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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE *

Director General Bldg. Farm
Dec 31, 1918

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Vol. LIII.

LONDON, ONTARIO, JULY 4, 1918.

No. 1345



Home comfort in all weathers

A poor furnace *well installed* might give satisfaction *for a time*.
But a good furnace *poorly installed* can *never* be successful,
—while a good furnace *properly installed* will give best results
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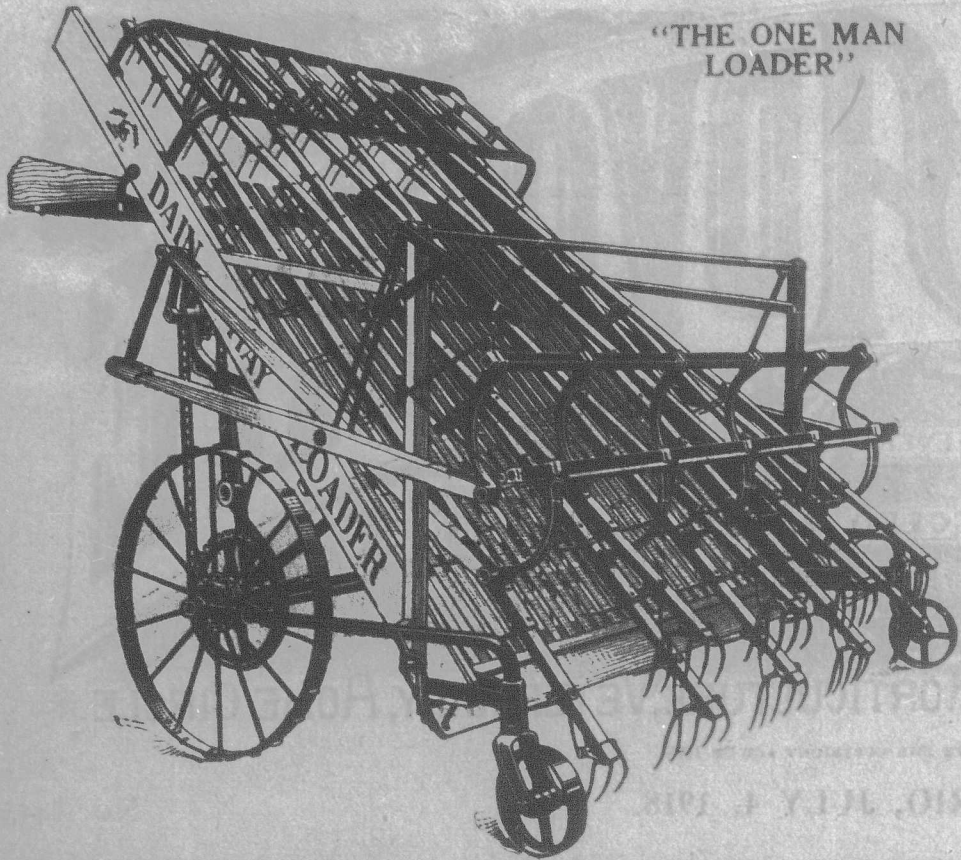
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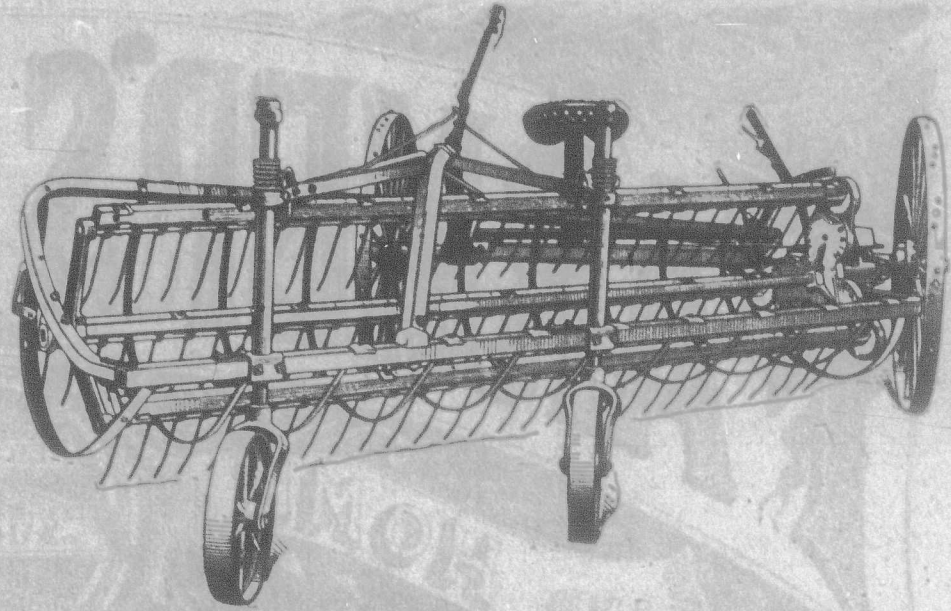
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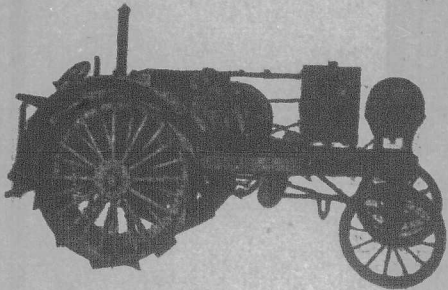
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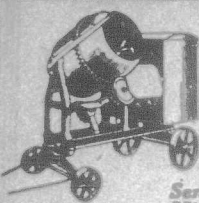
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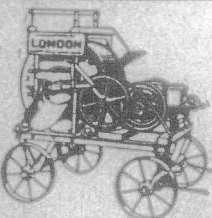
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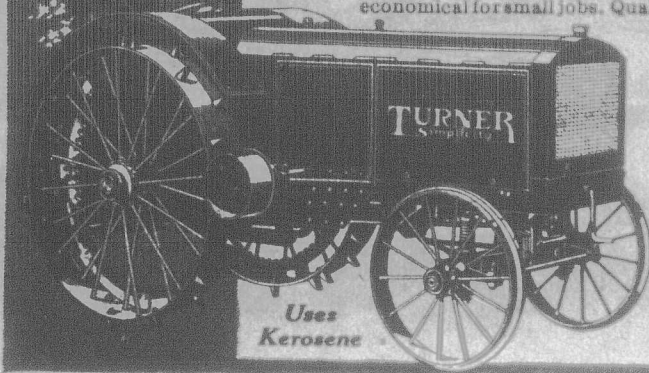
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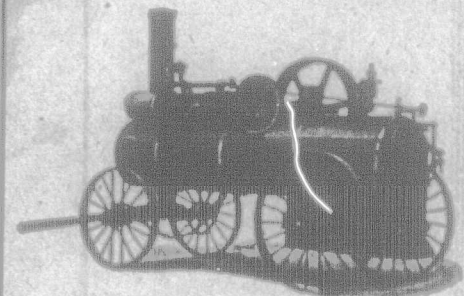
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for the proceeds of half as many hogs as in 1914.

