both drive pipes should be 2 feet or more, 3 feet would be better, although the ram will work on as little fall as 18 inches but the results are not so satisfactory.

2. Double-acting hydraulic rams may be had from the following companies: The Hill Hydraulic Machinery Co., 616 Pacific Block, Seattle, Wash. Allan Gawthrop, Jr., 100 W. Fourth St., Wilmington, Del. The Kline Hydraulic Ram Co., 41-43 South Third St., Philadelphia, U. S. A.



The Cathedral of Rheims.

Rendered from the French of Edmond Rostand, by Thomas Walsh.

They make it only more immortal still.
Though vandals mar, yet lives the work
of Art.

Let Phidias witness, and Rodin impart.
How in these fragments speaks the primal
thrill.

The fortress crumbles on the gunless hill;
The shrine, though broken, lives with
nobler heart;

Our eyes, raised wistful where its spires
would start,

Find heaven grown lovelier through its
shattered grille.

Let us be grateful . . . Fate would long
withhold

What Greece could boast of on her hill
of gold,

A Beauty in its outrage sanctified. . .
Let us be grateful, now the hands upon
The blundering German cannon would
provide

Their shame forever and our Parthenon!

Browsings Among the Books.

SOME MONUMENTS IN FRANCE.

A secondary note to the regrets expressed everywhere in regard to the loss of life due to the war, is the lament of prospective tourists to Europe that so many of the great monuments of that supposedly ultra-civilized land will have been destroyed, leaving comparatively little to see.

Probably the greatest loss in this way, so far, has been that to the cathedral at Rheims (or Reims), caused by its bombardment by the Germans on the 14th of September, under the excuse that the towers were being used for observation purposes by the French. For this reason, no doubt, the towers suffered most, and so the many wounded German soldiers harbored in portions of the body of the church itself, in the care of French Red Cross nurses, were spared. The towers, by the way, contained two great bells, one of which weighed over eleven tons.

The damage will scarcely be repaired in our day, and yet it is reassuring to know that much of the beauty of the wonderful edifice still remains, and that the "Cathedral of Rheims," all broken as it is, will still be a Mecca for sight-seers and lovers of art who venture abroad when the cannons have ceased booming.

This great church, a marvellous masterpiece of Thirteenth Century Gothic, was founded in 1211, and took 140—some say 218—years to build. Its interior is 455 feet long, 98 feet wide, and 125 feet from floor to roof in the center, and for hundreds of years its gradually collecting statuary, paintings and wood-carvings have been the wonder, and delight, and inspiration of the thousands of tourists who have flocked annually through Northern France. The magnificent west facade, with its three deeply-recessed portals, alone contained more than five hundred statues of saints and kings of France. Above the central portal was the wonderful rose window, through which the light streamed, creating marvellously beautiful light effects.

In early days the kings of France were crowned in this cathedral, and it was here that Joan of Arc saw the fulfillment of her dreams in the coronation of Charles VII. Kneeling, immediately afterwards, she asked to be permitted to return to her country home and her former life of tending her father's sheep, but such was not for "the maid."

A yet older monument of Rheims is the Mars Gate, a triumphal arch 108 feet long and 43 feet in height, supposed to

have been erected by the Remi in honor of Augustus, when Agrippa made the great roads terminating at the town.

MONUMENTS OF NAPOLEON.

At one time, during the rapid advance of the Germans towards Paris, it seemed that the monuments of the French capital might share the fate of those of Rheims, and Ypres, and Louvain. Turning almost at the gates, however, the invading army withdrew, and so Paris goes on its way as before. The great church of Notre Dame, but scratched by the falling of a bomb from an aeroplane upon one of its turrets, still stands, vast as before, the chants of a kneeling people rising in its dim pillared shades; the Louvre still holds its multitude of pictures, albeit a few of the most priceless have been removed to places of hiding; pillars and arches still rear aloft their contribution to Paris the Beautiful.

Upon two of these last let us pause. They commemorate the deeds of one to whose ambitions those of the Kaiser, in these later days, have been often com-

pared, one whose career has been pointed out as the source of the militaristic inspiration of Bismarck and the consequent militarism of united Germany,—the Emperor Napoleon I.

The first of these, which every visitor to Paris makes a point of seeing, is the Arc de Triomphe, the famous Arch of Triumph, designed by Napoleon to commemorate one period of his victorious march through Europe. Even the site, at the top of the beautiful avenue of the Champs Elysees, was chosen by him, and the first stone was put in place on the 15th of August, 1806.

To quote from Henry Haynie (in "Paris Past and Present"): "The early work on the arch was very difficult, as the soil offered no security for its foundations. It was necessary to dig to a depth of 25 feet, and to form an artificial base of heavy, cut stones, which would support without danger the enormous weight of the structure. The total cost of the edifice was \$1,810,000. It rises to a total height of over 160 feet, with a width of 148 feet, the height of its principal arch being 93 feet above the pavement. It is an imposing, colossal edifice, one that can be seen from afar off, looming above the capital."

Interesting indeed are the incidents connected with the monuments of Paris, and not least so those told with the mention of the Arc de Triomphe. "This arch," continues the writer above quoted, "was the scene of a great public demonstration on the 20th of April, 1848, when the Second Republic distrib-

uted the small advance column rode a Colonel whose heart was too gentle and too susceptible to youthful clamor for this wish to be realized. Before the facade, which looks towards the Gates of Neuilly, two thousand children had massed themselves in one solid group, and the boldest present advanced a few yards to tell this Colonel that his soldiers would have to ride over infants before they could pass through the Arch. Whether the officer had little ones of his own at home, whom he thought of just then, or whether he was moved by this powerful display of youthful patriotism,—he turned his horse's head around the Arch, and the rest of the army followed him.

"In 1885 we had another never-to-be-forgotten solemnity in the Place de l'Etoile, and about this colossal Arch. The committee charged with the obsequies of Victor Hugo selected the Arc de Triomphe as the center for that ceremony, and the coffin of the illustrious poet was exposed there during several days and nights.

"A sarcophagus sixty feet high was placed under the main Arch; on this rested the coffin, and the entire front of the massive structure facing towards the Champs Elysees was hung with an immense black veil, behind which funeral urns held blazing fires. It was an august, serene sight, that of a master of thought, a great writer, thus reposing amidst the sound of cannon, the rolling of drums, and the tolling of bells, under the glorious arch which Napoleon I. had consecrated to Marengo.

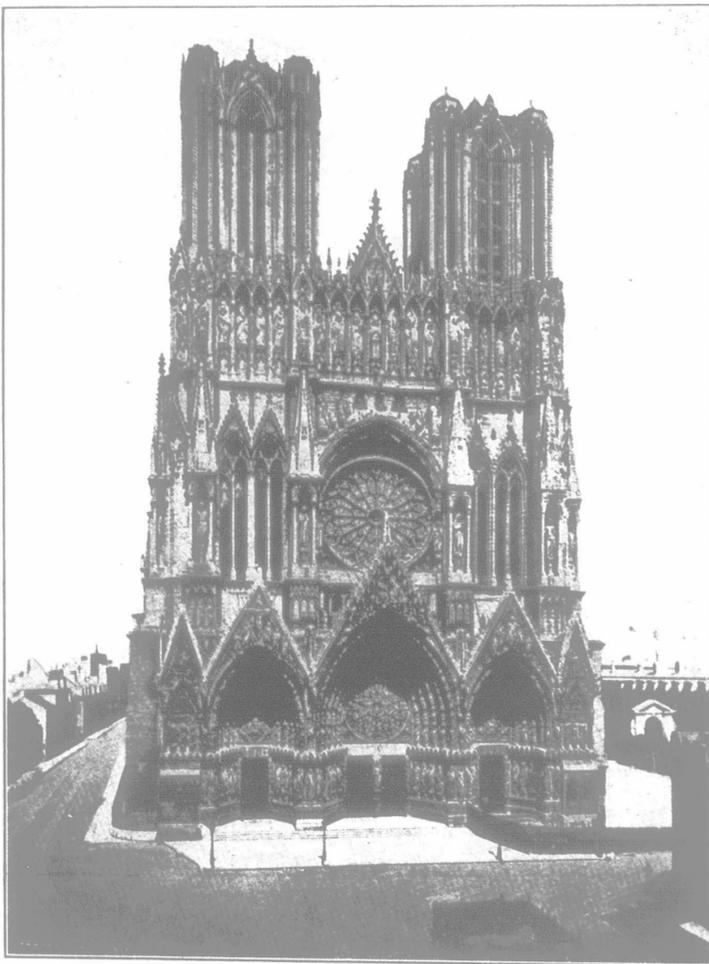
"But the one whom we saw resting in the Triumphant Arch was no captain whose name and glory had been won in battle. His was not the body of some conquering monarch returned from many victories. No, it was only that of an old man who had during all his long life labored for truth, for justice, and for liberty. We were assisting at the capture of a monument raised to the Glory of War by one who was ever an Apostle of Peace. Napoleon had erected the splendid pile to perpetuate the spirit of greed and conquest; but as we walked slowly and silently about under its wide-spreading shadow, we now saw that it was the tomb of one who had ever dreamt of a humanity filled with peace and concord."—Fine tribute this to an Apostle of Peace, by a Chevalier in the French Legion of Honor.

And truly there are many monuments. When those built of stone and wood shall have fallen and crumbled, will still live those that are not less real though evident only in the happier lives of men,—the monuments left by such men as Lister and Simpson and Pasteur, Marconi and Graham-Bell and Edison, all the great army of statesmen and teachers who have worked for the weal of humanity.

A HISTORICAL COLUMN.

The second of the monuments of Napoleon referred to, is the Colonne Vendome, also in the city of Paris. "After the campaign of 1806," says Haynie, "Napoleon I. conceived the project of erecting a column to the glory of his army in the Place Vendome. That monument, finished in 1810, was cast out of the bronze of 1,200 cannons captured from Russians and Austrians, and it was intended to be a durable monument of success and glory, raised rather to the honor of a great nation than to that of a single man. It was 148 feet high, and was built of cut stone covered over with 425 bronze plates, representing in a continual spiral the memorable events of Napoleon's campaigns. One hundred and seventy steps inside the column led up to where, at the top, the Emperor stood, dressed in imperial robes, with a crown on his head and holding a sceptre.

"Guy de Maupassant has left on record



Rheims Cathedral.

As it was before its destruction by the German bombardment on Sept. 14, 1914.

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an agreeable anecdote of this column. Bonaparte, then only a major in the French artillery, had been dining at the house of General d' Angerville, brother-in-law to Berthier, and, with Madame Talien leaning on his arm, was walking through the Place des Piques. Berthier and d' Angerville, who lived in one of the houses surrounding the square, were also of the party. "Your square is quite lost, General," said the future Emperor to d' Angerville; "What it needs is something in the center like a Trajan column, or a monumental tomb to hold the remains of the bravest soldiers who have died for their country." Madame d' Angerville said she preferred a column to a tomb in front of her residence, whereupon Bonaparte laughingly remarked: "Well, my dear madame, some day when Berthier and I are also generals, you shall have your column." He kept his word after the battle of Austerlitz.

"In 1814, when Paris was occupied by the Allies, the Russians wanted to overthrow this monument of their defeats, but they were only permitted to pull down the statue. From that time until 1830 the column was surmounted by a fleur de lys nearly five feet high, and above that was a tall staff from which floated a white flag.

"The year when Thiers and his French troops were at Versailles, and the Prussians were still on the soil of France, madmen perpetrated many inglorious acts, and one of them was the attempted destruction of this monument. A man whose wife kept a large millinery establishment at the corner of the Place Vendome and the Rue Castiglione, begged the mob not to tear it down; and his wife even offered them one million francs if they would leave it unmolested. But they demanded two million, and that sum not being forthcoming, they accomplished their vandal act. The Communists were led by Courbet, a famous painter, who left a large fortune at his death, and, after a long lawsuit his heirs were forced to pay the cost of reconstructing the column. It was rebuilt in 1874.

"The colossal image of Napoleon, which stands now at the summit of the Colonne Vendome is not the original, however; and it is worth recording here that on the morrow of the entrance of the Allies into Paris, the column itself would have been destroyed from top to bottom but for the intervention of foreigners. . . . In 1832 a new statue of Napoleon, of a model quite different from that of Chaudet, replaced the white flag. Its sculptor, M. Seurre, represented the Emperor in his traditional costume of the 'Little Corporal,' that is to say, wearing a cocked hat and a long, gray redingote. Napoleon III., no doubt finding that the dynastic idea was insufficiently symbolized in the Seurre picture, commanded that the Petit Corporal should make way for Cesar, and then was seen—third avatar of the Napoleonic idyll on the Vendome Column—an antique statue of nude legs, with a Victory in his hand and a chlamyde over his shoulders, in the place of the modern Emperor and his long frock coat.

"But the column and its colossal image was not yet at the end of its misfortunes. Six days before the troops from Versailles had retaken Paris, the Colonne Vendome was overthrown by orders of the insurrectional government. And when it came down with a mighty crash, an immense clamor of 'Vive la Commune!' arose from the crowd, even as a great cry of 'Vive le Roi!' had gone up when the statue of Napoleon fell the 8th of April, 1814.

Finally, the column and its crowning statue, as it now stands, was erected in 1874. At first it was a question of replacing the figure of the Emperor with one of France, but that resolution was abandoned, and a statue of the Great Captain was put at the top of the glorious column.

Mr. B. took down the receiver of the telephone and discovered that the line was in use. "I just put on the potatoes for dinner," he heard one woman complacently inform another.

He hung up the receiver and waited. Three times he tried the phone, and at last his patience was exhausted.

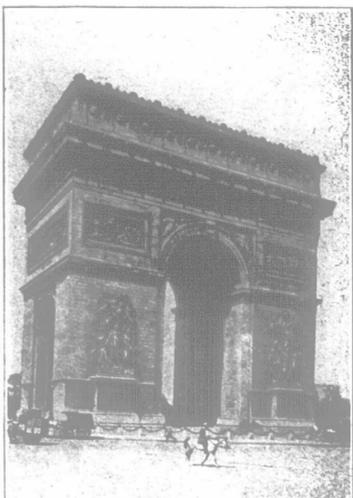
"Madam," he interrupted, "I smell your potatoes burning."

A horrified scream greeted the remark, and he had the immediate use of the line.

The Windrow.

"War stops literature. It is an upheaval of civilization, a return to barbarism; it means death to all the arts. Even the preparation for war stops literature. It stopped it in Germany years ago. A little anecdote is significant. I was in Florence about 1883, long after the Franco-Prussian War, and there I met the editor of a great German literary weekly. . . . One day I asked him about the German novelists of the day. He said: 'There are no longer any German novelists worthy of the name. Our new ideal has stopped all that. Militarism is our new ideal—the ideal of Duty—and it has killed our imagination. So the German novel is dead.'"—William Deans Howells, in New York Times.

"Man has made progress, and he will progress further. He has brought the animal instincts so far under control that private vengeance and the local vendetta are no longer customary in civilized lands. He has greatly curtailed the number and extent of wars



Arc de Triomphe, Paris.

between the more or less differentiated populations that compose the big empires and federations. Surely he need not despair of the possibility of preventing wars between nations. Thinking men who are not sentimentalists, and who are both hard-headed and far-seeing, look upon the proposition to create a system of nations strong enough to compel great powers to keep the peace, as feasible. It will surely enlist the earnest effort of millions of practical men and women.

"Nevertheless, there are conditions to be fulfilled, and among these the scheme of organization is not the most important. The world has had convincing proof in the last fifty years that the adoption of republican constitutions does not necessarily make a republican people, and something more than a light-hearted agreement of the nations to enter into a federation for the inhibition of war will be necessary to prevent war in fact. There must be a mental and moral unity, not only of purpose, but also of practice, and chief among the psychological factors we are disposed to place the acceptance of principles of human equality.

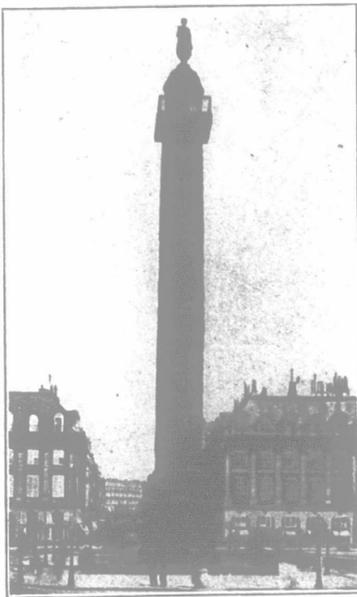
"We do not now refer to such proclamations of equality as found their way into the American Declaration of Independence and the French Declaration of the Rights of Man. Nor do we have in mind those kinds of equality that have figured largely in the literature of the class struggle. We are thinking rather of an equality which pertains to the fundamental worthiness of man, which stands over against primitive prejudices, which is a product of friendly intercourse between peoples and races, and is an essential element in what President Butler has felicitously named 'the international mind.'"—The Independent.

Mr. Alfred Stead, in an article in The Independent describing the excellence of

the system by which Tommy Atkins receives his food supply in the trenches, tells admiringly of the clever work done by the motor trains in rushing through foodstuffs, and of one incident in particular. "They have already one brilliant feat to their credit," he says. "A train of twenty lorries, each laden with five tons of food and stores, ran suddenly into a band of five hundred German cavalry and was called upon to surrender. The German officer, on being refused, was allowed by them fifty yards grace, and then the fight began. The British officer in charge took the wheel of the first lorry and went full speed ahead at the enemy, and the others followed. There has been nothing like it since Hannibal's elephants charged the Roman legions. They went through and over the Uhlans and escaped, with small loss—and Tommy in the trenches had his breakfast next morning."

A correspondent of the London Times, we are told, recently wrote to that paper in great indignation over the prevalence of the title "Tommy Atkins." To him it held the value of an undignified sobriquet, and he objected to its use as the characterization of men who were dying for their country. The respect of this patriot for the British private was laudable, but he was sadly mistaken as to the quality of the private's *nom de guerre*. There are several stories accounting for the origin of the name, but all of them agree on the one point, that the original Tommy was all that England could expect of any of her subjects. A Richmond News Leader editor thumbs the pages of Brewer's "Handbook of Literary Curiosities" and other authorities and informs us that:

According to these, the term arose from the little pocket ledgers at one time served out to all British soldiers, in which were to be entered the name, the age, the date of enlistment, the length of service, the wounds and the medals, and so on, of each individual. The War



Colonne Vendome, Paris.

Office sent with each of these little books a form for filling it in, and the hypothetical name selected, instead of John Doe and Richard Roe, as with lawyers, was "Tommy Atkins." The books immediately came to be so called, and it did not require long to transfer the name from the book to the soldier.

Another correspondent of The Times, in taking issue with the uniformed protestant, explains that behind the little book and selection is a story of fine heroism and devotion to soldierly duty. He says:

"Many will remember why our soldiers received this name in the first instance. How, in 1857, when the rebellion broke out in Lucknow, all the Europeans fled to the residency. On their way they came upon a private of the Thirty-second Regiment (Duke of Cornwall's light infantry) on sentry at an outpost. They urged him to make his escape with them,

but he would not do so and was killed. His name happened to be Thomas Atkins, and so, throughout the mutiny campaign, when a daring deed was done, the doer was said to be 'a regular Tommy Atkins.'"

This background to the usage relieves it of any flippancy, offensiveness, or reason for inspiring resentment, and makes "Tommy Atkins" a designation to be proud of.—Literary Digest.