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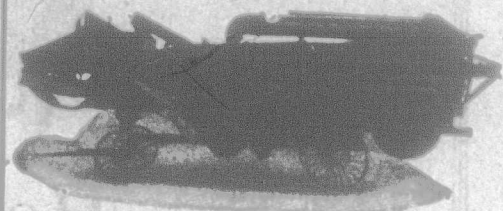
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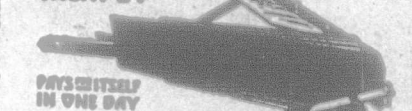


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The best roads for towns so situated are Tarvia macadam.

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An old macadam road can be converted to Tarvia macadam at a slight cost and will thenceforth show a very *low annual up-keep.*

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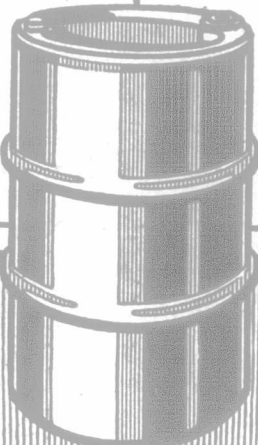
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How many bushel of oats did you "take off" in 1917? What did potatoes net you last year? What did it cost you to thresh that field of grain, and how were the different charges distributed?

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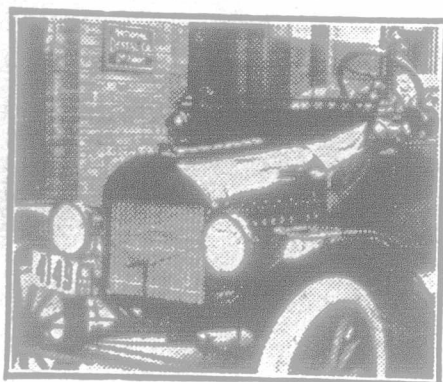
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THE IDEAL FERTILIZER FOR FALL WHEAT

OUR goods will soon be sold in every agricultural district in Ontario. If we have no agent near you, why not take a carload of twenty tons? You will need a few tons yourself, and the neighbors will help you out with the balance. Here are a few facts:

1. There is more Basic Slag used in Canada than any other fertilizer.
2. The consumption in Ontario in 1913 was 230 tons, and in 1917, 6,242 tons.
3. The total consumption in Canada in 1917 was over 24,000 tons.
4. The consumption in Great Britain amounts to 500,000 tons per annum.

Now, don't you think it is worth your while to investigate? Drop us a line, and our representative will call on you.

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The Farmer's Advocate and Home Magazine

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LIII.

LONDON, ONTARIO, JULY 4, 1918.

1345

EDITORIAL.

It will save time if the wheat can be threshed out of the field.

If you have more fall wheat than you require for seed, help the neighbors.

Many times a cool drink of water is quite as refreshing to the team as a rest.

Start the plow as soon as the fields are cleared, and follow closely with the roller and harrows.

"Bugs" and blight will soon ruin a good field of potatoes. There is a remedy for both pests.

When the Germans or Austrians get near a river they get "cold feet." The Marne and Piave have been turning points.

"It's a bad wind that blows nobody good." The warm weather which makes the flies more pestiferous pushes the corn along.

Farm life is such that an automobile can be used to advantage, and it is no reflection on the industry that so many farmers own them.

It is wonderful how "a contemptible little army" will grow up. John Bull's sons soon rose to man's estate, and Uncle Sam's boys are now the surprise of the world.

While Woodrow Wilson's memorable statement: "We must make the world safe for democracy" is being repeated in many languages, an American of lesser fame says: "We must make democracy safe for the world." These are two good lines to follow up.

The German Foreign Secretary says that Russia started the war, but that is not so important now as who will finish it. If the United States troops continue to pour into Europe at the rate of 100,000 weekly, there can be little doubt that Uncle Sam will cross the line running strong.

A peculiar situation has arisen in Ontario which calls for adjustment. The Government says "Hold No Wheat Back," while on the other hand anxiety is expressed over the availability of seed for the fall wheat planting, which will be under way in two months' time. This matter should be straightened out.

Every farmer should have a specialty, but that does not prevent good work being done in other lines on the same farm. W. F. W. Fisher, of Burlington, widely known as one of the leading fruit growers in Ontario, topped the market at Toronto Stock Yards on Tuesday, June 11, with a bunch of steers which he fed off at a weight averaging around 1,200 lbs. These sold at \$17.15 per cwt., a record for the Toronto Stock Yards up to that time. What will expert cattle feeders think of that?

The harvest of 1918 must be saved and there is plenty of experienced help, but it is not on the farm. Why depend on the inexperienced kind for so important a job? There are thousands of men who grew up on the farm and left it for more lucrative employment. They can still do a day's work after a little hardening. Some attempt at national efficiency is now in order, but we can never get anywhere till someone who knows farming conditions is put in charge of this branch of the work.

Facts and Truth.

After ages of secret diplomacy, propaganda, influence and intrigue the common, thinking people of the world are hungering for the Truth. They do not ask for the uncensored publication of information valuable to the enemy in time of war, but they do desire the facts concerning matters of domestic and international nature, the knowledge of which might make future wars impossible. Even censorship in war time can be carried too far and become a menace to the proper war spirit that should exist. When news that has only a local political significance is withheld, the "loyal subjects" and "sovereign voters" become suspicious and lose faith in the governing bodies. Secrecy and intrigue snuff out the little flame of faith and banish confidence from the breasts of the governed masses. Our wishes and desires gain expression in the men elected to sit in Parliament and conduct the affairs of the people. The electors in turn are entitled to a straight and unadorned report as to the way this business is being transacted. Frank Crane, D.D., expressed a sentiment which is becoming more and more universal when he wrote: "There is only one thing in this universe of men and near-men that is always good, full of health, soundness and peace, whose apples are of the sustenance of the soul, and whose leaves are for the healing of the nations: and that thing is—the Truth. God help the poor fools who live in a little world of their own, full of ardent credulities, firm loyalties, strong enthusiasms—but without Facts. I'd rather know the Truth in a barnyard than love a lie in a temple."

Prepare for the Fall Wheat Seeding.

In some sections there is considerable anxiety on the part of farmers regarding a supply of wheat for fall seeding, and some are dilatory about commencing to prepare their land, owing to the fact that seed is not available in their community. In an average season upwards of 900,000 acres are seeded to fall wheat in Ontario, but, owing to an unfavorable fall and spring for wheat, the acreage to be harvested this year is believed to be only about half the above figure, and much of what is left will not give over half a crop. This is unfortunate for the country and the individual in more ways than one. Preparing and seeding a field to wheat at the price of seed last fall ran into a high figure per acre, and to have this labor and seed rendered null is very discouraging. The small crop of wheat, especially in times like these, certainly affects the country as a whole.

The present condition of the crop cannot be remedied now, but it is high time to make preparation for seeding an increased acreage of wheat this fall. To seed the normal acreage at the rate of seven pecks to the acre will require around 1,600,000 bushels of seed. This is a large amount, and there are doubts in the minds of some as to whether or not it will be available in time for reasonable seeding.