"It has been presented to us, by writers of authority, that on a material side we may expect Russia to play an important part in the economic history of the future, that no country in the world has such a food-producing area as the Slavs, that we may eventually turn to Russia to aid, through her agricultural power, in keeping down the high price of living for those highly-developed countries where the manufacturing interests overpower agricultural pursuits. Also, we are promised Russia as a market for the labor of all western nations as the great potential buyer of the future. The re-established peasant is also presented to us as a hopeful asset. We are told that as an individual he will progress far beyond the mere unit in the herd; that he is fundamentally a simple, honest and industrious man, physically virile, emotionally peaceful, that in Russia even to-day ninety per cent. of the people owe their living to the land, that this ninety per cent. on a higher social and spiritual level will be a people to reckon with in the progress of the world."—The Craftsman.

Hope's Quiet Hour.

The Father Knows.

Your Heavenly Father knoweth that ye have need of all these things.—S. Matt. vi. 32.

"Keep me, my God!
My boat is so small, and the ocean is so wide."
—Breton fisherman's prayer.

We are very apt to measure the importance of things by their size. The fisherman feels small, as he steers through the tossing waves of the mighty ocean, yet he is infinitely more valuable than the ocean—or than the whole physical universe. Our own little concerns mean much to ourselves, but we hardly like to mention them to God. He has such important matters to attend to. We plead the cause of the poor Belgians, and do not hesitate to pray for the safety of a young soldier at the front; but it seems almost impertinent to trouble the Ruler of the Universe about our little, commonplace needs or troubles.

King Ahaz was afraid of asking too great a thing of God, and he was encouraged by this message: "Is it a small thing for you to weary men, but will ye weary my God also?" We are more likely to fall into the opposite extreme, bringing before God in prayer only things of great importance. We forget that He Who guides and controls the great heavenly bodies, Who "hath set the earth upon nothing," and measures infinite space with a span, also clothes the grass of the field, paints the wayside flower, cares for each little heedless bird and numbers the very hairs of our heads.

Read Isaiah xl.: 11, 12, and you will notice that God's habit of tenderly lifting into His arms the weary lambs of the flock is put in the first place, while His control over the sea, mountains, and infinite space, is mentioned as a secondary matter.

We say of anyone who is constantly kind and considerate in small matters, that "he is thoughtful," we are pleased when King George personally visits his soldiers—in camp or in hospital—and procures for them some little unnecessary luxury or pleasure, but too often we fail to expect our Father-King to be thoughtful about little things.

I don't mean that we should fill up our precious times of prayers—which we are apt to cut down, anyway—with long lists of trifling needs. Our text warns us against this very mistake. We are like soldiers on a long and exhausting campaign. The general sees to it that

food and water, warm clothing, hospital supplies, and all other necessities are ready for use. The soldiers need not worry about these things, but are free to attend to their special business. So, our Lord says, our Father knows our needs; therefore we are free to seek first God's kingdom and righteousness, knowing that all necessities will be added to us.

The message about God's care for little matters, which our Lord made so clear in His Sermon on the Mount, was not a new one. Read the Old Testament carefully and you will see it revealed over and over again. Think of Elijah, flying from his fierce enemy and flinging himself down in utter exhaustion to sleep on the ground. When he awoke there was a freshly-baked cake and a crust of water beside him. He was almost too worn out to wonder, so took the food provided and fell asleep once more. Again the gentle touch of the angel reminded him of his need of food and drink. How thoughtful and considerate God was for the man who had so boldly witnessed for Him in the midst of a godless people: "Arise and eat; because the journey is too great for thee," was the Divine message. Depression and despair arose from physical exhaustion. God did not reason with him, but provided for his needs. He took the plan which has at last been learned by those who try to uplift others—He ministered to the bodily needs and then was able to reach the despairing soul. Our Lord believed in "social service" methods. He healed the sick, and then preached the Gospel to the poor. (S. Matt. xi: 5.)

We read the Book of Jonah and can easily understand God's goodness in sparing the great city—for that seems to us an important matter and worthy of thoughtful attention—but it comes almost as a shock to find that God was considerate enough to cause a plant to grow up as a shelter for the prophet from the heat of the sun. We can understand God's preparing a great fish to save the life of His wayward servant; but we are surprised to learn that a worm was also "prepared," in order that Jonah might learn the lesson that even the people of a heathen city when very precious to the Father of all nations.

Jonah was eager to see the wicked city destroyed, but God was watching eagerly for any sign of repentance. How is it with us? Are we more anxious to see our enemies crushed than to have the broken fellowship with them restored? Are we, in spirit, children of Him Who sends life-giving rain on the just and on the unjust, and Who pours out sunshine every day on the evil as well as on the good? If we are not keeping the law of love ourselves, no wonder we fail to understand our Father's desire to share our everyday interests. If we only admit Him into fellowship with us in great matters, where are we to draw the line? If we are to wait until some "great" thing needs attending to, we shall probably crowd Him out of the largest part of each day.—Then, when the great thing—or that which seems to us to be great—at last arrives, we shall be more likely to turn to an earthly friend than to our Father, because we have not got into the habit of looking up into His face for sympathy and help in gladness and in difficulty.

Is it possible that we are afraid of wearying God, of taking up too much of His time, or is it that we don't quite believe that He cares? Yet we know that God has time to consider everything that is of interest to us, or else He has no time to spare for our concerns at all. Among all the millions of creatures in this world of ours, we could have no chance to gain His attention, if it were not that He is infinite in thoughtful care for all. Though the multitudes pressed around our Lord, He knew instantly when one woman reached out a trembling hand and touched the hem of His garment—touched that garment, intentionally. He has not changed since that day. He knows when a hand touches Him amid the press of the world's business.

We are willing enough to recognize a great sorrow as "a visitation of God," or a wonderful joy as a gift straight from His hand; but how often—in little matters—our Lord might say of us as He said of Jerusalem—"thou knewest not the

time of thy visitation." The food which multiplied in His hands was not more marvellous than the grain which multiplies in our fields. We understand the yearly miracle as little as the people of Galilee understood that wonderful provision for their needs.

One who has had a narrow escape from death naturally gives God thanks for His watchful Providence, but each child of God, who abides under the shadow of the Almighty, is watched and cared for every moment. Of such it is written: "He shall give His angels charge over thee, to keep thee in all thy ways, they shall bear thee up in their hands, lest thou dash thy foot against a stone." Such a little thing, is it not?—to hurt the foot against a stone! When such trifling accidents are permitted to hurt us, we must not think that God's tender care has failed. No, He allowed the small trouble in order to give through it some great good. Let us take it as a proof of love, instead of grumbling at what we call our "bad luck." As

The Ingle Nook.

[Rules for correspondence in this and other Departments: (1) Kindly write on one side of paper only. (2) Always send name and address with communications. If pen name is also given, the real name will not be published. (3) When enclosing a letter to be forwarded to anyone, place it in stamped envelope ready to be sent on. (4) Allow one month in this department for answers to questions to appear.]

Dear Ingle Nook Friends,—Coming down on the train I fell in with a girl whom I had been fortunate enough to know before, a bright-faced girl, not pretty, but carrying with her an air of wholesomeness and vivacity, as though she knew how to live life to its fullest. With her seemed to enter a breath of the glorious, out-of-door January air. She wore a warm coat, a short tweed skirt, and a close little fur hat, and had a pair of snowshoes slung over her shoulder.

"I have just been to the woods," she

would go back to the woods again on her snowshoes and compare the two, the book notes with the actual objects, and soon she would be able to say with authority, "This track was made by a weasel,—that by a snow-bird, and that by a fox. This tree is a butternut, that a black elm, and that beyond a basswood."

Thoroughness, I knew was her watchword, versatility her good fortune. She had graduated from Toronto University; she had belonged to a mountain-climbing club in British Columbia; she could ride, swim, fence, paddle, shoot with bow and arrows, and cook a meal with "the best of them." She had a passion for good literature; one day, I remember, I came upon her when she was drying her hair after washing it, and found her seizing the dying moments as she did so by reading Goethe in the original. She loved people, and now she was plunging into nature-study with the same zest which she put into all other things, and finding it worth while.

After she got off the train, one could not but follow her on, with the mind's eye, seeing her on the journey through life, eternally busy, eternally happy,—and all because of her many resources. She had not left undone anything that came her way that meant added interest or capability, and now she was reaping and would continue to reap even into old age, the rich reward.

One meets many people among the farmers who are true lovers of nature. Those who are not, and who are obliged to live away from crowds, cast upon nature's solitudes, are indeed to be pitied. And yet, perhaps, they do not realize what they miss.

Two men go out in early spring to sow. The one, as he ambles up and down the brown furrowed field on his seeder, takes a keen joy in the softening spring air; he notes the beauty of a white cloud hung high in the heavens, he observes the bursting of the buds and the greening of the grass; the gurgle of a brook, the faint, sweet piping of song-sparrow and meadowlark are music to him; a cluster of pinkish hepatica, or a yellow dog's-tooth violet blooming in a fence-corner brings to him "thoughts that do often lie too deep for tears." Life is poetry to this man,—even seeding in a field. . . . To the other, however, it is plain prose, the plainest of prose. He sees no cloud, no bank flaming emerald, no flower in a fence-corner; he sees nothing but the day's work and a far-off vision of a wearisome harvest that means money in the end.

Autumn comes. To the one, no gradation of amber light in the ripened wheat-field is lost, no shadow fleeting over the bending ears. "The harvest of a quiet eye" is his, the joy of the artist who sees. . . . To the other, the gold of the uncut field suggests only the gold of dollars, a task to be hurried through and converted as quickly as may be into money.

Back there, too, among the farm-houses are two women, and again it is spring. White-aproned, the two come from the kitchen doorway into the back garden. The one moves about from place to place, noting the bursting leaflets, the little green and pink heads pushing up through the soft soil. She knows them all at sight, here a bleeding heart, there the sharp blades of an iris, here a peony, crumpled up like a crow-foot, there the pale-green folded leaves of "Sweet William,"—and she greets one and all happily as old friends. . . . The other woman has no flowers in her garden. "They are too much trouble," she says. "There is nothing out of doors to interest her, for the soul that does not love flowers can see little to love in blue skies or elm trees 'bursting into smoke.'" Perhaps she glances at the rhubarb and wonders vaguely when it will be fit to use. Nature means no more to her than this.

Yes, there are "lives" in the country and there are "rich" lives.

Perhaps on all this continent there is no one who finds a keener interest and delight in nature than dear old John Burroughs, of whom most of you have read. If you do not know his books, I hope you will get some of them from your library and read them—to be sure, read the more ready for spring.



The Western War Zone. The shaded portion represents the German position at the first of the year. Along the complete line, from the North Sea to Switzerland, the Allies have assumed the offensive.

though "luck" were possible to a child of God when infinite Love is constantly preparing each step of the way for his lasting good! Let us begin the New Year joyously and securely, sure that the blackest clouds are big with mercy, and that the Sun of our Father's Love is still shining, even when we cannot understand His dealings with the world.

God is always thinking about us. He will give us what we need, and also what we really want if we are trying to serve Him—for we hunger and thirst after holiness and a clearer vision of His Face.

"The thing I ask Thee for—how small, How trivial, must it seem to Thee! Yet, Lord, Thou knowest, Who knowest all, It is no little thing to me, So weak, so human as I be! Therefore I make my prayer to-day, And as a father pitieth, then Grant me this little thing, I pray, Through the one sacred Name, Amen!"

DORA FARNSCOMB.

said, "Have you ever been there in winter? It's so interesting, isn't it? I don't know all the tracks yet, but I mean to learn all about them."

Not a word about being bored to death in the country; not a grumble about being lonely or unable to find plenty to be interested in. This girl could find interest even in "tracks," the tracks of all the little wild birds and animals that make lace-work over the snow in mid-winter; the hoary trunks of the trees could tell her a story, and the tracery of branches and twigs against the blue sky. "You can get the character of the different species so much better when the leaves are off," she said. "Really the trees are quite as beautiful in winter as in summer, and when there are tufts of snow on the branches they are wonderful. I don't know all the kinds yet, but that will be something to find out, too."

I understood, for I knew her method. She would get books about animals—"tracks" and all—about trees, and

ton," "Wake-Robin," "Locusts and Wild Honey," "Squirrels and Other Fur-bearers," "Far and Near,"—there is a goodly galaxy to choose from, and you can scarcely read one of the number without finding your perception of nature and interest in it, quickened.

Mr. Burroughs is now an old man, but he has never lost his delight in the beautiful world and all the wonderful details that make it up. Like Thoreau, he has always found that it has been possible for him to "travel much" in his immediate neighborhood, yet he has taken some fine trips far afield also, and so his appreciation of the big, round earth has broadened. "Far and Near," is a delightful account of a trip to Alaska, which you will do well to make your own.

A year or so ago he visited Georgia, and Mr. R. J. H. De Loach has, written charmingly, in "Uncle Remus's Magazine," of meeting him there: "Shall I ever forget the morning that John Burroughs, a basket in one hand and a hand-bag in the other, walked up from the train to my home? His eyes caught a glimpse of every bird on the ground, in the trees, and in the air above, and he would rejoice, saying, 'I hear the thrasher somewhere!' 'There is a robin!' 'How many jays have you down here?' 'There is a tree in full bloom; it looks like one of the plums!' These bits of natural history made him feel at home, and as if he were among his neighbors. Every flower seemed to be a revelation and an inspiration to him, and his very love for them proved a great inspiration to me."

It seems to me that every farmer and every farm-woman should possess something of this dear old naturalist's affection for the things of wood and wild. My friend of the train is likely to drink deep of it, and she is starting out in the right way, by extending her knowledge of things. When you know, you see. Every bit of added information gives one, as it were, an extra eye, and on the farm so many extra eyes may be called into use. John Burroughs, by the way, lives in the country, and although he has not made his living by farming, he is a product of the farm. "I have always been a lover of it," he has said; "I am a man of the soil. I enjoyed the smell of that manure as we passed up the road to-day. It recalled my early days when I used to put it out on the farm. Anything that savors of the farm and of farm life is pleasant to me. Nothing makes me happier than my annual visit back to my old home in the Catskills."

.....
This talk has surely become metamorphosed into a harbinger of spring, earlier, even, than the "Globe" robin. But I make no apology. Invariably I find that, in January, I want to think about and talk about May-time. Perhaps you are the same. At all events, I hope I have been able to introduce to some of you John Burroughs and his books.

JUNIA.

Query.

Miss N. H. writes us asking for a recipe for banishing fleshworms and pimples.

Often the latter are due to an unhealthy condition of the blood, in which case it may be necessary to consult a physician. "Fleshworms," on the contrary, which sometimes cause pimples, are caused by clogged pores; they are not "worms" at all, you will understand, simply little clogs of extraneous matter induced by sluggish action of the skin. To prevent them, it is absolutely necessary to keep the skin very clean. This is done by very frequent bathing of the whole body, and by washing the face nightly with warm, soft water, castile soap, and a camel's-hair face brush. Afterwards, where necessary, squeeze out the blackheads with a key, and apply the following lotion: Three ounces alcohol, one dram salicylic acid. Another lotion is prepared thus: Boracic acid, one-half dram; spirits of rosemary, one ounce; water, three ounces.

If the pores of the face are much distended, use a daily wash of bran water, and apply at night the following mixture recommended for enlarged pores: Brandy, two ounces; cologne, one ounce; liquor of potassa, one-half ounce. The face should be thoroughly washed with

warm water, a brush, and soap, before applying any lotion. Weeks, or even months, may be required before a cure is effected.

Cold Weather Puddings.

In mid-winter it is well to use more fat, which is a heat-producer, than at other times of the year, and perhaps in no way can it be prepared more palatably than in the form of suet, in pudding. The following recipes are comparatively inexpensive in winter, when fires are kept going constantly and no extra heat is required for cooking.

Fig Pudding.—To $\frac{1}{2}$ cup finely-chopped suet add $\frac{1}{2}$ cup brown sugar, 1 cup chopped apple, and 1 cup chopped figs. Pour $\frac{1}{2}$ cup milk over $\frac{1}{2}$ cup stale bread crumbs, and add the yolks of 2 eggs, well beaten. Combine the mixtures, add $\frac{1}{2}$ cup flour and fold in the whites of the eggs beaten stiff. Turn into a greased pudding mould and steam four hours.

Orange Marmalade Pudding.—Mix together 1 cup stale bread crumbs, $\frac{1}{2}$ cup

follows: Sift together 3 large cups flour with 2 teaspoons baking powder and a pinch of salt; add 1 large cup of finely-minced suet, and make into a stiff paste with cold water. Roll or pat the dough out to cover the apples, then steam $1\frac{1}{2}$ hours, keeping closely covered all the time.

Shropshire Pudding.—Mix together $\frac{1}{2}$ lb. bread crumbs, $\frac{1}{2}$ lb. finely-minced suet, juice and grated rind of 1 lemon, nutmeg to flavor, $\frac{1}{2}$ lb. sugar, 4 eggs. Boil in a cloth or steam in a buttered dish for three hours, and serve with sweet sauce.

Steamed Pudding.—Mix together 1 cup suet chopped fine, 1 cup molasses, 1 cup currants, 1 cup sour milk, 1 teaspoon soda, a little salt, flour to make a stiff dough. Pour into a greased mould and steam four hours. Serve with a spoonful of sauce made by beating butter and sugar together.

A Meat Pudding.—Chop $\frac{1}{2}$ lb. suet fine. Sift a large teaspoon of baking powder and a little salt with 4 rather large cups of flour, and then mix in the suet.

cloth in boiling water, flour it well, put in the pudding and tie up, leaving room for it to swell. Put in boiling water and boil $1\frac{1}{2}$ hours. Serve with jam.

Treacle Pudding.—Sift together 3 small cups flour, 1 teaspoon baking powder, a pinch of salt, 1 teaspoon ginger. Add $\frac{1}{2}$ lb. suet finely chopped, 2 tablespoons treacle, 1 beaten egg, and milk to mix to a rather stiff dough. Stir all together and put in a greased dish. Dip a pudding cloth in boiling water, flour it, and tie over the pudding. Put the dish in a pot of boiling water with water enough to cover, and boil $1\frac{1}{2}$ hours. Serve with sauce.

The Scrap Bag.

COOKING VEGETABLES.

Cook vegetables in as little water as possible, in order that the flavor and mineral properties may not be drained off. Only vegetables of very strong flavor, such as beans, should ever permit of "blanching," that is parboiling and draining the water off so that fresh may be added.

SUBSTITUTE FOR EGGS.

When eggs are scarce discard dishes that require them for a time. A cracker rolled fine may replace the egg in a pumpkin pie. Also when making muffins the egg may be omitted and a few more spoonfuls of milk added instead.

KEEPING WARM IN WINTER.

If you want to keep warm in winter, do not sit close to the stove all the time, put on warm clothes and leggings, and take a brisk walk out of doors every day. Keep the house well ventilated, and a dish of water on the stove to provide the necessary moisture. A room whose air is very dry is always colder than one in which there is a proportion of humidity.

HOW TO STAND AND WALK.

Physicians say that health depends greatly on habitually standing and walking well. When the chest is expanded and the abdomen in-drawn, all the organs fall naturally into place instead of pressing on one another. "Life is one long temptation to droop, loll and crouch," yet one should sit and stand straight no matter what the temptation. "Chest up," is an essential direction. "Imagine a string pulling from your chest straight up to the zenith," says a physical-culture director, "and you cannot keep a slouching attitude. When the chest is up, shoulders and abdomen take their natural position."

When walking, the weight should fall on the balls of the feet rather than on the heels. Walking about with a book on the head is a good exercise, tending to produce the erect and graceful carriage of the people in those countries where burdens are habitually carried on the head. In balancing the book, the balance and poise of the whole body are unconsciously gained. If kept up long enough, the same balance becomes quite natural at all times. Comfortable clothes and shoes are an absolute necessity for pleasurable, healthful walking. Tight shoes and skirts are a prolific source of the ungraceful, mincing movements of the majority of women. Plenty of out-door walking and deep breathing are a better guarantee of clear complexions and bright eyes than all the tonics and face-creams in existence.

OATMEAL.

Dr. Woods Hutchinson says in regard to oatmeal: "We are soundly convinced that we are a nation of dyspeptics. We were told so years ago by one Thomas Carlyle, and he ought to know, for he himself had the worst case of this disease ever seen in captivity. In fact, he was one walking, animated, incarnate indigestion, and incidentally grew it on the usual food and favorite culture medium of dyspepsia—Scotch oatmeal. Talk of the scholars, theologians and statesmen who were bred on that cheerful cereal! They were not one-tenth as numerous as the dyspeptics it produced." It has been discovered, however, that well-boiled oatmeal loses all its indigestibility. If boiled for five hours, oatmeal porridge is digestible, nutritious



The Polish War Zone.

The shaded portion shows the position held by the Russians at the beginning of the year.

sugar, 1 cup flour in which has been sifted 1 teaspoon baking powder. Add $\frac{1}{2}$ cup chopped suet and 1 cup orange marmalade, then stir in $1\frac{1}{2}$ cups milk mixed with 1 beaten egg. Beat for five minutes, pour into a buttered mould, cover closely, and steam for two hours.

Currant Dumpling.—Mix about a quarter of a pound of minced suet with four small cups of flour sifted with a teaspoon of baking powder, and a little less than half a pound of currants which have been well washed and dried. Mix to a dough with a glass of water or milk, and divide into dumplings about the size of an orange, tie in floured cloths, plunge into boiling water and boil from an hour to an hour and a quarter. Serve with butter and sugar.

Apple Pudding.—Make some applesauce cooked with a very little water, sugar to sweeten, and the rind of a lemon. When done, take out the lemon rind. Make a cover for the apples, as

Mix to a dough with about a cup of cold water and roll to a sheet. Line a greased pudding mould with the pastry, leaving enough to cover the top. Cut a pound of round steak into bits, and add to it a sliced beef kidney, sprinkling with pepper and salt. Put the meat in the pie and pour in about half a cup of cold water. Cover with pastry, tie down in a floured cloth, plunge into boiling water and boil for $2\frac{1}{2}$ hours. Serve as the meat dish for dinner.

Jam Pudding.—Three tablespoons suet chopped fine. Add 2 small cups flour and a pinch of salt. Mix with cold water to make a stiff dough. Roll out an inch thick, spread with jam, roll up in a well-floured cloth and steam $2\frac{1}{2}$ hours.

Cheap Suet Pudding.—Mix together 2 small cups flour sifted with $\frac{1}{2}$ teaspoon baking powder and a pinch of salt, and $\frac{1}{2}$ lb. finely-chopped suet. Make into a stiff dough with cold water. Dip a pudding

and heat-producing, when served with cream an ideal winter food, and the Scotchman who uses it may go on with his philosophy on a comfortable stomach. Oatmeal should always be cooked "the day before," in a double-boiler, or, at least, over boiling water. Next morning it only requires re-heating for breakfast.

Fashion Dept.

HOW TO ORDER PATTERNS.

Order by number, giving age or measurement, as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. Price ten cents PER PATTERN. If two numbers appear for the one suit, one for coat, the other for skirt, twenty cents must be sent. Address Fashion Department, "The Farmer's Advocate and Home Magazine," London, Ont. Be sure to sign your name when ordering patterns. Many forget to do this.

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Tonko.

I could not have been more than ten when the bear came to Trexford. It was a warm, breezy, delightful day with a scent of fresh grass and growing trees in the air—the sort of day when one likes to be out of doors—and it seemed as if all the wandering Italians in the neighborhood had taken advantage of it to come to town. One of them—a smiling organ-grinder with a monkey in a gray suit of clothes—had posted himself on the square in front of the town hall. The monkey went dancing and capering about and collecting pennies from the passers-by while we youngsters looked on in rapture. But he lost his audience in a moment when Tonko and his master appeared on the other side of the square.

"Tonko" was a huge brown bear with short bandy legs, which seemed ridiculously small for such a giant. He had a leather strap around his neck from which hung a long chain; and his master, a swarthy Italian with great earrings in his ears, led him by means of a cord fastened to a ring in his nose. Another monkey, though without a colored suit, sat chattering at the Italian's feet, but we paid little heed to him, for Tonko and his master had no sooner come to a halt than they began dancing together just as two human beings might have done. I had always been taught that a bear's hug meant death, or broken ribs, at least, but Tonko clasped his master around the waist as gently and lovingly as you please, and they waltzed around and around, while we clapped and cheered. Then Tonko shook hands, first with the Italian, afterward with a few of the bravest among our throng, and finally with us all. We had learned by that time how good-tempered he was.

"He netto hurt you," said the Italian, with his sunny smile. "He nice-a bear. He carry you, too. Watch him."

Just at that moment the bear was near me, walking on his hind legs, and I was trying hard not to make myself out a coward, by running; and now he suddenly reached over, and poked me up in his arms. My, how I yelled! He put me down again in a minute, and appeared sorry for my fright, and, for my part, when I saw him pick up other boys in the crowd, one by one, and carry them, while they laughed in delight, I was ashamed of having cried.

Of course, Tonko's master passed the hat; and then came his disappointment. For, although we were willing enough to look on, we had very few pennies to give him, and the grown-up folk were not half so liberal as they might have been. The poor Italian looked downcast, I thought. It was really not right that he should go away with almost nothing, after having given such a fine performance. I ran home to get a dime from my mother, and returned with it as quickly as possible, but the performers were gone. They had taken the road out of the village, and probably by that time were well on their way.

My father and Frank, my older brother, had been working in the fields, so they had not seen Tonko; and that evening I went over the whole performance for their benefit. I shook hands with them, as he had done with me; danced around, holding an imaginary Italian by the waist, and even made believe pick Frank up and walk off with him.

While we were talking, a knock came at the back door. It was not exactly a knock, either, but more like the sound of something soft being battered against the panes.

"Who can that be, I wonder?" my mother said, rather puzzled at the queerness of the summons; and my father went to answer it.

He had no sooner unlocked the door than it burst open; something big and black forced its way inside, and there was Tonko, the bear!

Frank and I looked at him just once, then darted for the sitting-room, with my mother not far behind us. As for my father, he stood his ground a moment, but when the bear pushed farther against him, he, too, followed us without delay, slamming the door after him.

When we were all safe in the sitting-room the humor of it forced itself upon us. Was there ever such a situation? A bear in our kitchen!

"I suppose by this time he's licking out the pans," said my mother, between tears and laughter.

"We'll have to get him out of there," my father returned seriously. "He may knock the stove over."

"I'm not going in," declared Frank. "Probably he's broken away from his master, and he'll be out for blood."

The way he said this made us all laugh, though the words were not especially funny; and my father took courage to open the door, just a little, to look for the intruder.

The bear was in plain sight. We could all see him, by craning our necks a little. He sat in the corner of the kitchen, on his haunches, gnawing a ham-bone which had been left on the table after supper. His face wore a curious expression of satisfaction mingled with dismay, as if he enjoyed the ham-bone, but was not quite sure whether it was big enough to make a full meal on.

"He's hungry, that's all. I don't think he's savage," my mother suggested. "I've half a mind to go in and give him something to eat."

"You had better remain here, my dear," said Father. "I'll go in and lead him out."

Before we could protest, he was in the kitchen. He walked straight up to the bear, just as I had seen the Italian do, and took him by one paw. The big brute rose as obediently as a child, whimpering a little bit, but offering no resistance, and, before we quite realized what was up, my father had him out.

And now we began to reproach ourselves. Where would the poor beast go? He was certainly hungry, yet he had gone out like a lamb. Our consciences smote us the more when we heard him prowling around the house, moaning from time to time, like a big, disconsolate dog. At last my kind-hearted mother could keep silent no longer.

"I think it's a shame!" she declared. "The poor thing's as good-natured as can be. He might have killed us all, if he had wanted to, yet he didn't overturn the table. I'm going to the pantry and bring him something good to eat."

But my father, now quite entering into the spirit of the adventure, said:

"I'll do better than that! I'll put him into the empty stall in the stable, and give him some green corn to eat."

In the morning his master will thank us for not driving him away."

Neither Frank nor I stirred out of the house until we heard our father's voice, telling us that the bear was safely imprisoned. Then we ran to the stable and watched him eat, by the light of a lantern. He must have been ravenous. I had never seen an animal so hungry. And yet he held the ears in his paws, like a big, clumsy man, and father said, in a joking way, that he had very good table manners, too, for a big bear.

The next morning we looked for his master, but no master came; and that was the beginning of a week as delightful as any two boys ever had. We found out, before the first day was over, that Tonko was as willing to do tricks for us as for the Italian. He shook hands with us; danced us around, when we ventured into his stall; and, finally, when we took courage to let him out, he showed no desire to run away. On the contrary, he seemed wonderfully fond of us, and when either Frank or I approached he would put out first one paw and then the other, for us to shake.

The second day after his arrival, my brother conceived a really brilliant idea. Why shouldn't we exhibit Tonko in the barn, as the Italian had done on the town square, and charge an admission price?

"You may do it," said my father, "if you save up all the money to be given to his master, in case he returns. I fancy the poor man is none too rich."

We agreed to this readily; and the great show was started. Frank painted a sign on the barn, and soon we were doing a rushing business. It was August, and school would not open for another month, so I was able to stay with Tonko when Frank worked in the fields. At the end of the week we had about two dollars. I felt proud, and often tried to imagine how the Italian would look when he came back and found the bear had been earning money for him.

On Monday, Tonko had been with us just a week, he seemed like an old friend whom we had known all our lives. Before going to bed that evening, I wanted to say good night to him; so I stole away to the barn. On the way there, I caught a glimpse of a man coming out. He must have seen me, too, for at that moment he began to run, and disappeared up the dark driveway. My first thought was of tramps. Suppose Tonko had been stolen! But no; he was lying down in his stall, and on my entrance he stood up, rubbed his great head against my hand, and whined. I patted him on the head, and opened the stall door to go back, but just then, a queer noise came to my ears from the loft above. It sounded like the snapping of twigs or the crackling of dead leaves, when one walks on them in the woods.

I was not afraid of the dark. Few country boys are. I crept up the ladder and looked around. Nothing was to be seen; only blackness everywhere. Yet the strange sound continued. So I felt my way boldly to the other side of a big pile of hay, and was just rounding it when a smell as of burning hay and wood came to my nostrils. The next moment a puff of smoke struck me full in the face. The barn was on fire!

For an instant my mind stood still. Then I raced frantically for the ladder. As I climbed down, with the air growing thicker each second, my brain grasped at the two things to be done: Tonko must be let out, and I must call my father.

The bear roared with excitement when I pushed open his stall door and loosened the snap fastening from the manger ring. At the same moment came a crash which shook the old barn from end to end. The big outside door had blown shut. I ran toward it with serious forebodings. The wooden bar on the other side would be fallen into place, of course, but there was a cord which we used to pull it up from within. I felt for this. The hole through which it had passed was easy to find, but the cord had fallen out.

I rushed frantically to the only other door, but it was locked and my brother had the key. It was a side door leading to the stalls, and we had been afraid that some one might sneak

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"Free for the asking"

through it, unseen from the house, and lure Tonko away. Hastening back to the big door, I groped desperately up and down it for some crevice through which the bar could be lifted. There were cracks enough, but none in the right place. Then I tried to shout, but the smoke

filled my lungs in a breath and left me speechless. At last I sank to the floor in despair. We were trapped. Suddenly there was a rush past me, and a crash. I jumped up with new hope. The great bear had thrown his weight against the door. He rushed it again, and the old bar snapped; once

more, and, groaning, the door swung open. Tonko's strength had saved us both!

I remember little of what happened afterward on that terrible night, but I must have lost no time in spreading the alarm, for, although help was rather

long in coming, it arrived soon enough to save most of the barn.

Not many days after the fire, a tired, despondent figure came to our farm, and asked for my father. It was the Italian. He had been laid up in the hospital from an accident, and had just got out again. He had heard that

New COAL OIL Light

Beats Electric or Gasoline
10 Days Free Trial
Send No Money



Costs You Nothing

to try this wonderful new Aladdin kerosene (coal oil) mantle lamp 10 days right in your own home. You don't need to send us a cent in advance, and if you are not perfectly satisfied, you may return it at our expense.

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Recent tests by noted scientists at 14 leading Universities, prove the Aladdin gives more than twice the light and burns less than half as much oil as the best round wick open flame lamps on the market. Thus the Aladdin will pay for itself many times over in oil saved, to say nothing of the increased quantity and quality of pure white light it produces. A style for every need.

Over Three Million

people now enjoy the light of the Aladdin and every mail brings hundreds of enthusiastic letters from satisfied users endorsing it as the most wonderful light they have ever seen. Such comments as "You have solved the problem of rural home lighting"; "I could not think of parting with my Aladdin"; "The grandest thing on earth"; "You could not buy it back at any price"; "Beats any light I have ever seen"; "A blessing to any household"; "It is the acme of perfection"; "Better than I ever dreamed possible"; "Makes my light look like a tallow dip"; etc., etc., pour into our office every day. **Good Housekeeping Institute, New York**, tested and approved the Aladdin.

We Will Give \$1000

to the person who shows us an oil lamp equal to the Aladdin (details of this Reward Offer given in our circular which will be sent you). Would we dare invite such comparison with all other lights if there were any doubt about the superiority of the Aladdin?

Get One FREE

We want one user in each locality to advertise and recommend the Aladdin. To that person we have a special introductory offer under which one lamp is given free. Just drop us a postal and we will send you full particulars about our great 10 Day Free Trial Offer, and tell you how you can get one free.

THE MANTLE LAMP COMPANY
431 Aladdin Building Montreal and Winnipeg, Can.
Largest Kerosene (Coal Oil) Mantle Lamp House in the World.

Men With Rigs Make Big Money

delivering Aladdin lamps. No previous experience necessary. One farmer who had never sold anything in his life made over \$50.00 in six weeks. Another says: "I disposed of 34 lamps out of 31 calls."

No Money Required We furnish capital to get started. Ask for our distributor's Easy-System-of-Delivery plan quick, before territory is taken.



CHALLENGE COLLARS

Acknowledged to be the finest creation of Waterproof Collars ever made. Ask to see, and buy no other. All orders direct for 25c.

Made in Canada
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of Canada, Ltd.
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TORONTO

All "ARLINGTON COLLARS" are good, but our CHALLENGE BRAND is the best
MADE IN CANADA

Chiclets

REALLY DELIGHTFUL
THE DAINY
MINT-COVERED
CANDY-COATED
CHEWING GUM

Tonko was safe with us, though it seemed too good to be true.

I was inconsolable at the thought of losing my playmate. "Father," I pleaded, "can't we buy him? We ought to after what he did that night."

"But my father shook his head.

"I'm afraid he's not for sale. If he was, we'd buy him quickly enough. You see, lad, he's more than a bear to the Italian; he's a dear comrade."

When we opened the door of the wagon shed, I understood. The bear uttered a roar, so loud that it startled us all. In a twinkling he was out of the shed, at the feet of his master. The Italian cried for joy. He threw his arms around the great, shaggy neck, and presently they "joined hands," and began to dance.

That was their sign of parting. Though we begged the Italian to stay at least one night, he shook his head. Tonko and he were wanderers, he said; they must go on. Even the little fund we had got together, now greatly increased by my father, did not change his mind. So we walked together, a sorrowful procession, to the road; there I embraced my good dumb friend; in boyish fashion, and said good-by. We watched them till they came to a bend in the path. Tonko turned then, and looked back at me. I waved my hand, sadly, until he was out of sight.—Paul Suter, in St. Nicholas.

Senior Beavers' Letter Box.

Dear Puck and Beavers,—This is my first letter to the Beaver Circle. I enjoy reading your letters very much, and especially the riddles. Papa has taken "The Farmer's Advocate" for over twenty years, and likes it fine. I have two sisters and one brother, and he is very mischievous. I am twelve years old, and in the entrance class at school. In connection with our school work we have home gardens. Some of the pupils planted flowers while others had roots and grain, and some were given barred rock eggs. We also made collections of weeds, weed seeds and insects. Some of the pupils brought beef calves and some dairy calves, and some of the boys brought colts. There were collections of sewing, cooking and exhibits of poultry. Our school, No. 13 Otonabee, was first and won the silver cup. Besides our home gardens we also have a school garden at our school. In this garden we had oats, corn, beets, flax, herbs, flowers, alfalfa, etc. Part of the alfalfa was treated with bacterin, and we watched the difference in the growth. During summer holidays different people were appointed for each week to look after the garden, and they kept it weeded and watered. Our teacher was well pleased to see it look so nice when she came back.

All of the pupils seemed to like the outdoor work very much. We collected the seeds for another year and distributed other things among the section. Well, I will close, hoping this will escape the w.-p. b.

LEDA JACKSON.

Peterboro P. O., Ont., R. R. No. 6.
Dear Puck and Beavers,—As this is my first letter to your Circle, I hope it will not reach the waste basket. We take "The Farmer's Advocate" and we like it very well. I enjoy reading letters from the Beavers, and to hear what they have to say of their pets. I will tell you about my own pet kitten. The color of it is grey. One evening mother and I went to choir practice and it followed us down. I carried it inside for fear it would stray away. It lay in the minister's chair nearly all through the practice, then it followed us home again quite old-fashioned. Well I guess I will close with best wishes to the Circle. I would like to become a member.

Fenella, Ont. HAZEL TONSBERRY.
R. F. D. No. 1. (Age 12.)

P. S.—I would like some of the Beavers to write to me.

Honor Roll.

Honor Roll.—Henry Stager, Madeleine Gury, Ruby Hellyer, Florence Arthur, Gladys MacDonald.

Beaver Circle Notes.

Henry Stager (age 12), 281 King W., Berlin, Ont., wishes some of the Beavers of his own age to write to him.

Lois McRae (age 11, Sr. IV.), R. R. Box No. 2, Wheatley River, P. E. I., also wishes Beavers to write to her. She asks what it means to have one's name on the Honor Roll. The answer is this: Sometimes there is not room to publish in full all the letters that come in, so the most interesting ones are given, and the names of the Beavers who wrote the "next bests" are put in the Honor Roll.

OUR JUNIOR BEAVERS.

[For all pupils from the First Book to Junior Third, inclusive.]

THE LETTER F.

F (poor old fellow!) has only one leg. Hark! Here is coming his peg-ge-ty-peg. Always his hat to the right of his head. Never had any left side, it is said. Likely he's also quite blind, dumb and deaf.

Poor, little, unsteady, tottering F.

Junior Beaver's Letter Box.

Dear Puck and Beavers,—This is my first letter to your charming Circle. Papa has just taken "The Farmer's Advocate" for about six weeks, and I like reading the letters in the Circle and thought I would write one too. I have two brothers whose names are Martin and Robert. We have about two miles to go to school. Our teacher's name is Miss Welsh, and we all like her fine. How many of the Beavers, I wonder, like music? I do and I have taken a quarter's lessons. I am getting on fine with it. For a pet I have a little Maltese cat. Its name is Shrimp. I like it very much. When I am carrying it around it always likes to sit on my left shoulder. As soon as I pick it up it will start to purr. I fear my letter is getting rather long, and I think I will close now, wishing the Beaver Circle every success.

MARGARET FITZPATRICK.

Wexford, Ont. (Age 10, Jr. III.)