In order to provide for 1919 it may be necessary to husband some of the wheat that it is claimed remains on the farms. All who have fall wheat that is satisfactory for seed should make the fact known so their neighbors may have an opportunity of securing seed. If more than enough for local requirements is found in any one locality, plans should be formulated for shipping it to less favored districts. While the old fall wheat on hand may be needed for flour, a seed supply for a future crop must be guarded. Those who have a crop of wheat this year should thresh in time for the distribution of their grain for seeding, which takes place in Ontario the first two weeks in September. It is high time that action be taken to guarantee a supply if the 1918 seeding of fall wheat is to be up to normal. We understand the Provincial Government are awake to the magnitude of the problem, and they should arrive at some solution without delay. Farmers should

be advised where they can secure seed, and then buy early so as to have it on hand for sowing at the proper time. Considering the present food situation, it is expedient that a large acreage of wheat be sown, and there is every reason to believe that there will be if a supply of seed is available. The proper distribution of the old wheat on hand and of the new crop soon to be harvested will go a long way in supplying the needs in every district.

How Agriculture Differs.

The Chairman of the Canada Food Board, H. B. Thomson, has issued a stirring appeal to agriculture to give the city man a chance and cease complaining about inexperienced help. This has come like many others of its kind in a modest circular and familiar style, but every sentence and every phrase bears the earmarks of the Chairman in that they express an absolute disregard for obstacles and a determination to see the thing through to the finish. This is the proper spirit, and we agree that no one should sit down on the job "at a time like this when the whole world is just shaking in the balance." While we agree that agriculturists should do their very best to garner the splendid crops that are now promised and endeavor to make the harvest of 1919 as large as human effort and endurance can make it, we assert that the same patriotic motive should actuate the workers in all branches of industry and encourage the Canadian people as a whole to make sacrifices, suffer losses and submit to inconveniences. In support of his appeal, published elsewhere in this issue, Mr. Thomson cites the munition industry as an example of what has been done with inexperienced help. This, to our mind, is the weakest argument that could be advanced, and the less said about it the better. So attractive a proposition, in spite of the tons of rejected shells, could not help but influence our whole industrial life and draw labor from the farms where it is most sorely needed. This inexperienced help was educated, of course, but how? Each man, woman and child was given his or her work to do, and days, weeks and months at the same task developed skill and proficiency. This would be analogous to thinning turnips for six months on the farm, but during the half year the inexperienced man would have to learn how to thin, hoe, pull, top and store the crop, besides mastering a hundred and one other jobs. Furthermore, one extra hand on the farm means much, but in the factory the individual is of far less importance. Conditions were such that the inexperienced help remained, became efficient and drew such fabulous prices in return for labor that the farmer and his hired man considered themselves wards of the state and working for their clothes and tobacco.

We have no desire to thwart the efforts of the Food Board in the cause of production, but the comparison referred to was particularly ill-chosen. Let us do the very best to produce with the labor available and maintain the reputation which Canada has already acquired as a producing country. The cause and need are the strongest appeal, and it cannot be strengthened by holding up any industry or branch of industry as a model.

Many good buildings in Ontario stand as a monument to the "barn-raising spirit" which existed and still continues to exist in this Province. However, in big structures nowadays the heavy timbers and metal pieces are elevated and placed in position by mechanical power. There is no shouting and little noise. It is done by machinery at the signal of the engineer. Farmers' organizations in Ontario should perfect their machinery and put someone in command capable of handling a big job along modern lines and in accordance with development in public affairs.

Start now to fit for the fall fairs.

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

Published weekly by
THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.

Agents for "The Farmer's Advocate and Home Magazine",
Winnipeg, Man.

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers, of any publication in Canada.
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12. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve "The Farmer's Advocate and Home Magazine," Descriptions of New Grains, Roots or Vegetables not generally known. Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
13. ADDRESSES OF CORRESPONDENTS ARE CONSIDERED AS CONFIDENTIAL and will not be forwarded.
14. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address—THE FARMER'S ADVOCATE, or
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The Automobile on the Farm.

According to an Ontario Government public service bulletin, the farmers of Ontario own 23,409 automobiles out of a total of 78,861. The other owners are classified as follows: Skilled trades, 10,937; merchants, manufacturers, etc., 14,425; physicians, 2,605; other professions, 3,394; commercial travellers, 1,079; taxicabs, 1,662, and miscellaneous 20,950. This is gratifying news, for if any class of people are entitled to the pleasure which a car affords it is the Canadian farmers. More than this, in rural districts an automobile gives a service which corresponds with the street car or the suburban railway, and tends to bring neighbors and relatives together. It takes the place of the driving horse, or it relieves the heavy drafter from a slow but wearying trip on the road. We are getting the telephones, rural mail delivery, hydro, household conveniences and last, but perhaps most important of all, comes the automobile to brighten the life of the rural dweller. All these will help to make agriculture more attractive to the younger generation and restore the waning interest in the greatest industry of all.

The automobile can be used to good advantage on just such a tour of inspection as is reported in this issue. Farmers do too little mixing and sight-seeing. Use the car to visit the neighboring counties, and inspect crops and methods outside your own neighborhood. A certain idea or method may be enthroned in a community and become so firmly established as to be little short of a prejudice. We believe in community spirit and community endeavor, but the good in these can often be enhanced by studying the ways of others. The world is getting smaller all the time; the "auto" and aeroplane are reducing distance to a minimum. Events in Europe, Asia, Africa and in the remote corners of the globe are strikingly interesting. We must become more national in our ideals and less provincial. The future will be vastly different from the past. Let us meet that future with a knowledge gained by mixing with those outside our own little community and a keener insight into national affairs.

"How to Live in War-Time."

BY ALLAN MCDIARMID.

Yesterday I got a pamphlet from some Government Department at Ottawa professing to tell me "How to Live in War-time." Economy and production are the two methods that are outlined by which we may do most in the way of helping our country through the difficult times she is now experiencing and is likely to experience for a considerable time to come. Both Economy and Production have been texts for a good many sermons during the past two or three years, and they are not by any means worn out yet. But this stuff that the Government is sending out to the dwellers in both city and country might be varied from time to time, one would think, and in that way keep up the interest in a subject that is bound to get pretty threadbare before long. Any man will get sick of one kind of diet too long continued. We've got to have variety in the food for the mind as well as in the food for the body.

One thing they might have mentioned while on the subject of economy, which might be of benefit to a good many people, especially in our cities, would be in regard to the matter of eating less. Among the well-off citizens of our towns they say they do not eat so much from necessity as for the sake of keeping up appearances. Far more food is bought and eaten than would serve to keep them in good health. And the waste that goes with cooking five or six meals a day might be almost cut in two. For it is a well-known fact that, not only in this country but in England, those that could afford it made a habit of eating as often as six times a day. And the worst of it is that this practice is commonest among those that get the least physical exercise. Good food is being worse than wasted and there is no let-up to the process. It goes on every day of the year, which makes it the most wasteful waste there is.