Dear Puck and Beavers.—We have taken "The Farmer's Advocate" for a long time. My school is about one hundred yards up the road, so I have not far to go and I attend daily. My teacher is Mr. W. Alp; he is cross sometimes but does not whip much. I think he is a fine teacher. He is our minister's son. My pets are one cat, I call it Spitz; one dog, Peto; two colts, Prince and Dolly, and one horse Minnie. Hoping this will escape the w.-p. b.

Harwood, Ont. RUBY KENNEDY.

(Age 9, Jr. III.)

Dear Puck and Beavers,—I saw my last letter in print, so I thought I would try again. I have ten chickens. I got them from school. I took them to the school fair and got third prize. There are six roosters and four pullets. We have four horses and seven cows. My father built a new hen-house this summer. We used to play in it before it was finished. For pets I have three cats and a lamb. Two cats follow us all around if they see us going. I guess I will close now; I hope I will see this in print.

JOHN BROWN.

Simcoe, Ont., R. R. No. 5.
(Age 11, Class III.)

Dear Puck and Beavers,—This is my first letter to your charming Circle. I live on a farm of one hundred acres, named Sunnyside. For pets I have three kittens named Floss, Frisk and Fluff, and a colt named Fly. My name is Frank, so you see all our names begin with the letter F. I go to school every day I can. I have about a quarter of a mile to go. My teacher's name is Miss Goudy, and we all like her well. I am what they call a bookworm. Some of the books I have read are: Alice in Wonderland, Tom the Waterbaby, Beautiful Joe, Black Beauty, Krage and Johnny Bear, and many others.

We have had quite a heavy fall of snow, and I have had my handsleigh



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SAVE \$100

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I guarantee that if within ten days you are not satisfied return corn at my expense and money will be refunded. Wisconsin No. 7, Bailey Leaming, White Caps, Long Fellow, Compton's Early. A good cotton bag furnished with each bus, and delivered to your nearest station.

Remember the guarantee.
Write at once for prices to—
R. A. JACKSON
The Roselands, R.R. No. 1, Cottam, Ont.

Please mention "The Farmer's Advocate."

out. Sometimes in the winter my sister Verna and I have some gay times sleighriding. Well, I will close with a riddle.

Two brothers we are, great burdens we bear, and bitterly we are pressed full all the day, and empty when we go to rest. Ans.—A pair of boots.

FRANK J. A. RITCHIE.
Camborne, R. R. No. 1, Ont.
(Age 9, Class Jr. III.)

Dear Puck and Beavers.—This is my first letter to the Beaver Circle. I like very much to read the letter and guess the riddles. I have two pets; one is a cat named Tommy, and the other a bird named Billy. I enjoy tending them. I have several dolls which I like to play with; their names are Ruth, Molly and Queen Mary. I like to go to school and am in the fifth grade. The children in our school brought things which the teacher packed and sent to the Belgians. There has been ice here thick enough to slide and skate on. I have one brother Clarence, and every day as we go to school we have to pass some ice that we slide on. I am a fond little Beaver.

ALLISON FITZ RANDOLPH.
Bridgetown, Nova Scotia.

Junior Beaver's Honor Roll.—Annie Davidson, Elsie Jasper

Riddles.

What makes more noise under a gate than a pig? Ans.—Two pigs.

What has ears and can't hear? Ans.—An ear of corn.

What has an eye and can't see? Ans.—A needle.

Sent by Beatrice Bellis, Mt. Elgin, Ont.

What relation is a locomotive to a loaf of bread? Ans.—Its mother. Isn't a locomotive an invention, and isn't a loaf of bread a necessity, and isn't necessity the mother of invention?

Sent by Allison Fitz Randolph, Bridgetown, N. S.

Our Serial Story.

PETER.

A Novel of Which He is Not the Hero.

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By F. HOPKINSON SMITH
Charles Scribner's Sons
Chapter XXIX.

Jack descended Peter's stairs one step at a time. Each seemed to plunge him the deeper into some pit of despair. Before he reached the bottom he began to realize the futility of his efforts. He began to realize, too, that both he and Ruth had been swept of their feet by their emotions. MacFarlane, the elder Green, and now Peter, had all either openly condemned his course or had given it scant encouragement. There was nothing to do now but go home and tell Ruth. Then, after the funeral was over, he would have another talk with MacFarlane.

He had reached the cool air of the street, and stood hesitating whether to cross the Square on his way to the ferry, or to turn down the avenue, when the door of Isaac Cohen's shop opened, and the little tailor put out his head.

"I have been waiting for you," he said in a measured voice. "Come inside."

Jack was about to tell him that he must catch a train, when something in the tailor's manner and the earnestness with which he spoke, made the young fellow alter his mind and follow him.

The little man led the way through the now darkened and empty shop, lighted by one gas jet—past the long cutting counter flanked by shelves bearing rolls of cloth and paper patterns, around the octagon stove where the irons were still warm, and through the small door which led into his private room. Then he turned up a reading lamp, its light softened by a green shade, and motioned Jack to a seat, said abruptly, but politely—more as a request than a demand:

"I have a question to ask you, and

you will please tell me the truth. How much money do you want, and what do you want it for?"

Jack bit his lip. He wanted money, and he wanted it badly, but the tailor had no right to pry into his private affairs—certainly not in this way.

"Well, that was something I was talking to Uncle Peter about," he rejoined stiffly. "I suppose you must have overheard."

"Yes, I did. Go on—how much money do you want, and what do you want it for?"

"But, Mr. Cohen, I don't think I ought to bother you with my troubles. They wouldn't interest you."

"Now, my dear young man, you will please not misunderstand me. You are very intelligent, and you are very honest, and you always say what is in your heart; I have heard you do it many times. Now say it to me."

There was no mistaking the tailor's earnestness. It evidently was not mere curiosity which prompted him. It was something else. Jack wondered vaguely if the Jew wanted to turn money-lender at a big percentage.

"Why do you want to know?" he asked; more to gain time to fathom his purpose than with any intention of giving him the facts.

Isaac went to his desk, opened with great deliberation an ebony box, took out two cigars, offered one to Jack, leaned over the lamp until his own was alight, and took the chair opposite Jack's. All this time Jack sat watching him as a child does a necromancer, wondering what he meant to do next.

"Why do I want to know, Mr. Green? Well, I will tell you. I have loved Mr. Grayson for a great many years. When he goes out in the morning he always looks through the glass window and waves his hand. If I am not in sight, he opens the door and calls inside. 'Ah, good-morning, Isaac.' At night, when he comes home, he waves his hand again. I know every line in his face, and it is always a happy face. Once or twice a week he comes in here, and we talk. That is his chair—the one you are sitting in. Once or twice a week I go up and sit in his chair and talk.

In all the years I have known him I have only seen him troubled once or twice. Then I asked him the reason, and he told me. To-day I heard you speak about some money you wanted, and then I saw that something had gone wrong. After I left he came downstairs and passed my window and did not look in. I watched him go up the street; he walked very slow, and his head was down on his chest. I did not like it. A little while ago he came back; I went out to meet him. I said, 'Mr. Grayson, what troubles you?' And he said—'Nothing, Isaac, thank you,' and went upstairs. That is the first time in all these years I knew him that he answered me like that. So now I ask you once more—how much money do you want and what do you want it for? When I know this, then I will know what troubles Mr. Grayson. There is always a woman or a sum of money at the bottom of every complication. Mr. Grayson never worries over either. I do not believe you do, but I have had many surprises in my life."

Jack had heard him through without interruption. Most of it—especially Cohen's affection for Peter—he had known before. It was the last statement that roused him.

"Well, if you must know, Mr. Cohen—it is not for myself, but for a friend."

The Jew smiled. He saw that the young man had told the truth. Peter's confidence in the boy, then, need not be shaken.

"And how much money do you need for your friend?" His eyes were still reading Jack.

"Well, a very large sum." Jack did not like the cross-examination, but somehow he could not resent it.

"But, my dear young man, will you not tell me? If you buy a coat, do you not want to know the price? If you pay for an indiscretion, is not the sum named in the settlement?"

"Ten thousand dollars."

There was no change in the Jew's face. The smile did not alter.

"And this is the money that Mr. Grayson tried to borrow for you, and failed? Is it not so?"

Jack nodded.

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MAKE the best bread and pastry you've ever tasted. Prices of flour and feeds are listed below. Orders may be assorted as desired. On shipments up to 5 bags buyer pays freight charges—On shipments over 5 bags we will prepay freight to any station in Ontario east of Sudbury and south of North Bay. West of Sudbury and New Ontario add 15 cents per bag. Prices are subject to market changes. Cash with orders.



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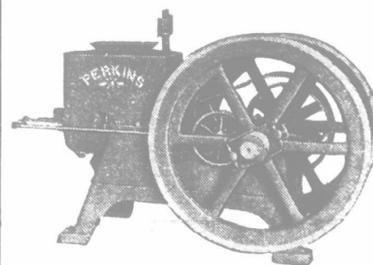
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Bullrush Bran	\$1.40
Bullrush Middlings	1.45
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Whole Manitoba Oats	1.95
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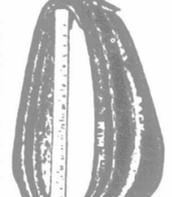
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"SNOWFLAKE" S. C. W. Leghorns—Bred-to-lay—Tell us what you want. E. W. Burt, Paris, Ont.

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\$2 EACH for bred-to-lay Barred Rock cockerels. Have ability to transmit the egg laying habit to their offspring. Bred from O. A. College record-laying strain. Flock trap-nester and selected for early maturity and high egg production. Order now. Settings for sale in season Walter H. Smith, Athens, Ont.

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FARM hand desires situation, single, teetotaler. D. B. Shutt, 71 St. Clements Ave., Toronto.

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 Head Office: 78 Dundas St. LONDON, ONT.

CHICKENS ARE 15 CTS.

We will pay 15 cts. per pound for crate-fattened chickens, bled, picked clean to the wing tips; 25 cts. for choice fat young hen turkeys, bled, dry-picked to wing tips; 11 cts. for fat live geese; 12 cts. for fat live ducks; 11 cts. for old hens, alive, 5 lb. each or over. Money returned same day as goods are received.

WALLERS
 700 Spadina Ave. - - - Toronto

Lochabar Poultry Yards

Have a nice flock of M. Bronze Turkeys for sale at prices to suit the times; some fine yearling birds. Pairs furnished not akin.

D. A. GRAHAM
 Wyoming :: :: Ontario

Ayrshire and Yorkshires—Bulls of different ages; Females all ages. A fine bunch of heifers from 6 months to 2 years. Yorkshires from 3 to 8 mos. old. Quality good. Prices moderate. Alex Hume & Co., Campbellford, R.

CEDARDALE SHORTHORNS
 For this season we have some extra nice thick-fleshed bulls. Pure Scotch and Scotch topped. Also cows and heifers. DR. T. S. SPROULE Markdale.

"And you have tried everywhere to get it yourself? All the afternoon you have been at it?" Still the same queer smile—one of confirmation, as if he had known it all the time.

Again Jack nodded. Isaac was either a mind reader or he must have been listening at the keyhole when he poured out his heart to Peter.

"Yes, that is what I thought when I saw you come in a little while ago, dragging your feet as if they were lead, and your eyes on the ground. The step and the eye, Mr. Breen, if you did but know it, make a very good commercial agency. When the eye is bright and the walk is quick, your customer has the money to pay either in his pocket or in his bank; when the step is dull and sluggish, you take a risk; when the eye looks about with an anxious glance and the step is stealthy, and then when you take the measure for the coat, both go out dancing, you may never get a penny. But that is only to tell you how I know," the tailor chuckled softly. "And now one thing more"—he was serious now—"when must you have this ten thousand dollars?"

"Before Monday night."
 "In cash?"
 "In cash or something I can get cash on."

(To be continued.)

Messages of Inspiration and Hope.

From Horace Traubel.

"No dream is wasted in the last stretch of the day,
 No soul is lost in the final count of the race:

The old negations are denied, the guards of life and death are dismissed, the long distrusted stream is left to its course:

Gods who disown men are self-crucified: no hell is so black as the court that condemns men to it.

Service is self-benediction, rule is self-restraint."

O, you despairers of destiny! O, you plunderers of time! You make a great noise in the silences:

All that you need to do is to open your eyes: that is the secret: look!

You come to me; I can't look for you: I can only say, look!

I can't give you a free pass to the promised land: I can only say, look: if you only look you will need no pass:

O, why do you bury your face in the dust? Get up: lift yourself high enough to look over your own head:

Everything you love is yours.

"I am glad I was born. It seemed so right for me to come. And some day it will seem just right for me to go. Maybe not just yet, but some time. I don't know whether it matters which side of mystery God feeds me on. I am fed. . . . I am joyous, a part of things, not to be skipped—an atom but for which the stars would not hold together. That's enough for any sane man to know about himself. I know God made no mistake making me. Or making you, either. Saint or scoundrel, making anybody. I can see other things put aside for my entrance. The Lord said: Give him a show. So I was piloted to this earth-star."

"Do not come to me confessing moral bankruptcy," He shouts. "I do not ask you to project yourself beyond your dream. But as soon as you have prayed I expect you to leave your closet. Your time for service is near. Your way of life is to live. You are on trial with yourself the instant you are born into the faith. It is losing business for you to wait to be told the creative moment in which to act. To schedule yourself. To trick your soul by postponements. You contend that the world is not ready. To faith the world is always ready. It is not your place to wait until the world is ready. It is your place to help make it ready. Faith is best faith in the contemporary now. Faith has no anxieties. It carries no watch. It never concerns itself about the house of the day. To faith all hours are one hour. The hour to speak words. The hour to do deeds."

More Milk--More Money Cotton Seed Meal

means more milk. You will do well to get in line and purchase your requirements now, while prices are right.

GOOD LUCK BRAND

is the standard of comparison. Beware of the "Just as Goods." Insist in the bag with the Good Luck tag. You are then sure of getting a high grade product. This meal is guaranteed with the Dominion Government. You take no chances. Write for prices now. We carry a stock of this material at—

TORONTO, LONDON, MONTREAL, BELLEVILLE, PRESCOTT
 Address all communications to
CRAMPSEY & KELLY, TORONTO
 "The Home of High Quality Feeds"

PURINA CHICK FEED

Saves Baby Chicks.
 Send us your dealer's name. Ask for latest Purina Book.
The Chisholm Milling Co., Limited, Dept. A.
 Toronto :: Ontario

Hampshire Swine and Lincoln Sheep Both sexes and all ages from imported stock. Prices reasonable.
C. A. POWELL
 Ettrick :: R.R. No. 1 :: Ontario

News of the Week

The Quebec Government has decided to give \$40,000 a year while the war lasts, for the relief of distress in France.

Col. Logie, of Hamilton, has assumed command at Exhibition Camp, Toronto, in succession to Major-General Lessard, who has been appointed Inspector-General of the Canadian forces.

It is expected that the Canadian forces at Salisbury Plain will go to France at the end of January. The Canadian Hospital at Le Touquet is already busy handling wounded men sent from the fighting lines.

It is claimed that platinum and radium have been discovered at Rutherglen, near North Bay, Ontario.

Great Britain has courteously but firmly intimated to the United States that she must maintain the general right to search ships on the high seas, but that the right will be carried out in such a way as to impose the least possible hardship on American commerce.

Romania is mobilizing an army of 750,000 men. The probabilities also increase that Italy will enter the war.

It is reported that 250,000 fresh German troops have entered Belgium, and are advancing on the trenches between La Bassée and Ypres.

It is stated that the entire German fleet is now massed at Wilhelmshaven and Cuxhaven ready to meet the British fleet.

At time of going to press, it is stated that the British have re-taken Lille. If true, this will greatly inconvenience the Germans in the vicinity, who have been pumping water from their trenches by pumps operated by electricity from the power plant of that city. . . . Perhaps the most important event of the past fortnight was the great victory won by the Russians over the Turks at Sari Kamysh, in the Caucasus, where 40,000 prisoners were taken. This victory was important for several reasons: It lessened the pressure against the British-Indian army advancing up the Tigris to Bagdad; it will have some effect in quelling the unrest of the Moslems in all the surrounding district; and it will likely mean the abandonment of the Turkish invasion of Egypt. The scene of combat may now be transferred to Armenia, where the Armenians, supplied with arms by the Russians, will have an opportunity to fight out old scores with the Turks.

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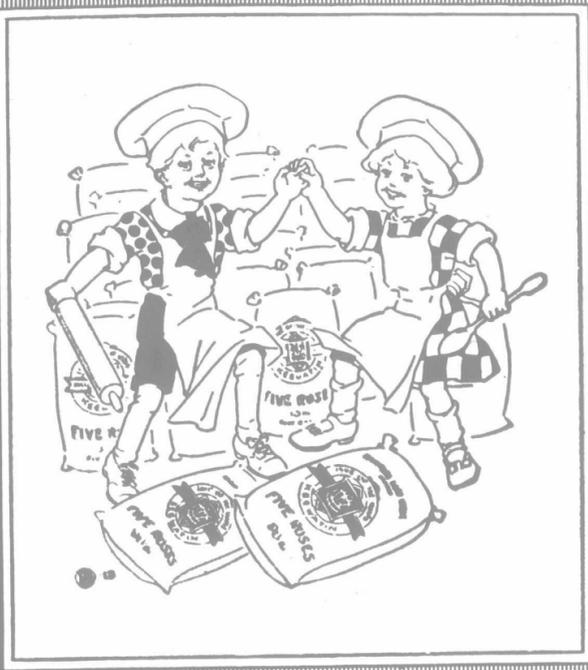
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**Why don't some flours behave?
Why don't they keep good?**

Because they contain too much of the branny particles, too much of the inferior portions of the wheat—may be little pieces of the oily germ.

Which act on one another—that's why some flours "work" in the sack.

FIVE ROSES is the purest extract of Manitoba spring wheat berries.

Free from branny particles and such like. 'Twill keep sound, and sweet longer than necessary.

Keep it in a dry place, and when needed you find it even healthier, sounder, fresher, drier than the day you bought it.

Buy lots of **FIVE ROSES**.
It **KEEPS**.

Five Roses Flour

Not Bleached



Not Blended

LAKE OF THE WOODS MILLING COMPANY, LIMITED, MONTREAL

Gossip.

CLYDESDALES JUST LANDED.

Wm. Colquhoun, of Mitchell, Ont., the veteran importer, has just landed at his stables the first importation of Clydesdales for the year 1915. As is usual with Mr. Colquhoun's selections big size and genuine draft character are the predominating features. With this is the smooth, compact build and the heavy, flat bone on the top of well-sprung ankles and big, wide feet, the ideal kind of wearing underpinning without which no horse is of much account. Prominent among this lot is the famous sire, Attractive Prince [16471] a bay twelve years old by the noted Prince Attractive, dam by Baron's Pride, grandam, by Prince of Kelvin. He is a horse of remarkable draft character from the ground up, with a bold, fearless style of top, he is one of the great sires of Scotland, and his sterling worth will be much appreciated by breeders here in any section to which he may go. Another great horse of the shipment is the noted Diplomatist [15278] a brown six-year-old by the champion Memento; dam by Belvidere; grandam, by Here I Go. This is a massive, smooth horse, stylish on top and with faultless underpinning, the kind of sire that will be popular in any section. Another extra good one with big size and a beautiful mould is the brown six-year-old, Quicksilver [15177] by the renowned Silver Cup. Dam, by Carthusian; grandam, by Prince of Fashion. Not many horses with the nice style and artistic lines of this fellow have ever come to this country, and with it is lots of size and quality of bottom. One of the best three-year-olds landed in Canada for many years is the bay, Wynholm [16473], a colt of superior size, character, underpinning and general excellence. He is one of the low and very thick kind, sired by Baron Kelvin;

dam, by Crusader; grandam, by Old times; the kind of breeding that reproduces excellence. Another of the low, thick, smooth kind is the brown four-year-old Sam's Pride, by the noted Sam Black. His pedigree had not arrived from Ottawa, so no more of his breeding can be given. He is one of the good ones where draft character and good ground material are wanted. Kens Favorite [16472] is a big, up-standing, stylish-topped, brown three-year-old, by Royal Favorite; dam, by Baron's Pride; grandam, by Fitzgallant. Then there is the great horse, Earl of Clay [12035], the brown, nine-year-old son of the great Baronson; dam, by Gregor McGregor. This is one of the great horses of the country, and has only to be seen to be appreciated. Others for sale are the old popular sire of big draft horses, Hopeful, a brown, fifteen-year-old, and a full brother to the renowned Hiawatha, the brown, ten-year-old Alfonso [9358], by Rathilet; dam, by Baron's Pride. No matter what a man's wants are in a Clydesdale stallion nor the price he wishes to pay, he can get satisfied by visiting Mr. Colquhoun's stables.