Bernard Shaw says that nowadays fatness in an individual is looked on as a sign either of disease or bad manners. And if our Government writers wanted to take up the matter they might make out a case of lack of patriotism against the same person. The man or woman that is too fat, is, very likely, eating too much and it might be a good plan to supply such people with bulletins informing them, for instance, that there is no such a thing as a healthy gain in weight after forty years, and that the over-supply of food that they are using up might serve to keep an extra soldier in the trenches. They could be reminded of the energy required to carry around this unnecessary over-weight and finally, of the probability that they will die much sooner than they would, had they been more moderate in their consumption of our country's war-supplies. I was told of one man recently who made a habit of eating half a loaf of bread and a dozen eggs for his dinner, along with the other "fixings." He took his eggs fried and would just fold them over with his knife and slide them down his throat, one at a time, followed by a half-slice of bread for variety. He was out of shape with fat and could have lived for a couple of weeks on that alone. He passed for a Jew, but some said that he was a German who was trying to create a food shortage in this country and so help to win the war for the Kaiser.

At the same time it is probable that we are all more or less guilty of this crime that we have charged up to certain individuals. We've acquired the habit of eating "all we want," which very often happens to be too much. It has been said that our neighbors across the border were a nation who were "digging their graves with their teeth" and it's possible that the same thing could be said about us, for we seem to have acquired a good many of their habits. The Germans are finding the good effect on their health of the restricted diet they have had to put up with lately, and, until we can cut off their food-supply entirely, it looks as though we wouldn't do much towards lowering their efficiency.

I heard a story along this line lately that should have a moral in it for some of us. A doctor is responsible for it, and he tells it as part of his own experience. One of these millionaire's wives, that are found nowhere but in our cities, came to him one day to get medical treatment for her dog. This dog was one of that small, useless breed that a good many society women think more of than they do of their children, and was as fat as it was useless. It had been stuffed with food and carried around in a motor-car until it was just about as broad as it was long. "Oh doctor," she said, "my poor little dog is sick. He won't eat. Do you think you can do anything for him?" "Sure," replied the doctor, "Just leave him with me for a week or ten days and I'll fix him up for you."

She went off and as soon as she was gone the doctor picked the dog up by the back of the neck and, carrying him out to his horse stable, he dropped him into a box-stall without further ceremony.

At the end of ten days the lady called on the doctor to inquire after the welfare of the patient. "He's quite recovered, madam," said the doctor. "I'll just bring him in." When he came back he had a dog with him which the woman could hardly recognize as her own. He was as narrow as he had been broad, and his backbone showed along his whole length. But apparently his health and appetite had been restored for he would jump three feet into the air when a piece of bread was held out to him. "Oh, he is much better, but what makes him so thin, doctor?" said the dog's owner. "That is the natural effect of the medicine, madam," replied the doctor. "He'll recover his flesh in the course of a few weeks." The lady was delighted and paid the fee of fifteen dollars, asked by the doctor, without a kick. If it had been fifty it would probably have been the same. The doctor had never seen the dog

from the day he threw it into the box-stall until the owner called for it. Starvation had allowed Nature to bring about the cure in her own way.

As I said, there may be a moral in the above for some of us, for they tell us that the difference between dogs and men is not so great as has been imagined, and the medicine that will cure one is likely to have a good effect on the other.

Nature's Diary.

A. B. KLUGH, M.A.

A matter about which the general public knows very little, but which is both interesting and important, is the research in marine biology which is being carried on by the Biological Board of Canada. As I have been from time to time connected with this work, and am at the present time engaged in it, I shall try to give the readers of "The Farmer's Advocate" a little insight into this work.

The aim of this work is to acquire knowledge which may be applied to the advantage of our fisheries. This is a very wide field and presents a host of problems, often intricate and difficult of solution. I shall first mention a line of investigation which is relatively simple and in which results have already been attained.

Some five years ago the Biological Board began a series of investigations into the edible quality of many kinds of fish which could be obtained in large quantities but which were not utilized as food. In many cases these fish were caught on line-trawls, in otter-trawls, and in traps, in the course of fishing for the ordinary commercial fishes, but were wasted because no market existed for them. It was found that many of these fish were of most excellent esculent qualities, and that the prejudice against them was absolutely groundless. When this had been ascertained by the Biological Staff in the very practical manner of eating the fish in question, and I have assisted at many dinners of fish which were previously practically untasted, the Board investigated the best methods of securing these fish, and finally devoted its attention to establishing a market for them. Hence the supply of flat-fish which has been brought into Ontario from the Atlantic and into the Prairie Provinces from the Pacific Coast during the past winter.

This matter of the introduction of hitherto unutilized fish, important as it is, particularly at the present time, is only one of the lines of investigation which is being carried out by the Biological Board, and at that one of the simpler lines. There are problems in connection with nearly, if not all, our important commercial fishes, either in connection with their food, life-history, migrations, methods of catching, and particularly in regard to their conservation.

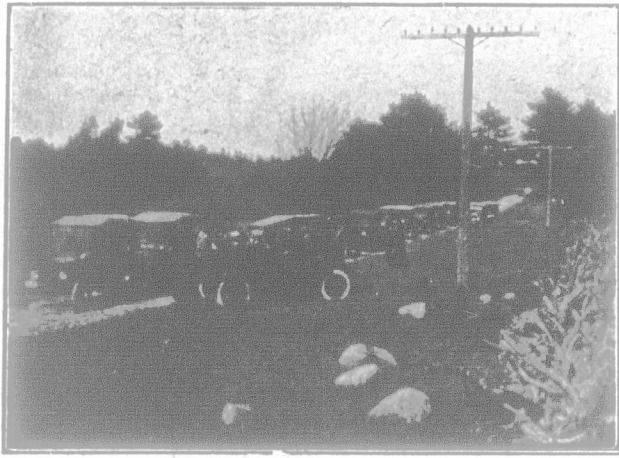
In order that such problems may be solved it is absolutely essential that the various factors which affect the fish, from the time the eggs are laid, until they are full-grown, reproducing individuals, be ascertained. The chief factors affecting fish may be given as food, salinity of the water, temperature of the water, currents, tides, and enemies. Given thus the factors sound relatively simple, but as a matter of fact, when one begins to investigate he finds that they are most complex and intricate. Take the factor of food. The food of a fish may consist mainly of one kind of animal or plant, or of a tremendous number of different animals and plants, or it may vary greatly with the changing seasons. Then it is not sufficient merely to know the kinds of animals or plants upon which a fish feeds, but we must consider in turn the food and the other factors affecting each of these forms of life. So it goes on in ever widening circles, with relations and inter-relations, with here a puzzle and there a gap in our knowledge, and it is only after a vast amount of work that the story can be pieced together, and the knowledge thus acquired applied in the solving of the problem in hand.

Now that we have stated the aims and the general aspects of the work we are in a position to consider the methods which are employed in obtaining the information required.

The first requisite is a boat properly equipped for conducting scientific investigations. Such a boat we have in the "Prince," a sixty-foot gasoline boat, of a speed of about nine knots, (that is capable of making nine nautical miles per hour), with good beam and stoutly built so as to withstand the force of a storm at sea, with a cabin which provides sleeping and eating quarters for a crew of five, and plenty of deck-room for the beams and winches which are necessary for hauling the various lines, dredges and trawls which are employed in the work.

Now as to apparatus. First let us consider the method of determining the temperature and the salinity of the water. The apparatus used in this work consists of what is termed a deep-sea water bottle, which is a metal cylinder three inches in diameter and some eighteen inches long, and with valves at the top and bottom. This cylinder is suspended in a metal frame in such a manner that it will reverse itself upon the release of a catch. The water bottle is attached to a light wire cable which is wound upon a wheel, called a meter-wheel, which automatically records the length of cable that is let out. The water bottle is lowered to the depth from which the sample of water is desired, and as it sinks the water flows freely through the cylinder. When the required depth is reached, a "messenger" is sent down. A messenger is a weight which is clipped on the line in such a way that it slides down the line, and as soon as this messenger strikes the catch holding the water bottle the latter is reversed, and in the process of reversing the valves are closed hermetically by levers. (To be continued.)

Wentworth Farmers See Five Counties by Motor.



Some of the Cars Used on the Tour.

It has often been said, and certainly with some degree of truth, that farmers are to a greater degree isolated from each other than those engaged in any other industry. There are signs, however, that this isolation is being overcome by farmers themselves with rapidity. One of the newer but satisfactory ways of overcoming this isolation and providing means of making farmers aware of what the other fellow is doing, has come with the advent of the automobile. During the last three or four years particularly, automobile tours on the part of farmers to other sections of the province have not been uncommon, and it was our privilege recently to cover the Counties of Wentworth, Waterloo, Oxford, Brant and Haldimand on one of these trips, which lasted two days. The trip in question was the annual tour of the farmers of Wentworth County, organized by and conducted under the auspices of the Boards of Agriculture of North and South Wentworth. The actual work of organization and all arrangements for the trip were made by W. G. Marritt, Agricultural Representative of the Ontario Department of Agriculture at Hamilton. It was intended to make the trip one of particular interest to milk producers and live stock men, particularly those engaged in breeding dairy cattle, although many very interesting farms were visited where other kinds of stock of excellent quality were met with.

Starting from the office of the Department of Agriculture on the morning of Wednesday, June 19, about ten cars left Hamilton for Rockton, where those from the north of the County were to be met and the tour continued with a full party. On the way to Rockton an incidental stop was made in order that the members of the Board of Agriculture might visit a model one-roomed school, situated between the Townships of Beverley and West Flamboro. This school certainly merited a visit and the trustees and ratepayers of the section are deserving of the very highest praise for the progressive ideas which led to the building of this school. Costing about \$5,500, although the enrolment numbers only thirteen scholars at the present time, the school embodies practically all of the features which a one-roomed school should have in order to provide comfort and pleasant surroundings for the pupils. The heating and ventilating systems are especially worthy of note, since we were informed that the air in that schoolroom could be changed no fewer than eight times every hour. Individual seating accommodation is provided; black-board accommodation is of the very best; a special teacher's room opens off the main schoolroom, and the basement is very well planned for convenience and play room on cold or rainy days. The appearance of the school from the outside is very good indeed and those who visited it were high in its praise.

Proceeding to Rockton the party was more than doubled in number, there being twenty-five cars in all, and practically one hundred farmers all told when the start was again made for Galt. The first stop was made at the farm of John Brown & Sons, Galt, where opportunity was afforded of seeing and examining a few excellent Hereford and Angus baby beeves. Numbers of the party were enthusiastic over the splendid quality exhibited. It was at this farm that the party was met by members of the Waterloo County Board of Agriculture, and a welcome extended to the Wentworth

farmers by the President, A. R. G. Smith, New Hamburg. Leaving Mr. Brown's the party proceeded to the farm of George Tilt, where one lot of twenty-six Angus bullocks were grazing across the road from another lot of thirty-nine Shorthorns. Mr. Tilt is feeding altogether about two hundred fat cattle but time could not be taken to visit them all. Last winter Mr. Tilt tried an experiment in wintering cattle without grain, which he says was very satisfactory where alfalfa and silage constituted the source of feed. The next stop was at the farm of A. C. Hallman, Breslau. Mr. Hallman breeds pure-bred Holsteins and some time was spent in inspecting the stable fittings and the senior and junior herd sires.

From there the party proceeded to Kitchener where arrangements had been made to accommodate the crowd at the hotels, and where the party was met after dinner by the Waterloo County Council. An address of welcome was read by Warden Oaks, of Waterloo County, and responded to by Erland Lee, Stony Creek, President of the South Wentworth Board of Agriculture. Warden Oaks in his address effectually answered criticism of such tours on the part of farmers at this time, when he said in part as follows: "We are glad to think that you have thought it worth while to spend a part of your time in Waterloo County. We know that while perhaps there is an element of pleasure in your visit, the main object is the pursuit of knowledge whereby through observation and comparison you may profit by the faults of others and better equip yourselves for the work at home. There is no calling which requires more



The Home of J. W. Richardson.

general knowledge or a wider view of things than successful agriculture. There must be a combination of scientist and artisan, extending even to the domain of health and disease, all combined with careful habits of observation and good common horse sense. The study of nature in so many of its forms, the friends and foes in insect life, germ life and bird life, surely provided a broad enough curriculum for the study of any one profession."

The first stop after dinner afforded a splendid example of what might be gathered together on one farm in the way of farm machinery. The Barrie farm, about four miles from Galt, though only two hundred acres in size, is without doubt more fully equipped with farm machinery than any farm it has ever been our privilege to visit. The novelty in connection with the machinery is that much of it is homemade; the elder Barrie evidently being of an inventive turn of mind. Roadscrapers, lumber wagons, potato planters, rollers, turnip and mangel drills, all were homemade, while a threshing machine, several more lumber wagons, large-sized weigh scales, an individual lighting plant, corn drill, and other machines too numerous to mention all formed a part of the machinery equipment of this farm, while in addition was to be seen a cement paved barnyard and liquid manure cistern. From the Barrie farm where the grain is drawn from the field, threshed, and the straw cut the same day, and where fourteen old binder wheels



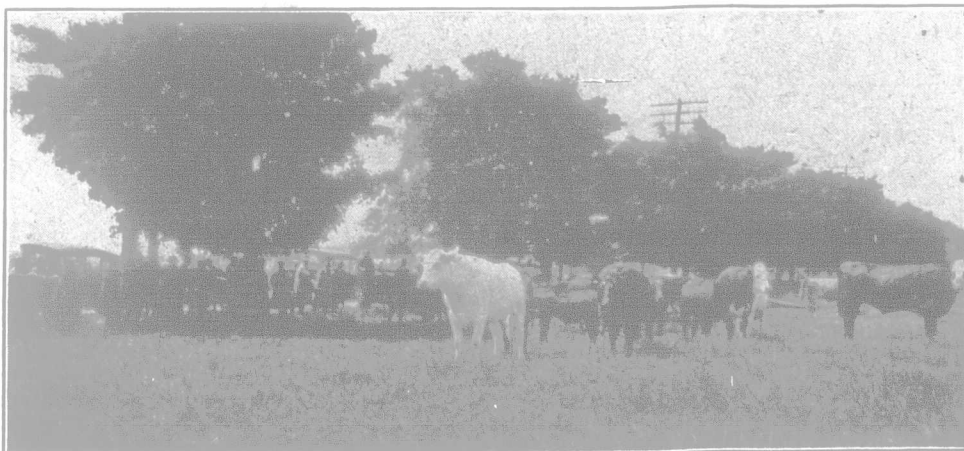
Some Calves Seen in Haldimand County.