THE GREAT CANADIAN SALE OF SHORTHORNS.

Robt. Miller, J. A. Watt, Kyle Bros., and John Miller Jr., will, as usual, sell a selection of their best cattle from their noted herds. About half of them are young bulls with breeding and quality to make them suitable for use in the best herds; they have size and substance as well as character and quality such as we seldom see in a big lot, and in fact many of them are of show-yard and winning type. They are from sires and dams that have produced the best of our young Shorthorns for years, and such as can be found in but a few herds

in any country. The females are of valuable ages, and they have been carefully selected, with the sole object of keeping up the high standard of the herds from which they come, and if possible adding to the great reputation of this annual event. There are Lavenders, Golden Drops, Minas, Lancasters, Cruickshank Villages, Minnies, Northern Belles, Gwynnes, Buckingham, Lovelys, Broadhooks, Jealousies, English Ladies, Emmelines, Miss Ramsdens, Fair Queens, Lady of the Boynes, Lady Ythans, Lustres, Rosebuds, Marthas, and others all of the choicest blood. An individual description of many of the animals will appear later, and it will be in the interest of all lovers of good cattle to attend this sale. See the advertisement in this issue.

A copy of the Live Stock Journal Almanac has been received at this office, and is replete with articles and illustrations descriptive of live-stock conditions in the Old Land. Many interesting articles on the horse situation, and in fact the live-stock situation generally, as affected by the war, are contained in this yearly breeders' directory. Some of the best-known live-stock writers in Britain have contributed to its columns. It may be had from the publishers, Messrs. Vinton & Co., Ltd., 8 Breems Buildings, Chancery Lane, London, E. C., at 1s 4d. postpaid, or 2s 6d. cloth bound.

We call attention to the advertisement in this issue of the big Shorthorn sale to be held on Tuesday, January 26th, at Lindsay, Ont. This sale is conducted under the auspices of the Victoria Purebred Stock Association, and comprises the best lot of stock the Association has ever offered, including some noted prizewinners. This stock is all registered, and considerably better than that offered at former sales. A

number of good herd-headers are included, together with choice females. Good train connections; efficient, honest management. See the advertisement and attend the sale.

A Government Abattoir.

The daily press a short time ago contained the announcement that the Ontario Government purposes building at the Prison Farm, Guelph, a large abattoir to slaughter and cure meat for Government institutions, including the prison farm, asylums, etc. The abattoir will handle cattle purchased from farmers at the present time. It is believed that at some future time when the farm system now being worked out by the Provincial Government is brought up to a more perfect state, the supply of cattle will largely be produced on the Government institution farms. The cost of the new abattoir, it is said, will be in the neighborhood of \$35,000.

A Monster Calf.

A reader of "The Farmer's Advocate," Edward Nelson, of Northumberland Co., Ont., sends the following on what he calls "a monster calf":

"To Jas. Terrill & Son, of Brighton Township, Northumberland County, belongs the honor of raising the largest calf of its age in the Dominion. The calf was a well-bred Holstein, which again proves the ever-increasing popularity of the Holstein as the farmer's friend. The following are its respective weights: At three months of age, 407 lbs.; four months, 523 lbs.; five months, 620 lbs.; six months, 755 lbs.; seven months, 864 lbs.; eight months, 970 lbs., and nine months and seven days, 1,108 lbs. The largest gain for any one month was 135 lbs., or an average gain of 4 1/2 lbs. per day. It dressed 672 lbs."



Do you want to
BUY A FARM?

Send For our list

Have you a
FARM FOR SALE?

List it with us

ONTARIO FARM AND FRUIT LANDS DEPARTMENT
**DOVERCOURT LAND
BUILDING & SAVINGS**

W.S. DINNICK, PRESIDENT
COMPANY LIMITED 82-88 KING ST. E. TORONTO.
LARGEST OWNERS & DEVELOPERS OF REAL ESTATE IN CANADA

FILL IN
THIS COUPON
AND
MAIL TO

DOVERCOURT LAND BUILDING & SAVINGS CO. LIMITED
82-88 KING ST. E. TORONTO.

Gentlemen Kindly send me list of Farms & Fruit Lands you
have for sale with full information in regard to same.

NAME _____
ADDRESS _____

Run on Coal Oil—6c for 10 Hours

Ellis Engines develop more power on cheap lamp oil than other engines do on high-priced gasoline. Will also operate successfully on distillate, petrol, alcohol or gasoline. Strongest, simplest, most powerful engines made; only three working parts. No cranking, no excessive weight, no carbonizing, less vibration, easy to operate.

ELLIS ENGINE

Horizontal Engine Vertical Engine

Have patent throttle, giving three engines in one; force feed oiler; automobile type muffler; ball-bearing governor adjustable while running and other exclusive features. Every engine sent on 30 days' approval with freight and duty paid. 10-year guarantee. Write for 1915 catalog, "Engine Facts," showing New Models with special prices. Shipments made from Windsor, Ont. ELLIS ENGINE CO., 2655 E. GRAND BLVD., DETROIT, MICH.

IMPORTED PERCHERON Stallions and Mares

We have a larger selection of Percherons than any other firm in Eastern Canada, and our barns contain more prizewinners at the leading fairs than all others combined. No advance in prices, although the source of supply is cut off. Write for beautiful illustrated catalogue.

Hodgkinson & Tisdale, Beaverton, Ontario

Bell 'Phone 18

1914 Stallions—CLYDESDALES—Fillies 1914

We made the grade on a darkened ship without meeting a Kaiser cruiser, Our 1914 importation are home. Stallions and fillies especially selected for character, quality and breeding. If you want a topper, come and see them

Smith & Richardson, Columbus P.O.

Myrtle C.P.R.

Brooklin G.T.R.

Imp.—Clydesdales, Stallions and Fillies—Imp.
We have had lately landed, an exceptionally choice importation of Stallions and Fillies. They have the big size, the clean flat quality bone and the most fashionable breeding. Our prices are consistent with the times.

JOHN A. BOAG & SON QUEENSVILLE, ONTARIO

A few choicely-bred young stallions always on hand and for sale
Prices and terms right. Visitors welcome.

BARBER BROS., GATINEAU PT., QUE.

JUST LANDED CLYDESDALE STALLIONS JUST LANDED
I have just landed a new importation of Clydesdale Stallions, in ages from 3 years up, the big drafty kind that makes the money. I can satisfy any buyer no matter what he wants: a visit will convince.
WM. COLQUHOUN, Mitchell, Ont.

When Writing Please Mention Advocate

A Possible Feeding Stuff.

The weekly report of the Department of Trade and Commerce of Canada contains an interesting item entitled "A Possible Feeding Stuff Supply." We quote from it:

"The West African section of the London Chamber of Commerce, in co-operation with the West African sections of the Liverpool and Manchester Chambers, have reprinted an article from the last issue of the "Bulletin of the Imperial Institute" on the subject of palm kernels, with the view of arousing interest in this matter in commercial and agricultural circles. The Chamber points out that over a quarter of a million tons of palm kernels, worth more than £4,000,000, are exported annually from West Africa (principally from Nigeria). Almost the whole of this has hitherto gone to Germany, where crushing mills and manufacturing plants have been established for carrying on the industry on a very large scale. The crushing of palm kernels yields about 50 per cent. of oil, and the residue is made into palm-kernel cake. The palm-kernel oil is a valuable product, obtaining high prices, and considerable quantities have been exported, in manufactured or unmanufactured form, from Germany to Great Britain. The palm-kernel cake produced in Germany has been consumed entirely in that country, where it is much in demand, especially among dairy farmers, and a good price was always assured for any quantity. Moreover, a large proportion of the cake made in Great Britain has been exported to Germany, where it found its best market. This German industry is now entirely suspended; owing to the war, and the opportunity seems propitious for an endeavor to establish it in Great Britain upon a much more extended scale than heretofore.

"Among the benefits arising from this would be the promotion of Imperial commercial intercourse, increased industrial employment in this country, direct supplies of palm-kernel oil for manufacturers of margarine, soap, etc., and new supplies of a relatively cheap winter feeding material for farmers, who are complaining of the enhanced prices of present cattle foods. It is pointed out that there are at present two mills (both at Liverpool) for dealing with palm kernels, capable, together, of crushing annually about 70,000 tons, leaving a balance unprovided for of at least 180,000 tons. To cope with this additional quantity, several of the great milling companies of Liverpool, London, Hull, etc., have already made and are making alterations in their machinery in order to crush palm kernels, so that in the near future much greater quantities will be dealt with. A new mill on the Thames, at Erith, is also being erected, which, when completed after the war, will be capable of crushing a very large quantity.

"There is every reason to believe that manufacturers of margarine, soap, etc., can take practically any quantity of the oil that may be available, and that the present high prices will be maintained. Sir Owen Phillips, the Chairman of the West African section of the London Chamber, has been in communication with the leading agricultural authorities in all parts of the country with the object of ascertaining whether the cake could be utilized to a greater extent by farmers, and of enlisting their co-operation for this purpose. The matter has been taken up by the principals of agricultural colleges and experimental stations with the greatest enthusiasm, and they are practically unanimous in asserting that the fact of large quantities of palm-kernel cake being available at a price comparing favorably with that of other similar foods (now becoming more expensive than formerly), has only to be brought to the notice of farmers to ensure a greatly-increased demand. Many of the principals and professors of these colleges have undertaken an elaborate series of comparative experimental feeding tests with palm kernel and other cakes, so as to demonstrate the merits of the former.

"In conclusion, the West African section of the London Chamber are strongly of opinion that if the matter is taken up on a large scale by millers, and the attention of farmers is systematically drawn to the subject, a very considerable new business may be created and built up."

Gossip.

The following notices of motion to be brought up at the annual meeting of the Holstein-breeders' Association, to be held at Toronto February 4th, have been sent out:

"M. L. Haley gives notice that he will move to amend the Record of Merit rules by the addition of the following clauses:

"Supervisors and retesters shall have authority at all times to take the temperature of any cow under test.

"In case of a retest, the person sent to make such retest shall take the temperature of the cow at least four times, at intervals of at least four hours, and shall report same to the Secretary.

"If the reports of the Supervisor and retester indicate that a cow is in an abnormal condition from any cause, the record made shall be referred to the Executive Committee, who shall deal with and dispose of the matter as they see fit.

"Mr. David Caughell gives notice that he will move to amend the Record of Merit rules by substituting for the present scale of standards rendering a retest obligatory the following:

"Junior two-year-olds, 15 lbs. of fat, senior two-year-olds, 17 lbs. of fat, junior three-year-olds, 18 lbs. fat; senior three-year-olds, 20 lbs. of fat; junior four-year-olds, 21 lbs. of fat; senior four-year-olds, 22 lbs. of fat; mature cows, 24 lbs. of fat."

VILLA VIEW HOLSTEINS.

Villa View Dairy Farm, the property of Arbogast Bros., lies in the county of Perth just outside the village of Sebringville, and is of particular interest to breeders of Holstein cattle, from the fact that at the head of the well-selected herd of R. O. M. Holsteins just now is an exceptionally nice, straight, quality son of the famous \$50,000 bull, King Segis Pontiac Alcartra. He is King Segis Alcartra Calamity, out of Fairmont Pontiac Calamity, seven-day butter record 30.32 lbs.; thirty-day, 118.20; average butter-fat test, 3.93. The records of this young bull's seven nearest dams average 30.09 lbs. The records of his sire's three nearest dams average 33.11 lbs. The dam and sire's dam of his sire are both ex-world's champions. A sister to his sire's dam is the present world's champion, K. P. Pontiac Lass, record 44.18 lbs. His whole breeding represents the blood of King Segis, Pontiac Korndyke, King Segis Pontiac, Hengerveld De Kol, and De Kol 2nd's Butter Boy. His senior in service is King Sethje Walker, a son of the famous sire, King Walker. His dam's record is 20 lbs. as a two-year-old in seven days, and 85 lbs. for thirty days. Her butter-fat test is 4 per cent. His sire's dam made 27 lbs. in seven days, and 990 lbs. butter and 20,000 lbs. milk in one year. His grandam and great-grandam on his dam's side have 29 and 20-lb. records, and his dam again has five A. R. O. daughters, one of them with a 30-lb. record. Practically all the milking females of the herd are in the R. O. M.; eight two-year-old heifers average 16.52 lbs. The three-year-olds average over 19 lbs. The four-year-olds and over average over 20 lbs. The average butter-fat test is 3.93 per cent. Among the several young bulls offered for sale by Arbogast Bros. is one yearling sired by the old stock bull and out of a 19.68-lb. three-year-old. Another, nine months old, by the same sire, is out of a 20-lb. four-year-old. Two others, also nine months old, are by the same sire. One is out of a 17.59-lb. junior two-year-old, the other out of a 15.64-lb. two-year-old, who again made 11.71 lbs. nine months after calving, and at her next freshening made 18.56 lbs., the three records being made within twelve months. Another, same age, is out of a 16.31-lb. junior two-year-old, and sired by Anggie Prince Pietertje C. Two others are sired by Homestead King Colantha Abbekerk, whose five nearest dams have records averaging over 26 lbs.; one is out of a 24-lb. four-year-old, the other is out of a 19-lb. three-year-old. The above figures are interesting to breeders wanting a richly-bred young herd-header. Write Arbogast Bros. to Sebringville P. O., Ont.

MADE IN CANADA
SAVE-THE-HORSE
(Trade Mark Registered.)
BOOK FREE
IN WINTER

While time and opportunity favors—a permanent cure can be made with **Save-The-Horse**. 19 Years a Success, **REMEMBER**—No blistering or loss of hair—Horse works as usual—at any season.
Our "Save-The-Horse BOOK" is a Mind Settler—it contains things that are new, helpful and reliable—nowhere else found. It is the Quintessence and last word of up-to-date treatment of Ringbone—Thoropin—SPAVIN—and ALL—Shoulder, Knee, Ankle, Hoof and Tendon disease—Tells how to Test for Spavin; how to locate and treat 58 forms of LAMENESS—Illustrated.
WE ARE THE ORIGINATORS of the plan of treating horses Under Signed Contract to Return Money if remedy fails.
Write and we will send our—BOOK—Sample, Contract and Advice—ALL FREE to (Horse Owners and Managers—only). Address:
TROY CHEMICAL CO.
145 Van Horn St., Toronto, Ont.

Save Your Foals
USE



Not a cure but a preventive treatment given to pregnant mares for sixty days before foaling; procures immunity to the foal from **JOINT-ILL**. Write for pamphlet.

Wallen Drug Co., Winnipeg, Canada

SURE CURE FOR THRUSH



It stops bleeding instantly and will prevent Blood Poisoning. For Sale by all Dealers.
Free Sample on Request.
DOUGLAS & CO., NAPANEE, ONT.

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, Muscles or Bruises. Stops the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone. Horse can be used. \$2 a bottle delivered. Describe your case for special instructions and Book 2 K Free.

ABSORBINE, JR., the antiseptic liniment for mankind. Reduces Strained, Torn Ligaments, Enlarged Glands, Veins or Muscles, Heals Cuts, Sores, Ulcers. Allays pain. Price \$1.00 a bottle at dealers or delivered. Book "Evidence" free.
W. F. YOUNG, P. O. F. 258, Lemans Road, Montreal, Can.

Wanted: Stallions or Mares

In exchange for a good brick house in Meaford; on corner lot, close in with stable in rear. Price \$1,500. Also one rough-cast house in Collingwood. Price \$1,000.

HENRY M. DOUGLAS & CO.
Dealers in Clydesdale, Percheron and Hackney Stallions
MEAFORD ONTARIO

Dr. Bell's Veterinary Medical Wonder. 10,000 \$1.00 bottles to horse-men who will give the Wonder a fair trial. Guaranteed for Inflammation of the Lungs, Bowels, Kidneys, Fevers, Distempers, etc. Send 10 cents for mailing, packing, etc. Agents wanted. Write address plainly. **Dr. Bell, V.S., Kingston, Ont.**

Seeds and Weeds.

Bulletin No. S-8 of the Seed Branch, Dominion Department of Agriculture, is now in press and will soon be available for distribution through the Publications Branch, Ottawa. It is published to meet the great demand for "Farm Weeds," which was revised and enlarged in 1909. This further revision and extension contains 180-odd half-tone illustrations of weeds and weed seeds. Among other matter, it treats of the condition of seed grain actually been used by Canadian farmers and the distribution of weed seeds by commercial feed grain, mill feeds, and screenings from terminal elevators.

In the spring of 1913, officers of the Seed Branch took samples, representing as accurately as possible the average seed used in the districts visited, from over 2,000 farmers throughout Canada; 978 samples of oats were analyzed at the Ottawa Seed Laboratory, and 547 of these, or 56 per cent., contained an average of 76 noxious weed seeds per pound, the highest number being 4,838 in the pound; 860 or 88 per cent. of the samples contained an average of 239 of other weed seeds, the highest number being 6,954 per pound. With this weed-seed content, and the rate of seeding reported, an average of 6,400 noxious and 20,800 other sorts of weed seeds would be seeded on each acre of land in oats. Barley and wheat showed similar results. Some of these weed seeds are difficult to clean out, but most of them can be separated by a fanning mill properly equipped and well operated.

Ordinary commercial grades of grain coming out of terminal elevators are foul with weed seeds. Analysis of five samples of No. 2 Canadian Western oats taken from as many terminal elevators, showed 313 noxious weed seeds per pound, and a much larger number of other weed seeds. In transportation, some of these are distributed along the railroad and introduced into new localities. Many wild oats and mustards fed in uncultivated lands to horses will live and pollute farm lands. Others become mixed with the manure in handling dirty grain and other feeds. Such feeds should be thoroughly ground, and weedy manure should be heated or rotted in order to destroy the vitality of weed seeds.

Further Contagious Disease Orders.

The Order under "The Animal Contagious Diseases Act," of date the 9th day of November, 1914, as amended by Orders of date the 11th, 13th, 19th, 23rd, 24th, 30th of November, 10th, 15th and 21st of December, 1914, is hereby further amended as follows:

"Horses for special use in breeding, racing, or under exceptional circumstances, may be admitted by order of the Veterinary Director General, who will satisfy himself that such horses can be admitted to Canada without danger to the live-stock interests, and who will impose any conditions he may deem necessary.

"Persons desiring to bring in horses under this regulation will first communicate with the Veterinary Director General, stating the location of the horse or horses and any reasons existing why their application should have special consideration.

"Railway and transportation companies will require shippers to produce authority from the office of the Veterinary Director General before accepting horses destined for Canadian points.

"The existing regulations regarding the mallein test must be observed.

"Under the terms of the amendment of date 10th December, the designation "pet dogs," may be taken to include all dogs except those of breeds used for hunting, shooting, or herding sheep and cattle.

"Wool in car lots, destined from one United States point to another, may be permitted to pass through Canada under the usual regulations governing sealing and disinfecting cars."

GEO. F. O'HALLORAN,
Deputy Minister of Agriculture.

The sixteenth annual meeting of the Canadian Forestry Association will be held in the Assembly Hall of the Carnegie Public Library, Ottawa, on Tuesday, January 19th, at 8 p. m.

Guaranteed Meals

All of the famous Caldwell Stock Meals are guaranteed to the Government. Each is ideal for its purpose, and will benefit your stock and your pocketbook as well.

CALDWELL'S MOLASSES MEAL

Unequaled Upbuilder

Contains 84% Pure Cane Molasses and 16% Edible Moss. Has wonderful nutritive properties, besides possessing digestive and antiseptic value that will promptly benefit your animals. Cuts down feed bills, builds up your stock. Booklet free.

CALDWELL'S Cream CALF MEAL Substitute

Raises Calves Without Milk

Enables you to sell your whole milk and yet raise as good or better calves. The guaranteed analysis shows Protein 19 to 20%, Fat 7 to 8%, Fibre 5%. Guaranteed ingredients are Linseed, Wheat, Oat, Corn, Locust Bean, Pea and Molasses Meal in right proportions to assure best results. Completely replaces whole milk for rearing young calves. Booklet free.

CALDWELL'S DAIRY MEAL

Increases Milk Yield

Guaranteed ingredients are Gluten Feed, Dried Grains, Cottonseed Meal, Barley, Oats, Malt Combing, Oil Cake Meal. Guaranteed analysis: Protein 20%, Fat 6.3%, Fibre 10%. Keeps your cows in good condition and greatly increases the milk flow. A fully balanced, high protein cow ration of unfailing benefit. Booklet free.

IF YOUR DEALER CANNOT SUPPLY YOU, WRITE US DIRECT

The Caldwell Feed & Cereal Co., Limited
DUNDAS, (LARGEST FEED MILLS IN CANADA) ONTARIO

CLYDESDALES AND PERCHERONS

I have not exhibited at any shows during 1914. I am still in the horse business, and at present have the best lot of Stallions and Mares I ever had at any one time. 29 head: 17 Clyde Stallions and 4 Mares; 5 Percheron Stallions and 3 Mares; a visit to my stable will convince you I have more high-class horses than can be found in any one stable in Canada, and won't be undersold by any dealer in Canada, always a pleasure to show stock to intending purchasers, sale or no sale.

T. H. HASSARD, MARKHAM, P.O., G.T.R.
Locust Hill Station only 3 miles, C.P.R. Long-Distance Phone.

Royal Oak Clydesdales Present offering: 5 Imported Mares (3 with foal by side) 2 yearling Fillies (1 Imp. and 1 Canadian-Bred), 1 Canadian-Bred Yearling Stallion, 1 Canadian-Bred 2-year-old Stallion, 1 Canadian-Bred 6-year-old Stallion. Parties wishing to secure a good brood mare or stallion should inspect this offering or communicate with me at earliest convenience.
G. A. Attridge, Muirkirk, Ont. P.M. and M.C. Ry. L.-D. Phone Ridgeway

ABERDEEN-ANGUS CATTLE **ELMPARK** **SUFFOLK SHEEP**

Choice young bulls that have won their colors. Choice cows and heifers that have done the same. Suffolk flock headers of highest quality, also shearing and ewe lambs. Come where the best is bred for your breeding stock.
JAMES BOWMAN, GUELPH, ONTARIO

1909 Canada's Champion Hereford Herd 1914
For the above six years at the leading shows from Toronto to Edmonton my herd has maintained its supremacy as the champion herd of Canada; American and Canadian bred bulls for sale, the highest attainment of the breed; also cows and heifers.
L. O. CLIFFORD, OSHAWA, ONTARIO

20 ROSEDALE STOCK FARM SHORTHORN BULLS 20

Some of them fit to head the best herds in the country. Some are from heavy milking dams. Six are from imported dams.
G.T.R. C.P.R. J. M. GARDHOUSE Street Railway and Long-Distance Telephone
WESTON P. O.

Robert Miller Pays The Freight

Young Shorthorn bulls of Showyard Quality, sired by Superb Sultan and other great imported sires, from the best imported and Scotch bred cows to be found, some of them great milkers, ready to sell at moderate prices, and delivered at your home station. Cows and heifers supplied too, write for what you want.

ROBERT MILLER :: :: **STOUFFVILLE, ONT.**

HIGH-CLASS SCOTCH SHORTHORNS
We have a choice selection of richly-bred young herd headers, the thick, mellow, good doing kind. Visit our herd and make your own selection.
RICHARDSON BROS., COLUMBUS, ONTARIO
Myrtle C.P.R.; Oshawa, C.N.O. and G.T.R.; Brooklyn, G.T.R. Sta.

Escana Farm Shorthorns—100 head in the herd, which is headed by the noted bulls, Right Sort Imp., the sire of the first-prize calf herd at 1914 Toronto National Show, and Raphael Imp., grand champion at London Western Fair, 1913. For sale: 20 bull calves, 9 to 14 months old, several in show form; also 20 cows and heifers.

MITCHELL BROS., Props., Burlington P.O., Ont.
JOS. McCRUDDEN, Manager. Farm ¼ mile from Burlington, Jct.

Woodholme Shorthorns and Berkshires
Young bulls, cows and heifers of choicest Scotch breeding and high-class quality. Also young sows bred and ready to breed.
G. M. FORSYTH, CLAREMONT, P.O. and Stn., C.P.R.

10 Shorthorn Bulls, 9 Imported Clydesdale Mares
Our bulls are all good colors and well bred. We also have Shorthorn females of all ages. In addition to our imported mares, we have 7 foals and yearlings. Write for prices on what you require. Bell Telephone.
Burlington Junction, G.T.R., ½ mile. W. G. Pettit & Sons, Freeman, Ont.



BE YOUR OWN Blacksmith

FREE INSTRUCTIONS In farm blacksmithing and horse-shoeing

Learn how to repair your own wagons and farm machinery. How to shoe your own horses. Learn the secrets of tempering and hardening metals. Be your own blacksmith.

SAVE MONEY FROM THE START

Write now and secure special direct-from-foundry prices on a forge and all necessary tools for practical work. Just the chance farmers are looking for. Special inducements offered now.

SAVE Save repair bills. No need to pay big repair bills, month after month. An outfit of your own will pay for itself the first year, easy.

SAVE Save time. You spoil a day every time you go to town. Time means money, especially in the busy season. Cut out these expensive trips to town. Do your own repairs.

SAVE Save your machinery and tools by prompt and personal attention to repairs. "A stitch in time saves nine." Be prepared to keep everything in working trim.

CATALOGUE FREE

Send a post card for FREE Catalogue of Blacksmiths' Supplies for Farm and Shop. The Forge shown here is now being offered at \$5.90, freight paid to Ontario and Eastern points.



The HALLIDAY COMPANY Limited
HAMILTON Fact'y Distributors CANADA

STAMMERERS

can be cured, not merely of the habit, but of its cause. The Arnott Institute has permanently restored natural speech to thousands—is doing it to-day. Write for full information and references to

THE ARNOTT INSTITUTE
Berlin Ontario, Canada

We Have Advanced Our Price For Good Quality Cream

We pay express and supply cans. It will pay you to write us, we have had ten years experience and we can guarantee satisfaction. A man wanted in every county, easy money.

Galt Creamery

Galt :: :: Ontario

Winter Term Opens January 4th, 1915

The Northern Business College

OWEN SOUND, ONT.
Our catalogue tells you why the Toronto "Globe" said: "It is the foremost Business School in the Dominion." Write for it.
C. A. FLEMING, F.C.A. G. D. FLEMING
Principal Secretary

FORD STARTER



Throw away your crank, start from the seat with a Sandbo "TWO-COMPRESSION" Starter. Differs from all others. Positively guaranteed to start.

Write
GEO. W. MacNEILL,
85 Richmond, W., Toronto

For Sale—The Aberdeen-Angus bull, Sam. Black=8081=, calved March 16th, 1914; dam, Glen Maple Miss =7588=; sire, Valley Farm Rebel =5676=. This calf is of good quality, and would make a good sire for any herd.

SAM MULHOLLAND,
R. NO. 3, MITCHELL, ONTARIO

ABERDEEN-ANGUS CATTLE OXFORD SHEEP

For Sale—Good young show bulls and females also a few Oxford rams. Thos. B. Broadfoot Fergus, Ontario. G.T.R. and C.P.R.

Beaver Hill Aberdeen - Angus
Choice young Bulls fit for service
Females all ages, for sale.

Alex. McKinney,
R. R. No. 2, Eria, Co. Wellington, Ontario

Tweedhill Aberdeen - Angus
Excellent young bulls of serviceable ages.

Heifers in calf, etc. Address:
James Sharp, R. R. No. 1, Terra Cotta, Ont.
C.P.R. and G.T.R., Cheltenham Station.

ABERDEEN - ANGUS CATTLE
For Sale—Several young bulls from the imported sire and prizewinner, "Pradamere." Address:
A. Dinsmore, Manager, "Grape Grange" Farm
Clarksburg, Ontario

6 SHORTHORN BULLS
25 females, reds and roans, serviceable, best type and quality, size; cows milking up to 50 lbs. Prices easy. THOMAS GRAHAM
R.R. No. 3, Port Perry, Ont.

Gossip.

BRANT COUNTY HOLSTEIN SALE.

At the old Commercial Hotel stables in the city of Brantford, on Wednesday, January 27th, the Brant County Holstein-breeders' Club will hold their first annual sale of specially selected Holsteins, numbering in all fifty head. A half-dozen of this number are young bulls old enough for service, and consigned by the following well-known breeders: E. C. Chambers, Hatchley; Robt. Shellington & Son, Hatchley; Chester Lee, Kelvin; C. E. Smith, Scotland; J. W. McCormick, Hatchley; C. Duff Nelles, Boston; F. F. Passmore, Brantford; S. Lemon & Sons, Lynden; W. Sager, St. George, and F. Chapin, Newport. In the selection of the Holsteins to be sold at this sale the Committee of Management have made an extra critical survey of the herds represented, selecting nothing but what is absolutely right in every particular. It is intended that the sale shall be an annual event, and every means is being taken to safeguard the buying public. There will positively be no by-bidding, and every animal put up will be sold to the highest bidder, no matter what the price. Every animal will be a gem of the breed, both in individual type and quality, and in rich, official producing breeding. For full particulars of the individual animals, write for a catalogue to the Secretary, N. P. Sager, St. George, Ont.

A. KENNEDY & SON'S HOLSTEIN SALE.

Attention is called to the dispersion auction sale of pure-bred Holstein cattle of A. Kennedy & Sons, Paris, Ont., when they will sell their entire herd of sixty head with no reserve; every animal will go. The cattle are fine individuals, with the best breeding that can be had, and are the finished product of thirty years' careful breeding and selection. There are a number of cows sired by Homestead Albino Paul De Kol. His sons have sired a long list of yearly-record cows. He traces four times to De Kol 2nd (26.57 lbs.), the greatest foundation cow of the breed. Some of the females are sired by Sir Mechthilde Posch, a son of Ianthe Jewel Mechthilde 27.65 lbs. butter; also a large number are sired by Sir Creamelle. His sire is a brother to the dam of Duchess Hengerveld Korndyke, 1,129.4 lbs. butter, which is the world's record as a three-year-old. A number of heifers are sired by King Segis Pontiac Lad, a three-quarters brother to the highest-priced bull of the breed, and sired by King Segis Pontiac, by King Segis, with 85 A. R. O. daughters and 64 proven sons, and out of Pontiac Clothilde De Kol 2nd, with a record of 37.20 lbs. butter, world's record when made. She is a daughter of Pontiac Korndyke, with 103 A. R. O. daughters and 45 proven sons. The young heifers and bulls are sired by Duke Beauty Pietertje. His sire's dam is a 32.52-lb. cow, and his sire's sire's dam is a 30.5-lb. cow, and has produced three generations of 30-lb. cows. His sire has sired two cows that have each produced three generations of 30-lb. cows. Duke Beauty Pietertje's dam is a 22-lb. two-year-old. Her sire's dam is a 30-lb. cow, and her sire's sire has sired as many 30-lb. daughters as all the other bulls of the breed combined. Her dam's sire is sire of 79 A. R. O. daughters and 44 proven sons, including three cows over 30 lbs. butter in seven days. The junior herd bull is Smithdale Ormsby Schuiling, first prize in the senior-calf class at Toronto last fall. His dam is Maggie Clark, with 20,387.6 lbs. milk and 858 lbs. butter in one year in R. O. P. She made 540.1 lbs. milk and 26.22 lbs. butter in seven days, and 105.76 lbs. butter in thirty days, and she bids fair to be a 30-lb. cow.

These cattle are the results of thirty years of breeding and weeding. The entire herd will be sold, with no by-bidding, and no reserve. Breeders cannot neglect this opportunity to start a herd or augment one already under process of building up. It is an admirable chance for those who wish to introduce record-making individuals into their herd, as the ancestry and breeding of this Holstein herd are strongly of the producing kind. The farm is situated between Ayr and Paris, and the date of the sale is January 28, 1915. Write for catalogue.

The Great Canadian Shorthorn Annual Sale

WILL TAKE PLACE AT

The Union Stock Yards, Toronto

ON

Wednesday, Feb. 3rd, 1915

Beginning at 12 o'clock, noon

When Robert Miller, Stouffville, Ont.; J. A. Watt, Elora, Ont.; Kyle Bros., Drumbo, Ont., and John Miller, Jr., Ashburn, Ont., will sell 60 head of select

Scotch Shorthorns

of the best breeding and conformation that
it is possible to find

About half are young bulls fit for service, the other half young cows with calves at foot, and heifers nearly or quite of the breeding age. They are of the same quality that has made this sale the greatest event of the year in Shorthorn circles, and they will be sold without any reserve. At no time in the history of this country have cattle been more valuable, and this is a chance to get the right kind at a fair price.

Ask for catalogue, and prepare to attend this sale the day following the Shorthorn meeting.

Robert Miller, Stouffville, Ont.

MANAGER OF SALE

BIGGER AND BETTER THAN EVER!

Sixth Annual Sale of

Registered Shorthorns

In the Butler House Yards, LINDSAY, ONTARIO on

Tuesday, January 26th, 1915

30 MALES

AT 1.30 P.M. SHARP

11 FEMALES

Will be sold at public auction by the Victoria Pure Bred Stock Association. This is the finest aggregation of stock that the Association has ever got together. Some First Prize winners are included in the lot.

Terms:—Cash, or ten months' credit will be allowed on approved joint notes, all notes to bear interest at the rate of 6 per cent per annum from date of sale. Catalogue mailed on application to the Secretary. Sale under cover if stormy.

President - JAMES CASEY. Vice-President - GEO. H. MARK.

Auctioneer - WM. MARQUIS. Secretary - A. A. KNIGHT, Lindsay.

Train connections leaving Lindsay after the sale:—Going West, C.P.R. 4.20 p.m.; G.T.R. 6.28 p.m. Going East, C.P.R. 5.15 p.m.; G.T.R. 8.15 p.m.



Belmont Farm Shorthorns Herd headed by "Nero of Cluny" (imp.) and Sunnyside "Marquis." For Sale—a number of young bulls and heifers, also young cows sired by "Missie Marquis" with calves at foot.
F. W. SMITH & SON,
R.R. No. 2, SCOTLAND, ONTARIO - Long-Distance Telephone

Questions and Answers. Miscellaneous.

Tuberculosis in Fowls, Condition Powders.

1. Our old hens have been dying all last spring and summer. We killed some of them and found that the liver and inside were spotted, which is a sign of tuberculosis. Our poultry house is under the straw shed beside the pig pens. The partition is boarded about half-way up, and along upper part is poultry netting. Do you think the smell from the pig stables would bring about this disease? There is no ventilation about the stables.

2. Would like a good recipe for condition powder.

3. Would like a good recipe for condition powder for mares in foal.

A. J. H.

Ans.—1. No doubt your hens have suffered from tuberculosis, perhaps not due to the proximity of the pigs, but to the lack of ventilation, and to the increased need of it owing to the vapors from the hog pens. It would be better to make some very cheap houses out of piano-boxes rather than allow them to die off in such an unappropriate place for them. If you are not in a position to provide new quarters for them this winter, it would be well to clean out their runs very frequently and disinfect with white-wash containing some carbolic acid or creolin.

2 and 3. The following tonic is recommended. Two ounces each of ferric sulphate, pulverized gentian, pulverized nux vomica, and nitrate of soda. Mix these, and give a teaspoonful night and morning in good oats or bran. Also give two or three times a week a feed of boiled oats, and to the regular grain food add a little oil cake, which aids digestion. Give plenty of exercise. One cannot place too much confidence in condition powders. Proper feeding and exercise will be of more lasting benefit.

Veterinary.

Partial Paralysis.

Heifer calved in September. Since then she is stiff when she walks. She drags her hind legs, and they crack quite often. She eats well and milks well.

D. H.

Ans.—Purge her with 1 1/2 pints raw linseed oil, and follow up with 2 drams nux vomica three times daily.

Corn.

Horse has a corn in his foot.

W. B.

Ans.—Remove the shoe, pare well down to the corn, and remove as much of it as you can without drawing blood, then poultice with linseed meal mixed with hot water. Apply a fresh poultice three times daily until the soreness disappears, then get him shod, but have the wall of the quarter rasped down so that no weight comes upon the shoe. Have the shoe changed every four weeks, and the corn pared out well. When the snow disappears, have him shod with a bar shoe with good frog pressure, and keep weight off the quarter.

Gossip.

Attention is directed to the advertisement in this issue of a big auction sale of pure-bred Holstein cattle, the property of W. F. Elliott, Unionville, Ont. Thirty-eight head to be sold are cows and heifers, and five young bulls. These cattle are bred in the purple, and parties interested in the Holstein breed cannot afford to miss the sale. Remember the date, February 5.

A PIONEER PASSES.

Francis Birdsall, one of the oldest pioneers of Peterborough County, and prominent in agricultural affairs, being President, almost since its inception, of the East Peterborough Agricultural Society, died at his home, December 23rd, at the age of 76 years. He will be greatly missed in agricultural circles.

RACING LIFE of DAN PATCH—1:55 FREE A GENERAL AND VETERINARY STOCK BOOK FREE



200 Fine Pictures in this big 8 x 11 book, contains a dependable and valuable Veterinary Department that will save you hundreds of dollars.

This Big Book—treats of all kinds of diseases and how to Cure and Prevent them and gives hundreds of Valuable Money Making Pointers for the every day Practical Farmer or Stockraiser. The FRONT COVER PAGE is printed on EXTRA HEAVY ENAMEL STOCK in 14 blended colors and shows M. W. Savage driving Dan Patch and is one of the best pictures ever made of the Great, World Champion. This BIG BOOK—124 pages—8 by 11—gives a complete History of Dan's Racing Life, Describing Every Race and Every Record Breaking Speed Exhibition, VALUABLE VETERINARY DEPARTMENT, With Scientific Illustrations,—Most expensive Book of its Kind ever published. You need it for your library because it is very interesting and because it will save you HUNDREDS OF DOLLARS with your livestock. We do not believe you would take \$5.00 for this BIG BOOK—if you could not secure another copy. You ought to have the Thrilling Life of Dan Patch 1:55 in your Library. The Great Champion of all World Champions. The Most Popular Horse ever known as Proven by over 2,000,000 People writing for his picture and they all received one free. Not only a Thrilling and Sensational Horse Story but also a LIBRARY for the Poultryman, the Hog Raiser or the Cattle Raiser, or for the Horseman, 200 Finely engraved pictures of all breeds. Also a regular VETERINARY DIGEST for stockmen.