have been made to form themselves into an efficient land roller, the party was conducted next to the pasture farm of Walter Robson, of Ayr. Here was seen perhaps the most outstanding picture during the two days of the trip. One hundred and thirty-one head of Shorthorn steers, whose average was placed at about 1,300 pounds, were to be seen in one field and when, coupled with that, we imagine a hundred or more interested farmers admiring the splendid quality of the stock, it will be possible to get a picture of the scene that presented itself to the onlooker. Considerable time was spent with this herd and moving pictures were taken by the representatives of the Provincial Moving Picture Bureau, who met the party earlier in the afternoon and who followed the line of twenty-five automobiles until late the next forenoon. The next stop and the last one before evening was made at the Jersey farm of R. & A. H. Baird, New Hamburg. Here were to be seen one hundred and twenty head of Jerseys; forty-five of them milking, in addition to a splendid home creamery situated on the farm for churning the rich Jersey milk into butter for the Hamilton market. This farm provides a remarkable instance of regularity in marketing. We were informed that for twenty-nine years, without missing a week, butter has been shipped to one firm in Hamilton from this farm. At the present time about four hundred pounds of butter is being made each week from this farm of two hundred and fifty acres. In addition to butter, the farm is supplying one hundred and twenty dozen eggs each week to the Hamilton market, and last year 40,000 pounds of bacon hogs were sold. A steam outfit generates power for running the creamery and the laundry for the house; both of which are situated under the same roof, but well separated from each other. Fifty-five acres of corn are necessary to provide silage for the dairy herd and to fill the four big silos. A turbine steam separator is used and the power churn has a capacity of 300 pounds.

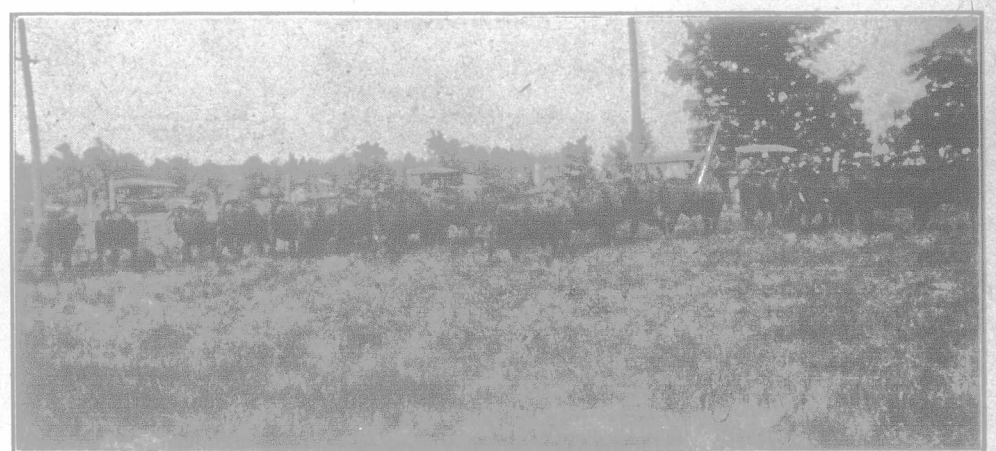
From the Baird farm the party left the County of Waterloo and proceeded to Woodstock for the night, the place of J. S. Knapp, Agricultural Representative for Waterloo County, being taken by G. R. Green, Agricultural Representative for Oxford County. Cheerful, but covered with a thick coating of gray dust, the party arrived in Woodstock about eight o'clock in the evening, hungry and tired with long riding but ready for another little trip after dinner to the Epileptic Hospital, on the outskirts of the city. After supper and until late in the evening advantage was taken of the opportunity of discussing with other members of the party all that had happened during the day, while for an hour or so the hotel rang with the music of piano and many hearty voices, set to the tunes of old and well known songs. A musician had been discovered in the party, and finding his way to the piano he was kept there until very late.

A slight variation in the tour was necessary the following morning. It had been intended to visit the Norwich district to look into the question of hydro electric power and equipment on the dairy farms of that section. This part of the trip had to be cut out and four or five farms in the vicinity of Woodstock were visited instead. On the farms of Messrs. J. B. Karn, J. W. Innes, J. Karn, and Wm. Pullin, hydro benefits

Continued on page 1152.



A Stop by the Way to Inspect Some Fat Cattle in Waterloo County.



A Fine Bunch of Angus Bullocks Seen in Waterloo County.

THE HORSE.

Persistence of the Urachus, or Leaking Navel.

A condition commonly called "Leaking Navel," technically called "Persistence of the Urachus, or Pervious Urachus," is not uncommon in foals. During several months of foetal life the kidneys of the foetus are active. The urine they secrete is conveyed in the usual manner to the bladder, from which it is conveyed by a tube or canal called the urachus. This is a tube extending from the front and lower portion of the bladder to the navel or umbilical opening, through which it passes, and then expands and forms part of the foetal membranes or afterbirth. The function of the urachus is solely a foetal one. After birth its functions are no longer required, as the urine will escape through the urethra or vagina, according to the sex of the animal, hence the canal under normal conditions become obliterated. It, however, not infrequently occurs that from accidental causes not well understood, or as a consequence of malformation, it is only partially or not at all obliterated, and urine continues to escape in drops, or in a stream from the navel opening. This condition is more frequently noticed in males than in females, and is usually more difficult to treat in the former. While foals that suffer from this abnormality are usually weakly, the condition is frequently noticed in smart, strong subjects, but if the discharge be not checked, the patient in most cases becomes weak and unthrifty, but there are exceptions even to this; that is, cases where the discharge of urine continues and the colt thrives well for a considerable length of time. The condition also is in some cases accompanied by that serious condition known as "Joint ill, or Navel ill," in which cases there are little hopes of successful treatment; at the same time the majority of cases do not become complicated.

Symptoms.—The symptoms are not difficult to recognize. The subject may or may not be weakly, but urine will be noticed escaping either in drops or a stream of greater or less volume, from the navel opening. The escape may be more or less constant, or may be noticed only when the patient is making efforts to urinate. In most cases where the discharge is somewhat constant the patient is usually weakly, and there will be a constant wetness of the parts and of course a refusal of the parts to heal. In most cases when the patient is urinating, the escape of urine can be noticed both by the normal channel and the navel, but in some cases it all escapes through the latter. This indicates that the normal passage is not pervious. In some cases there is a false membrane, or possibly obstructions of other kinds, occluding the normal channel. In all cases where the condition continues the patient sooner or later becomes weak and unthrifty and eventually dies.