The Veterinary information in this book is from the brains of the best men in America, the kind that are called into consultation on Animals worth fortunes on the INTERNATIONAL 1:55 Horse Breeding Farm.

THIS BOOK MAILED FREE — — — POSTAGE PREPAID

Providing you are a farmer or stockowner—over 21 years of age—and if you will answer these three questions.

First—In what paper did you read this offer? Second—How many horses, cattle, sheep, hogs and poultry do you own? Third—Have you ever used INTERNATIONAL STOCK FOOD TONIC?

Write to—The INTERNATIONAL STOCK FOOD CO., Limited, Toronto, Canada

INTERNATIONAL STOCK FOOD TONIC has successfully stood the practical every day test of farmers and stockmen all over the world for over a quarter of a century. This is ABSOLUTE, INDISPUTABLE PROOF to any fair-minded man that it must possess very superior merits. During the last 26 years Hundreds of Preparations have been offered for sale—had a limited sale, but have entirely disappeared—but the sale of INTERNATIONAL STOCK FOOD TONIC has constantly increased during these 26 years until it is sold and used all over the world. It is guaranteed to save 70 bushels of oats per year for every working team at a saving expense of only "3 feeds for One Cent". Also keeps horses healthful and stronger. It makes colts grow and develop very rapidly. INTERNATIONAL STOCK FOOD TONIC was originated by one of the largest harness horse breeders in the world (M. W. Savage) owning the 700 acre 1:55 Horse Breeding Farm. He carefully experimented on both his horses and other stock for many years before placing it on the market. It is guaranteed to make your cows give from one to three more quarts of milk every day, and to make calves quick growers—even on skim milk. It is a common-sense, every day tonic, blood purifier, system strengthener and a great aid to better digestion and assimilation so that horses, cattle, sheep and hogs will gain more pounds from every bushel of grain eaten. It also prevents diseases in hogs and helps make pigs, shoats or hogs grow amazingly. It is not to take the place of grain but to mix with grain for better health and larger profit by improving digestion and assimilation of all animals.

You eat several kinds of medicinal ingredients in your own feed everyday. Don't you think it is just as sensible to think your animals should have certain kinds of medicinal ingredients which they eat freely when running wild? 200,000 dealers everywhere sell INTERNATIONAL STOCK FOOD TONIC on a Spot Cash Guarantee to refund your money IN FULL if it ever fails to keep your stock in better health and make a big extra profit for its low using cost.

INTERNATIONAL POULTRY FOOD TONIC makes hens lay more eggs by stimulating and strengthening the egg producing organs as is indisputably proven by the sale of over 5 million boxes. It also keeps poultry healthy and vigorous and makes young chicks grow rapidly. By far the cheapest to use.

Both of these preparations are put up in 25c., 50c. and \$1.00 packages and in 25 pound pails.

There is an INTERNATIONAL dealer in your town, if you don't know him, write us for his name.

Write us to-day, answering the above questions and obtain free of cost postage prepaid our Big Book — "The Racing Life of Dan Patch".

All International Preparations are "Made in Canada" by Canadians

INTERNATIONAL STOCK FOOD CO., Limited TORONTO, CANADA

PLEASANT VALLEY FARMS SHORTHORNS

Herd headed by Imp. Loyal Scot. Have for sale, 10 high-class young bulls of herd heading quality and several of the milking type. Also females of the leading families. Consult us before buying. Farm 11 miles east of Guelph; GEO. AMOS & SONS, MOFFAT, ONTARIO. C. P. R. 1/2 mile from station

SHORTHORNS and CLYDESDALES We have a nice bunch of bull calves that were a year-old in Sept., and are offering females of all ages; have a choice lot of heifers bred to Clansman=87809= One stallion three years old, a big, good quality horse, and some choice fillies, all from imported stock. A. B. & T. W. Douglas, Long-Distance Phone Strathroy, Ontario

Scotch—SHORTHORNS—English—If you want a thick, even fleshed heifer for either show or breeding purposes, or young cows with calves at foot, or a thick mellow beautifully-fleshed young bull, or a right good milker bred to produce milk; remember I can surely supply your wants. Come and see. A. J. HOWDEN Myrtle, C.P.R.; Brooklyn, G.T.R. COLUMBUS, P.O., ONT.

IRVINE DALE SHORTHORNS

Herd is headed by Gainford Select (a son of the great Gainford Marquis). A number young bulls of choice breeding and out of good milking strains. Also a few heifers. I. Watt & Son Elora Station Salem, Ontario

SALEM STOCK FARM HOME OF THE CHAMPIONS

Special prices of Twenty Shorthorn Bulls during Winter Fair Week. Many of them are good enough to head the best herds. Others big and growthy that will sire the best kind of steers. Elora is only thirteen miles from Guelph. Three Trains daily each way. J. A. WATT, ELORA, ONTARIO

H. SMITH - HAY P.O., ONT.

12 SHORTHORN BULLS and as many heifers for sale Write your wants You know the Harry Smith Standard.

BULLS and FEMALES JOHN MILLER, ASHBURN, ONTARIO

At greatly reduced prices, as my sale had to be called off on account of the weather. Herd must be reduced, as I am short of feed and stabling. Low prices for quick sale. If you want a herd leader of the highest possible individuality and richest possible breeding, visit our farm; sired by the great Uppermill Omega, Imp.; we have C. Butterlys and Lovelys, Marr Roan Lady and Cinderelas, from 7 to 18 months of age. MILLER BROS., R.R. No. 2, CLAREMONT, ONTARIO. Claremont C.P.R. Pickering G.T.R. Greenburn C.N.R., Sts.

SHORTHORNS

5 bulls from 7 to 15 months, some are herd heads both in quality, size and breeding, some are thick, fleshy, sappy bulls that will get good steers, also 10 heifers and a few young cows bred on milking lines; prices easy. Write me your wants. STEWART M. GRAHAM

LINDSAY, ONTARIO

Oakland--61 Shorthorns

Present offering: 4 Roan bulls 10 to 12 months, 2 Reds, older; also matured cows and heifers. Mostly sired by one of the best Roan bulls in Ontario. Inspect this dual purpose, prolific herd, or write: Jno. Elder & Sons, Hensall, Ontario

Spring Valley Shorthorns

Herd headed by the two great breeding bulls Newton Ringleader (Imp.) 73783, and Nonpareil Ramsden 83422. Can supply a few of either sex. KYLE BROS., DRUMBO, ONTARIO. Phone and Telegraph via Ayr.

1854 MAPLE LODGE STOCK FARM 1914

We have now for sale three young bulls, one 13 mos. old and two ten months. These calves are choicely bred for both milk and beef and are good and very promising animals. Come and see them. MISS C. SMITH, - GLANDEBOYE, R.R. 1 Lucan Crossing one mile east of farm.

Fletcher's Shorthorns. Imp. stock bull, Royal Bruce =55038=(89909) 273853, for sale or exchange. Royal Bruce is a choicely-bred Bruce Mayflower; was imported by Mr. Arthur Johnston for his own use. Young stock of either sex for sale. Geo. D. Fletcher, Erin, R.R. No. 2. Long-Distance Telephone. Erin Station. C.P.R.

Spruce Lodge Shorthorns and Leicesters.

Have always on hand to offer a good selection of young bulls and heifers from the best milking families; also a choice selection of Leicesters of both sexes, including a choice imp. 3-year-old ram, suitable for show purposes. W A Douglas, Caledonia Ont RR No. 2 Please mention "The Farmer's Advocate."

\$15.95 Upward ON TRIAL

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A SOLID PROPOSITION, to send fully guaranteed, a new, well made, easy running, perfect skimming separator for \$15.95. Skims warm or cold milk; making heavy or light cream. ABSOLUTELY ON APPROVAL. The bowl is a sanitary marvel, easily cleaned. Different from this picture, which illustrates our large capacity machines. Shipments made promptly from WINNIPEG, MAN., TORONTO, ONT., and ST. JOHN, N. B. Whether your dairy is large or small, write for our handsome free catalog. Address: AMERICAN SEPARATOR CO. 80X 3200 Bainbridge, N. Y.



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Cure the lameness and remove the bunch without scarring the horse—have the part looking just as it did before the blemish came. FLEMING'S SPAVIN CURE (Liquid) is a special remedy for soft and semi-solid blemish—Bog Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc. It is neither a liniment nor a simple blister, but a remedy unlike any other—doesn't irritate and can't be imitated. Easy to use, only a little required, and your money back if it ever fails. Fleming's Vest-Pocket Veterinary Adviser describes and illustrates all kinds of blemishes, and gives you the information you ought to have before ordering or buying any kind of a remedy. Mailed free if you write. FLEMING BROS., Chemists 75 Church Street. - Toronto, Ont.

Lakeside Ayrshires

The herd is headed by the well-known Auchenbrain Seafoam (Imp.)—35755. A few young bulls for sale from Record of Performance Dams, imported and home-bred. Geo. H. Montgomery, Proprietor Dominion Express Building, Montreal. D. McArthur, Manager, Phillipsburg, Que.

Alancroft Dairy & Stock Farm

BEACONSFIELD, P. Q., CANADA A FEW Pure-bred Ayrshires and Pure-bred French-Canadian Bulls for Sale. Correspondence or visit solicited. E. A. SHANAHAN, Secretary, Merchants Bank Building, Montreal, Canada

High-Class Ayrshires

If you are wanting a richly-bred young bull out of a 50-lb.-a-day and over cow, imported or Canadian-bred dam or sire, write me. Females all ages. Prices are easy. D. A. MACFARLANE, KELS0, QUEBEC

City View Ayrshires—Present offering:

Two young bulls fit for service. One yearling heifer and three 3-year-olds finishing their two-year-old test. James Beag & Son, R. R. No. 1, St. Thomas

Ayrshires and Yorkshires—Bulls of different ages; Females all ages.

A fine bunch of heifers from 6 months to 2 years. Yorkshires from 3 to 8 months old. Quality good. Prices moderate. Alex Hume & Co, Campbellford, R. 3.

TILLSONBURG SALE OF HOLSTEINS.

The fourth annual sale of the Southern Ontario Consignment Sale Company that will be held at Tillsonburg, Ont., February 9th, 1915, promises to be one of the events of the season. Their last sale was one of the best ever held in Ontario when the quality of the offering and the management of the sale are considered. This year it will be bigger and better than ever. The offering this year will be of the same high character as last year, and this, along with the liberal treatment and assistance given buyers, both before and after the sale, will be sure to meet with the approval of the buying public. Remember the cattle will be sold in a comfortable building, where seats will be provided for seven or eight hundred people, and everything will be done that the Sale Company can do to make visitors comfortable. The Tillsonburg Sale Company have a reputation to maintain, and they are determined to do so at all cost. Plan to attend the old reliable, and come a few days before the sale if you can and inspect the offering. Remember, everything must be as represented when sold or no sale. All sold subject to tuberculin test. Write today for a catalogue to R. J. Kelly, Collden, Ont.

Questions and Answers. Miscellaneous.

Absence of Supports in Loft.

I intend to build a pig pen next summer. Would you kindly give me a plan of roof if you have one. I intend to build it 24 feet wide, with cement wall 8 or 9 feet high, with loft for storing light implements, lumber, etc. I would prefer a hip roof that is self-supporting, or without supports in center, as they are in the way. Please give length of rafter. I intend using a galvanized-iron roof. I have drawn a plan of roof I would like, but I do not know whether it is self-supporting or not. W. E.

Ans.—By referring to page 1421 of our August 6th issue, 1914, two illustrations may be seen of our plank-frame barn at Weldwood. The end view shows quite distinctly the loft without any center supports, and the rafters are placed in such a way that very little room is taken up in the loft itself for these supports. This is a plank-frame barn, but a small building such as a pig pen could be built much more easily on the same principle. The braces would not have to be as long, and the structure would be quite firm. These illustrations answer the query much better than we could do in print.

Hay in Mow—Measuring for Turnips.

1. How much hay would there be in a mow 24 feet in length, 13 in width, and 10 in depth or height? The hay was put in with a pitchfork from off the granary.

2. How many bushels of turnips would there be in a pile 19 feet long, 12 feet wide, and 5 feet 4 inches deep? W. S.

Ans.—1. One cubic foot of hay will weigh between seven and nine pounds. Assuming that this hay was properly cured in the early stages, it would be safe to estimate it at 8 pounds per cubic foot. In the mow 24 x 13 x 10 feet, there would be 3,120 cubic feet, giving 24,960 pounds, or 12 2/5 tons of hay. This is the most reliable way of figuring hay in the mow. Of course, there might be a slight difference when it is put on the scales owing to the variations in the quality of hay.

2. With ordinary-sized turnips this bin would contain approximately 900 bushels. If they were extraordinarily large, the quantity would be reduced to a certain extent as turnips should be sold by weight rather than by measure.

Lice on Swine—Unthrifty Pig.

1. Our pigs are troubled with lice. Could you suggest a remedy suitable for application during cold weather?

2. One pig, in an otherwise thrifty litter, now three months old, has ceased to grow and is losing flesh. Have carefully examined, but can observe nothing. What would you suggest? R. C. T.

Ans.—1. Dip materials are sometimes sprayed onto swine in cold weather. Zenoleum is quite effective. Kerosene oil is sometimes used, but care must be practiced, for it is liable to blister a thin-skinned or thick-haired hog. A slight quantity on a rag carefully rubbed on the pigs will destroy many of the lice. One practice that is quite easily worked out is to have a post in the pen and wrap it with old rags or sacks. This could be saturated with crude oil, and the swine in scratching themselves against it, will rub oil on to the parts that are troubled by the vermin.

2. It would be hard to say what the trouble with this unthrifty pig really is, but worms and lice contribute very heavily towards unthriftiness. If you suspect worms, procure some finely-ground iron sulphate at the druggist's and mix this at the rate of one dram for each 100 pounds of hog, in the slop in the morning. Dissolve the iron sulphate in warm water before mixing in order to get as perfect a mixture as possible. The slop containing the iron sulphate should be given to the pigs on as nearly empty stomachs as possible, when they are very hungry. Keep before the pigs at all times a mixture of charcoal, wood ashes, lime, salt, and iron sulphate. The pigs eat of this what they wish, and in so doing prevent worm infestations. Perhaps if this unthrifty one were purged and then fed liberally with milk and middlings he might regain his normal condition again and ward off further troubles.

IMPORTANT AUCTION SALE

OF 43 HEAD OF

Pure-bred Holsteins

At Rivermead Farm, UNIONVILLE, ONT., on

Friday, February 5th, 1915

Sale commences at 11 o'clock

Thirty-eight cows and heifers and five young bulls. Several cows due to calf within the next 30 days. A number just bred, their last calves to be sold at the sale. Several heifers one year old, bred to a son of a 29-lb. cow, and son of King of the Pontiacs. All to be sold without reserve.

The farm is four minutes' walk from the station, Unionville, Midland Division, G.T.R., 20 miles north of Toronto, Ont.

Terms cash, or six months' with interest, 6 per cent. on approved notes. Catalogue on application.

Auctioneers } B. V. KELLEY, Syracuse, N. Y.
J. H. PRENTICE, Toronto, Ont.

W. F. ELLIOT,

Unionville, Ontario

Norfolk Holstein Breeders' Annual Club Sale

SIMCOE, THURSDAY, FEBRUARY 11, 1915

On the morning of the sale all cattle will be inspected by an impartial inspector, to assure prospective purchasers that every animal offered is sound and right. No three-teaters nor shy breeders may be listed by consignors. All cattle not tested for tuberculosis previous to day of sale by a competent vet. must be sold subject to tuberculin test. Now is the time to part with a few grades, and lay a foundation in pure-bred Holsteins.

W. H. CHERRY,

Advertising Manager, HAGERSVILLE, ONT.

J. ALEX. WALLACE,

Secretary-Treasurer, SIMCOE, ONT.

Riverside Holsteins

Herd headed by KING JOHANNA PONTIAC KORNDYKE, a grandson of PONTIAC KORNDYKE, and a brother of PONTIAC LADY KORNDYKE, 38.02 lbs. butter in 7 days, 156.92 lbs. in 30 days—World's records when made J. W. Richardson, R. R. No. 2, Caledonia, Ontario

LAKEVIEW HOLSTEINS

Senior herd bull—Count Hengerveld Fayne De Kol, a son of Pieterje Hengerveld's Count De Kol and Grace Fayne 2nd. Junior Herd bull—Dutchland Colantha Sir Mona, a son of Colantha Johanna Lad and Mona Pauline De Kol. Third bull—King Canary Segis whose sire is son of King Segis Pontiac, and whose dam is 27-lb., three-year-old daughter of a 30-lb. cow. Write for further information to—

MANAGER LAKEVIEW FARM - BRONTE, ONTARIO

SUMMER HILL FARM

Holstein Cattle and Yorkshire Hogs

We offer for sale a dozen bulls, some ready for service, from high official record dams. If you are wanting a bull, better write us and let us tell you how good they are. Can also spare a few good heifers. Yorkshires hogs all ages.

D. C. FLATT & SON

HAMILTON - Phone 7165 - R. R. No. 2 - ONTARIO

Holstein Cattle (Prince Hengerveld of the Pontiacs, herd sire.)

Stock for sale. Large herd to select from Hamilton Farms, St. Catharines, Ontario

Cloverlea Dairy Farms

Herd headed by Pontiac Norina Korndyke, a splendid young bull with the best of high record backing, also a large perfect individual. Bull calves for sale, 1 born Nov. 6, 1914, a large straight calf and out of one of our best bred heifers, will be sold reasonable if taken soon.

GRIESBACH BROS., - Phone - Collingwood, Ont.

VILLA VIEW AND FAIRMONT HOLSTEINS

(The Home of King Segis Alcartra Calamity)

For Sale—Ten bull calves nine months old, one ready for service; all nicely marked and well grown, from record of merit dams with records up to 22.11. Prices from \$50 to \$100.

Arbogast Bros., Sebringville, Ont. P. S. Arbogast., Mitchell, R.R. No. 2.

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In Holsteins—Present offering: 8 or 10 fresh cows, also 4 yearling heifers. In Percherons—2 Stallions rising three years and 5 years respectively, also one yearling filly. Will sell the holsteins at prices that will be attractive. The two stallions may be exchanged for one and a cash difference.

Albert Mittlefehldt. Smithfield Station, T.H. & B.R.R. Wellandport, Ontario

Ourvilla Holster Herd

The first herd in Canada to develop a 31 lb. cow. The only herd in Canada to develop 27 two-year-olds averaging 16.20 lbs. of butter in 7 days. We have also developed 7 three-year-olds averaging 23.23 lbs. in 7 days. If you want a bull backed by Ourvilla reputation and records, sired by a 31.76 lb. bull, write us.

LAIDFAW BROS., - - - - - AYLMEY, ONTARIO

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BLATCHFORD'S CALF MEAL
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There's big money and little trouble in raising your calf the Blatchford way. You save all the milk of the cow for market. As soon as the mother cow's milk is ready to sell, the calf is ready for **BLATCHFORD'S CALF MEAL**—For over a century the recognized milk food for calves, at one-fourth the cost of milk. Composed of eleven different ingredients carefully apportioned and thoroughly cooked, producing a scientifically balanced ration for the young calf. Successfully used on thousands of American farms for over 30 years.

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Contains over 35% protein and 33% carbohydrates.

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 Good Luck Brand Guaranteed 41% Protein.

Write for quotations.
M. FRALEIGH, Box 1, FOREST, ONT.
 Also dealer in Flax Seed and Linseed Meal.

Great Yearling Holstein Bull For Sale
 out of the cow Victoria Burke with the wonderful record of 106 lbs. milk in 1 day, 686.6 lbs. in 7 days, 2,538.2 lbs. in 30 days and 30.82 lbs. of butter in 7 days, 122.08 lbs. of butter in 30 days. This cow ranked fourth in 1913 Records, 30 day class. The sire of this bull is sired by Fairview Kornyke Pontiac with ten sisters all with records over 30 lbs. butter in 30 days. Come and see or write: **JAMES A. CASKEY, MADOC, ONT.**

Maple Grove Holsteins
 Do you know that Tidy Abbekirk is the only cow in the world that produced three sons who have each sired 30-lb. butter cows, and two daughters with records greater than her own? She was bred, reared and developed at Maple Grove. Do you want that blood to strengthen the transmitting power of your herd, at live and let live prices, then write: **H. BOLLERT, TAVISTOCK, ONT. R.R. NO. 1**

BUY THE BEST 4 Holstein Bulls
 Ready for service and several calves. Females all ages, cows in R.O.P. and R.O.M. milking up to 19,000 pounds. Bulls in service—"King Segis Pontiac Duplicate" and "King Fayne Segis Clothilde."
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Holstein-Friesian Association of Canada
 Application for registry, transfer and membership, as well as requests for blank forms and all information regarding the farmer's most profitable cow, should be sent to the Secretary of the Association.
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6-Holstein Bulls-6
 8 to 10 months old. All sired by Riverdale Walker Segis whose dam's record is 29.79, 7 days; good colors and from dam's with records up to 23.33, every one a show bull. State just what you want. Satisfaction guaranteed.
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The Maples Holstein Herd
 offers ready for service sons of Prince Aggie Mechthilde from R.O.P. and R.O.M. sisters and dam of Duchess Wayne Calamity 2nd. Canadian champion 2-year-old for butter in R.O.P. 16714 lbs. milk 546 lbs. butter. Also choice females of like breeding. Write **Walburr Rivers, R. R. No. 5, Ingersoll, Ont.**

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 Special offering: Sows due to farrow in April, a 7 months old boar and Holstein females, either tested or untested. Bulls fit for service and a Sept' bull whose 4-year-old dam and sire's 4-year-old dam average 17664 lbs. milk in 1 year. For full particulars write: **R. Honey & Sons, Brickley, Ont.**

Questions and Answers.
 Miscellaneous.

Stone-lifting Machine.
 I am a subscriber of your valuable paper and am well pleased with it. Will you kindly let me know where a stoning machine can be bought? Also the company's name, and if more than one, please give all.
 J. K.

Ans.—In recent issues of "The Farmer's Advocate" a firm has been advertising a stone-lifting machine. On page 2234 of December 31st issue, in the last column, you will find this firm's advertisement.

Bean Straw.
 Is bean straw good for cows giving milk? Will it increase the milk in quality and quantity?
 S. B. S.

Ans.—Bean straw has its greatest value as a sheep feed, where it approximates red clover in value. However, according to analysis, it contains only about one-half the digestible protein that good, red-clover hay does. They are about equal in digestible carbohydrates. If the cows will eat it up clean, it should be all right to feed as roughage, but we would not look for much increase in quantity of milk-flow, provided the cows were getting a good ration before the bean straw was added. We doubt whether it is possible to feed much fat into milk with ordinary feeding.

Cow Deal—Silage Spoiling.
 1. A held a public auction sale of cattle in November, and sold a cow to come in in March to B, but in nine days' time from date of sale said cow proves not to be in calf. Is A liable to B in any way? If so, in what way?
 2. We built a stave silo last summer and filled it with good Dent corn. We opened it over a month ago and found it as good as we would expect, some spoiled on top, but after getting down a few feet it started to get hotter than it was on top, and moldy. Have put on twenty pails of water three times, but does not do it much good. What is wrong, and what can I do to stop it heating?
 J. G.

Ans.—1. Cows sold at auction sales are generally advertised as "supposed to be with calf." Unless the seller guarantees them, the buyer must take the chance. It is more than likely that the seller believed the cow in calf at time of sale. Some arrangement might be arrived at between the parties, but unless he guaranteed the cow the seller is clear of all responsibility.

2. It is a problem to know what to do with moldy silage. Silage must have suitable conditions in which to grow, including suitable food, moisture and air. Silage is a good food, and its acidity rather aids in the growth of molds. Unless air and moisture are present the mold cannot grow. Lack of air and lack of moisture will prevent their growth. Among practical farmers, the general opinion is, however, that silage molding is caused by a lack of moisture at time of filling, making it more difficult to pack so tightly as to exclude air, and watering the silage as it goes into the silo has been practiced with good results. We believe that a great deal depends upon the packing of the silage at the time of filling the silo. If this is perfect and air excluded, molds cannot grow. For this reason, our corn, which is allowed to wilt in the field before ensiling, is watered by a steady stream of water in the cutting-box at time of ensiling. This, with plenty of men in the silo to tramp, ensures tight packing of the silage. Putting water on now, we believe, would only tend to aid the growth of molds. All that can now be done is to endeavor to keep out air and moisture, and feed off enough from the top of the silo each day to as far as possible prevent spoiling. Many have silos too great in diameter for the number of cattle to feed. Our readers are invited to discuss this subject through our columns. What causes moldy silage? What will prevent it?

60 Registered Holsteins 60 HEAD By Auction 60 HEAD

A Complete Dispersion of Woodbine Herd Wednesday, Jan. 20th, 1915

Thirty are sired by Duke Beauty Pietertje, by a son of a 32 lb. cow, and a grandson of Clothilde Goudgeld Hugo and Beauty Pietertje, 30 lbs., which have each produced three generations of 30 lb. cows. A number of others are daughters of King Segis Pontiac Lad, record of his sire's dam 37.21 lbs. His dam K. P. Lass is a sister to the world's seven-day champion, K. P. Pontiac Lass, 44.18 lbs. and sired by King of the Pontiac. On day of sale we will meet the C.P.R. train at Ayr, the G.T.R. trains and Electric cars from Galt and Brantford at Paris.

Terms:—12 Months on Bankable Paper, 6% off for Cash.

For Catalogue Write:

A. KENNEDY & SONS, R.R. No. 2, PARIS T. Irving, Winchester, Ontario, Auctioneer

BRANT CO. First Annual Holstein Sale BRANT CO.

Wednesday, Jan. 27th, 1915

At the Old Commercial Hotel Stables, in the City of Brantford

The Brant Co. Holstein Breeders' Club will hold their First Annual Sale of Specially Selected Holsteins numbering 50 head, among which are about half a dozen young bulls old enough for service; the balance females practically all two years of age and under, daughters and granddaughters of 27 lb. R.O.M. cows and of 20,000 lbs. R.O.P. cows and some of them in calf to bulls out of 22,000 lb. dams, the whole consignment is exceptionally well bred and strictly high-class in type and quality. Consigned by such noted breeders as E. C. Chambers, Robt. Shellington & Son, and J. W. McCormick, all of Hatchley; Chester Lee, Kelvin; C. E. Smith, Scotland; C. Duff Nelles, Boston; F. F. Passmore, Brantford; S. Lemon & Son, Lynden; W. Sager, St. George, and F. Chapin, Newport. Every animal offered will positively be sold.

Terms:—Cash or 8 Months on Bankable Paper with 6% Per Annum.

Auctioneer: Col. Welby Almas, Brantford.

Sales Manager: Percy Clemes, St. George.

For Catalogue, Write the Secretary: N. P. Sager, St. George, Ont.

80 The Old Reliable Tillsonburg Sale 80
 BUSINESS BETTER THAN USUAL

The Fourth Annual Sale of the Southern Ontario Consignment Sale Co.

Will be held at Tillsonburg, on

TUESDAY, FEBRUARY 9, 1915, AT 12 O'CLOCK

When we will sell

80 Head of Choice Holsteins

A Few Richly-bred Bulls, and the Balance Females

with records up to 25 pounds. Bred from or to some of the best bulls in Canada—bulls that are backed by good official records (and not by wind). Cows, heifers and bulls fit for any show ring or the foundation of herds. All will be sold subject to tuberculin test and objection to inspection. No reserve, everything offered will be sold regardless of its value. Plan to spend the day with us. We will be pleased to have the encouragement of your presence. Also any suggestions for the improvement of our future sales that you may make will be gladly received. Catalogues ready January 20th, sent on application to:

Moore & Dean, Auctioneers. **R. J. Kelly, Culloden, Ont.**

Evergreen Stock Farm—High-Class Registered Holsteins

For sale: Two exceptionally fine young bulls, one ready for service, and dams have good official records. Also three heifer calves, six, seven and ten months old; good individuals and bred right. Write for particulars, or come and see them.
A. E. HULETT, R.R. No. 2, NORWICH, ONT.

Brampton Jerseys
 We are busy. Sales were never more abundant. Our cows on yearly test never did better. We have some bulls for sale from Record of Performance cows. These bulls are fit for any show ring.

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in which you place your silage for carrying stock through winters and droughts, at big profits—that's what the Natco Everlasting Silo is. It's safe because it can't decay, can't blow over, and can't burn.



Build a Natco. It preserves ensilage perfectly in all parts and once up, always up. Its hollow vitrified clay tile are impervious to air, moisture and frost, and its reinforcement of steel bands laid in the mortar gives strength to resist all wind and silage pressures. The

Natco Everlasting Silo
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never needs painting or adjusting, and the first cost is the only cost. Quickly erected, convenient and attractive—the most valuable addition to your farm buildings. Write for list Natco owners in your province and Catalog 4

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**Aberdeen-Angus Cattle, Southdown Sheep
Collie Dogs.**

Some right good young Angus bulls and heifers for sale.

ROBT. McEWEN, - - BYRON, ONT.
Near London

Sheep, Swine and Seed Corn—Young stock of both sexes in Dorset Horn and Shropshire sheep, and in Swine: Poland Chinas, Duroc Jerseys, Berkshires and Chester Whites. Also Seed Corn, all varieties. Consult me before buying. **Cecil Stobbs, Leamington, Ont.** Phone 284. M.C.R., P.M. and Electric Ry.

OXFORD DOWN SHEEP

Shorthorn Cattle, Yorkshire Hogs—Present offering: Lambs of either sex. For prices, etc. Write to **John Cousins & Sons** "Buena Vista Farm," - Harriston, Ont.

Tower Farm Oxfords—A choice lot of lambs sired by Hamptonian, No. 279, imported prizewinner at the Royal; also a few yearling rams and ewes.
EPHRAIM BARBOUR, - ERIN, ONTARIO

Maple Grove Yorkshires

200 Head
Are as good as the best, because they combine the bloods of the following noted sires:—M. G. Champion 20102, Champion boar at Toronto, 1906; S. H. Jack, Imp. 28515, Champion boar at Toronto, 1908, 1909, 1910; and S. H. Romeo 27th, 24653, is the peer of them all.

Our brood sows, in view of the above, could not but be of a very high class, combining great size, true type, and easy feeding qualities. For Sale—20 sows in farrow, 10 hours fit for use. A grand lot of young stock. Write us today.

H. S. McDIARMID, - FINGAL, P.O. ONT.
Shedden station. L.D. Phone via St. Thomas

Am offering choice young stock in
Poland China and Chester White Swine and **Shorthorns**, many are winners and the produce of winners at Canada's best shows. Prices moderate. **Geo. G. Gould, R.R. 4, Essex, Ont.**

TAMWORTHS

Boars ready for service. Sows and pigs of all ages for sale, registered. Write for prices before buying elsewhere.
John W. Todd, R. R. No. 1, Corinth, Ontario

Cloverdale Large English Berkshires Sows bred, others ready to breed; boars ready for service: 200 from six to twelve weeks old, both sexes, pairs not akin. All breeding stock Imp. or from Imp. stock. Prices reasonable.
C. J. LANG, Hampton, Ont. R. R. No. 1

CHESTER WHITE SWINE
For Sale—High class sows from 9 to 18 months of age bred to farrow in March. Also my stock boar Nimble Sam, 21 months old, a right good hog. Another 6 months old. **JOHN POLLARD, Norwich, Ont. - R.R. No. 4**

BERKSHIRES FOR SALE
Registered boars and sows weaned, straight and thrifty, from prize-winning stock on either side at Toronto, London and Guelph Winter Shows, 1913, \$10 each. **Ira Nichols, Box 988, Woodstock, Ont.**

Morrison Tamworths and Shorthorns
Bred from the prize-winning herds of England. A choice lot of young boars fit for service and also young sows bred, and also a choice lot of young bulls and heifers sired by Proud Loyalist (Imp.) from choice cows. **Chas. Currie, Morrison, Ont.**

Pine Grove Yorkshires—Bred from prize-winning stock of England and Canada. Have a choice lot of young pigs of both sexes; pairs not akin, to offer at reasonable prices. Guaranteed satisfaction.
Joseph Featherston & Son, Streetsville, Ont.

Mention this Paper

Questions and Answers. Miscellaneous.

No Name.

A subscriber at Milton West, Ont., sends a query with a dollar enclosed for private reply, but neglected to sign his name. Please forward name immediately.

Heifers Do Not Breed.

I have two heifers, one nearly two years old, and the other about one year and a half. They have been bred several times, but do not get with calf. I notice they breed every time they come in heat. A veterinarian told me he did not think they would ever get in calf, but could not tell me what the trouble was, so I am writing you for your opinion. I have never had this trouble with any of the rest of my stock. E. F.

Ans.—It is possible that the heifers do not conceive because of closure of the neck of the womb. If so, a veterinarian could open this, or a good handy stockman could do it, after which the animals should be bred. If they have disease of the ovaries nothing can be done, and it would be advisable to fat them. After the neck of the womb is opened, try the yeast treatment. Take an ordinary two-cent cake of yeast and make it into a paste with a little warm water. Allow this to remain in a moderately warm place for 12 hours, then add one pint of lukewarm, freshly-boiled water; mix, and allow to stand for another 12 hours. Prepare this mixture 24 hours ahead of the time the cow is expected to come in heat, and inject it into her vagina the moment she is seen to be in heat. Breed her just when she is going out of heat.

Silo Queries.

I have seen a good deal about silos in "The Farmer's Advocate" for the past number of years, also have seen therein advertisements of silos for sale of different designs and have become interested, but I am at a loss to know what kind would suit my locality, it being pretty cold here in winter. I am going to ask you a few questions. Possibly they have been asked and answered before. Our barns here are frame, with stone basements for stabling underneath.

1. Would a silo built entirely of field stones and lime mortar be preferable to one built of cement concrete, on account of less frost going through it?

2. All things considered, which would you prefer to build, outside of barn or inside?

3. Is a silo more suited for dairying than for beef production? How does it compare with roots, such as turnips and mangels?

4. Does it injure silage to become frozen? They tell me some cement silos freeze in a foot or two.

5. What size would you recommend on a 150-acre farm? We keep from 30 to 40 head of cattle.

6. Does a cement concrete silo absorb any of the good of the silage? R. W.

Ans.—We have never seen a stone silo. We think such a building almost out of the question. In the first place it would be too expensive. Stop-wall cement silos have walls tapering to six or eight inches thick at the top. This would be impracticable with stone. Besides, the cement is stronger. It would require a very thick stone wall to be effective, and we do not think stone practicable at all.

2. Outside.

3. A silo is almost equally valuable for beef and dairy production. Its chief value over roots is the cheapness of cultivation of the crop and the much larger amount of feed produced per acre. A few roots are valuable to feed with it.

4. It does injure silage to become frozen. At Woodville we have a cement silo, but have little loss from freezing. Some of the special silos advertised in these columns are claimed to be even more effective against frost. In feeding out, it is always well to keep the outer edges slightly lower than the center.

5. A silo 14 feet inside diameter and 10 feet high, would be a good size. This is a big silo, and would feed from 30 to 40 head of cattle, if filled to capacity with good silage.

6. Not necessarily. The inside of cement silos is generally washed with a strong cement plaster.



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Questions and Answers. Veterinary.

Mare is Stiff and Sore.

Mare stands with one fore foot extended, then the other, and holds her head down, then she extends both fore feet, etc. She groans some when carried or when surcingle is tightened, and sometimes when not touched at all. She is stiff and sore. She has no cough and no swelling or lameness. Her respirations and pulse are normal. She eats fairly well, but is dull, languid and unthrifty. T. H.

Ans.—This is a somewhat peculiar case, and it would be wise to have her examined by a veterinarian as our diagnosis may not be correct. To us the symptoms indicate soreness of both fore feet, hence the stiffness and soreness and no well marked lameness, as a horse sore on both feet will step short and show soreness and stiffness rather than lameness. We would suggest the administration of a laxative as 1½ pints raw linseed oil to be followed by four drams nitrate of potassium twice daily for 3 days. Remove her shoes and pare the heels well down. Then apply hot linseed meal poultices to the feet. Change the poultices three times daily and continue until the soreness disappears. V.

Pigs With Cough.

A car load of pigs arrived here in October. They were sold to the farmers. Many of them had a cough. I got some that had a hacking cough and did not do well. I had four other small pigs running with them, and two of them now cough. I am getting a pure-bred sow. Will it be safe to put her with those that cough? E. P.

Ans.—The symptoms indicate infectious bronchitis or lung worms, either of which is contagious and treatment is seldom effective. It consists in shutting the herd in a close building and burning sulphur so long as you can stand the fumes, then opening windows to admit air. Treatment may be repeated every ten days or so. It certainly will not be wise to introduce fresh stock into the herd or into the pens that have been occupied by diseased swine. In most cases it is wise to dispose of the whole infected herd and disinfect the premises by giving a thorough sweeping and dusting, then washing thoroughly with a hot 5 per cent. solution of crude carbolic acid, and in a few days giving a thorough coat of hot lime wash with 5 per cent. of the carbolic acid. After which fresh stock may be introduced. V.

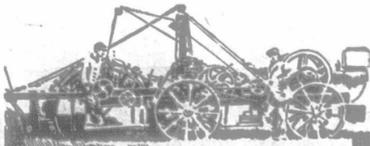
Partial Dislocation of Patella.

1. Percheron colt has gone wrong in his stifles. I first noticed it in October when one day he had difficulty in rising and walked stiffly after getting up. Since then he sometimes requires assistance to rise, and does not walk or trot properly. I have given him tonic and applied liniments to the joints without much benefit. Soft fluctuating lumps have formed below the joints.

2. Bull now two years old was in good condition when turned out with the cows last May. Late in July he became thin and unfit for service. I put him by himself and he has got some better, but is still weak and has poor appetite. W. G. A.

Ans.—1. The stifle bones become partially dislocated. He will probably make a useful horse for slow work, but will never be right. Keep him as quiet as possible. He needs no tonics. Get a blister made of 1½ drams each of biniodide of mercury and cantharides mixed with 2 oz. vaseline. Clip the hair off the front and inside of the joints. Tie him so that he cannot bite the parts. Rub well with the blister once daily for two days. On the third day apply sweet oil and turn loose in the stall. Oil every day. Repeat the blistering every month all winter.

2. The trouble is doubtless due to excessive service. Mix equal parts of sulphate of iron, gentian, ginger and nux vomica, and give him a tablespoonful 3 times daily. Feed a little at a time and often, and as appetite and digestion improve increase the amount and lengthen the time between meals. Do not breed him until he becomes strong and in fair condition, and then only to a limited number of cows. V.



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