Treatment.—Before efforts to check the navel discharge are resorted to, it is necessary to ascertain whether the normal passage is open, as if it be not and we prevent escape through the urachus, it cannot escape at all, and, of course, death will be the result either from inflammation of the parts and exhaustion, or rupture of the bladder. In cases where urine has been noticed escaping from the normal channel, of course, no further evidence is necessary, but when this has not been noticed a small catheter should be passed into the bladder to break down obstructions. If the umbilical or navel cord protrudes below the abdomen, it should be disinfected by a good disinfectant, as a five per cent. solution of carbolic acid or one of the coal tar disinfectants, or a solution of corrosive sublimate, twenty grains to a pint of water. When the end of the urachus can be seen and taken up by the fingers or by a pair of forceps, it should be tied with a strong silk thread that has been disinfected in the lotion. Even when the cord is broken off close to the abdomen we can sometimes secure the vessel by holding the colt on its back. When the urachus cannot be individually secured, the whole cord may be enclosed in the ligature but it is better when possible to secure the urachus alone. The parts should then be dressed three or four times daily with the antiseptic until thoroughly healed. The parts enclosed by the ligature will slough off in a few days, but the dressing should be continued until all is healed. Clams may be used instead of a ligature, but most practitioners prefer the latter. In cases where the canal cannot be secured as above, some authorities recommend the operation of cutting down upon it through the floor of the abdomen and securing it, but this is a critical and in most cases an unnecessary operation and one that requires an expert to perform and also demands careful after attention. Manufacturers of and dealers in proprietary medicines advertise specifics for the cure of this trouble without an operation of any nature. It is not our intention to discuss the value of these preparations. In most cases the application of slight caustics or strong astringents will be effective. Whatever preparation is used must be applied directly to the end of the urachus in order that it may be effective. In order that this may be done it is necessary to have the patient held on his back, and the dressing applied with a feather or a small syringe. A mixture of equal parts of butter of antimony and tincture of myrrh applied with a feather twice daily usually gives good results. Care must be taken to not apply this too freely, or to parts other than those upon which we wish its action exerted. In cases where intelligent treatment of the trouble is adopted early, a recovery usually takes place, provided there are no complications, but when treatment is deferred or neglected until the patient has become too greatly weakened it is often unsuccessful.

WHIP.

Care of Horses in Warm Weather.

EDITOR "THE FARMER'S ADVOCATE":

I have been reading "Whip's" remarks in the issue of June 13 on "Feeding and Watering Horses in Hot Weather" and I must agree with the writer on some points. It is well to exercise care at all times in feeding and watering, whether the weather be warm or cold. In my experiences to feed a horse grain while warm is more injurious than is water. What I find to work best is to allow the horse, if very warm, about two gallons of water, then let him eat hay for fifteen minutes before giving oats, then you may give a fair drink before starting him to work. A horse that is getting six quarts of oats at a meal can eat enough in one hour to do him for the next five. In turning horses out to grass at night after working, care should be taken that they are not too warm, and that they do not go out just after having a hearty drink. The time water is dangerous to the horse is while very warm and left standing after drinking. I agree that the horse's thirst is as acute as the teamster's and a teamster will, I hope, have the good graces not to forget that the horse is tied. The horse comes next to man, both in eating, drinking and working; also in temper. If you study the horse you will find a horse has the same disposition as man.

Rainy River, Ont.

J. MCKAY.

LIVE STOCK.

For most economical gains shots require grain when on pasture.

One shepherd reports raising 90 lambs from 62 ewes this spring. This is a good increase.

Sudden changes in feed are detrimental to all classes and ages of stock. If desirous of changing the ration, do so gradually.

If the sow and her litter are confined to a pen, feed some form of green feed. Clover, rape, pigweed, etc., are readily eaten by hogs.

The animals for the show should be selected and a start made in fitting. A poorly-fitted or untrained animal is not a good advertisement for the exhibitor.

Village Supreme, a Shorthorn bull of international fame, and a tried and proven sire, sold for \$16,500 at Bellows Bros.' sale, at which an average of \$1,709 was realized on 65 head.



A Good Spring Lamb.

Fair Beauty, a four-year-old cow with her bull calf, sired by Village Supreme, brought \$7,050 at the auction sale held by E. Ogden & Son, at Maryville, Mo. Forty head averaged \$1,934.

Dr. C. P. Fitch, of the Division of Veterinary Medicine of University Farm, St. Paul, Minn., claims that the ravages of contagious abortion of cattle causes an annual loss of \$50,000,000.

Many piggeries become infested with vermin during the warm weather. Pigs will not make maximum gains if bothered by these parasites. Crude oil applied with a brush or rag is an effective remedy.

The market for hogs appears to be weakening. This will no doubt result in a falling off in the number of sows bred this spring. If bacon is wanted the price of live hogs must remain at a remunerative figure.

The herd of milking Shorthorns on the Government Farm at Monteith, will be considerably strengthened by the addition of the milking Shorthorns from Guelph College, which are to be transferred to their new quarters at an early date. Combining the two herds will make a herd of considerable size which will give a greater opportunity for selection, breeding and feeding than would be possible with a smaller herd.

Kale is a crop that is highly prized by sheepmen. We recently heard of a single plant weighing 60 pounds. At this rate an acre of kale would give a large weight of feed. It is customary to thin the plants to three feet apart in the row.

R. Baird, a Waterloo farmer who feeds upwards of 200 hogs in a year, puts a valuation of from sixty to seventy-five cents per hundred pounds on skim-milk and buttermilk as a hog feed; the latter figure when feeding young pigs.

A Yorkshire sow at the Ontario Agricultural College farm gave birth to a litter of nineteen pigs and is raising fifteen of them. This is a good record, particularly so when the fifteen are all thrifty and uniform in size when near the weaning age.

The hog is claimed to be the most economical animal for converting grains and millfeeds into human food. It requires high-priced concentrates to satisfy his appetite, but many feeders are able to return a profit when all feed is purchased. Results in hog feeding depends a good deal on the attention given by the man in charge.

The show-ring is largely instrumental in setting type in breeds. It is unfortunate that judges at our fairs are not all agreed as to what is the best type of certain breeds. A short course for live stock judges with recognized authorities in charge should do much to avoid one type being placed first at one fair and a slightly different type winning the laurels at the adjoining County fair.

It is understood that good representatives of all the different breeds of sheep and swine are to be placed on the Guelph College Farm. This is a step in the right direction. Hitherto students and visitors to the College had no opportunity of seeing and studying the type and conformation of many of the recognized breeds. One or two breeds of each class of stock may be all that can be advisedly be specialized in, but this should not deter the College from keeping representatives of all the breeds for the benefit of visitors and for class-room work. How is the public to become acquainted with the various breeds if they are not represented at the seat of agricultural learning in Canada?

Keep the Lambs Thrifty.

The breed of sheep, condition of ewe at lambing time, and the care and feed of ewe and lamb influence the rate of gains made by the young stock. The greater the gain the more profit to the owner. The milking quality of the ewe is also an influencing factor. If the ewe is a poor milker her offspring is not sufficiently well fed. This factor might advisedly be taken into consideration to a greater extent than it is when selecting the breeding stock of the flock. For the first month the gain is largely controlled by the quantity of milk the lambs receive, but as the lambs become older the gains will depend to a certain extent upon the roughage and concentrates they receive. In far too many cases where sheep are but a side line, the lambs are not given a chance to make a good showing. They are forced to exist on the milk they secure from their dam and on the roughage they pick up. If the ewe is a good milker a fair daily gain is made, but the gain can be increased by supplementing the pasture and milk with such feeds as oats, bran, corn-meal, oil cake, etc. By constructing a creep in one corner of the pen or pasture the lambs may be fed separately from the ewes. This method will considerably increase the gains over the lambs allowed to shift entirely for themselves.

The accompanying illustration shows a lamb at forty-five days which weighed sixty pounds, which was a gain of a pound a day, as it weighed fifteen pounds at birth. This lamb had access to rolled oats and oil cake (pea size) to supplement what milk it secured from its dam. The thriftiness and size of the lamb indicate that its mother was a good milker, and that the concentrates fed met the feed requirements necessary for rapid gains. It pays to supplement the pastures for both ewes and lambs. As sheep crop the grass very closely, it is a good plan to have two fields for pasture so that one might have a chance to pick up while the sheep are on the other. Instead of turning the flock on a large pasture, more economical returns are secured by limiting it to a small acreage and turning on to fresh grass frequently. If the grass becomes scarce, clover will aid in tiding the flock over until the rape, kale, cabbage, etc., are ready for feeding. To permit the sheep and lambs to lose in flesh for lack of feed is poor management and results in reducing the returns. Many of the summer feeds for sheep are easily grown and give large yields.

Sheep appear to suffer from the noon-day heat, if they do not have access to shelter of some kind. If there are no trees in the pasture, a cheap shelter might advisedly be constructed. As a rule, the flock rests during the heat of the day when on pasture, and feeds in the morning and evening.

While sheep appear to be able to do without water better than other classes of stock, they thrive better if pure water is available at all times; at any rate they should have water at least once a day. The flock should also have access to salt. If the greatest gains and best returns are to be obtained the shepherd must cater to the wants and comfort of the flock. Neglect on his part soon shows in the appearance of the flock.

Grading Wool at Guelph.

Visitors to the Winter Fair building during the month of June found much of interest going on. This building is the receiving station for a large portion of Ontario's clip of wool, and there it is being graded, packed and branded ready for shipment to the mills, under the direction of R. W. Wade and his staff, who are to be congratulated upon the system worked out for handling the wool and for the efficient way in which the work is being done. Wool has been received from practically every county and district in Ontario, and the quality is higher than it was last year, thus showing that selling on a graded basis is an inducement for the wool grower to care for his flock and handle the product in the most approved manner. A large quantity of wool has been received from New Ontario. Up to June 20, around 500,000 pounds of wool had been received at Guelph, and it was expected that by the time it was all in the amount would total close to a million pounds. Low medium combing grade was running the highest, with medium combing and low combing about equal in quantity. A considerable quantity of coarse wool has been received, but a fair percentage of the wool grades clothing. As was to be expected, there is a small percentage of burry and cotted wool.

As the sacks of wool are received the name of shipper, address, county, number of sacks, charges, and weight, are marked in triplicate and each man's shipment is stamped with a letter and number so that when it comes to the grading table there is little likelihood of a portion of the shipment being missed. In front of the grader are a number of baskets for the different grades of wool. As each man's shipment is graded these baskets which are on wheels are run on to the scales and the weights of the different grades are supposed to tally with the weight at the receiving point. By this method there is very little chance for error. From the scales the wool is thrown into large bins made for the different grades. The wool is packed in large sacks. After putting three fleeces into the sack a man gets in the sack and keeps tramping the wool as it is put in until the sack is filled. By this method upwards of 300 pounds are put in a bag. The bag is then sewed up and branded with the grade. It is well worth any one's while to visit this grading station and see the efficient way in which the work is done from the time the wool enters the building until it is ready for shipping to the mill. Every wool grower might advisedly market all his clip through this association. It will be to his advantage to do so, as the maximum price is received and the wool is graded and handled at the minimum of expense. A fair price is paid for the wool when it is received and the balance is sent to the producer as soon as the books are straightened after the entire clip has been sold. Wool growers should support this co-operative wool marketing association.

Feeding the Growing Pig.

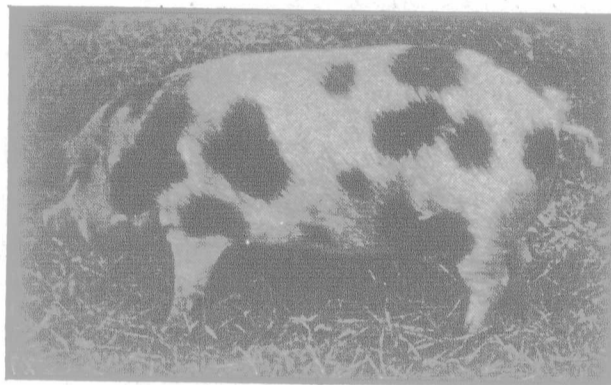
It is claimed that the number of sows farrowing this spring is about thirty per cent. above normal, and reports indicate that on the average particularly large, strong litters have been farrowed. Many of the litters have been weaned, and the growing pigs are squealing for more and still more feed to satisfy their keen appetites. The high prices and scarcity of concentrates have resulted in most granaries being pretty well cleaned out, and many feeders are confronted with the task of purchasing practically all the feed required to carry these large litters until the new crop is harvested and threshed. Millfeeds are none too plentiful, and the quality is not what it used to be. Some claim that they get very poor results with the shorts now on the market. Middlings and feed flour are scarce, barley is practically off the market, oats are sky high in price, considering the percentage of hull they contain, and corn while available is not generally considered a good feed for young and growing pigs. Under existing conditions, the man with a large herd of hogs is confronted with a difficult problem. How can he best solve it?

The digestive system of the pig does not lend itself to such a variety of feeds as can be given bovines. While a certain amount of roughage can profitably be fed, the bulk of the ration must necessarily consist of concentrates. The man with a large herd of cows from which he sells cream and retains the skim-milk has the advantage over those who do not keep cows, or who dispose of whole milk. Skim-milk and middlings or high-grade shorts make an ideal ration up to the time the pig is four or five months old. In fact, pigs have been raised and fitted for slaughter on this diet. A Waterloo County farmer raised and finished over one hundred hogs last winter on skim-milk and shorts, and secured from two hundred to two hundred and twenty-five-pound hogs at six and one-half months of age. This weigh is generally considered satisfactory for that age, although some are able to have their pigs gain so as to pass the two-hundred mark at less than six months. When this is done it reflects much credit on the feeder.

The first few weeks after weaning are important ones. Overfeeding, underfeeding, giving an improper diet, or lack of attention may result in impaired digestion of the young pig, causing unthriftiness which is difficult to overcome. It is doubtful if there is any feed that will take the place of milk, and the dairyman shipping cream should be in a position to handle a bunch of hogs to advantage and get a good price for his skim-milk. When milk is not available, an addition of ten per cent. tankage or ground oil cake to the shorts aids in balancing the ration. Some feeders mix the oil cake and shorts and pour hot water over them about twelve hours before feeding; this partially cooks the feed and it will thicken up considerably as the oil cake becomes soaked. This should be made into more of a gruel before feeding.

The most practical method of handling this feed is to mix it in pails instead of barrels. If there is a supply of oats on hand, finely-ground oats and shorts in equal parts make an ideal ration, as the oats furnish practically all the nutrients required by growing animals. The feed should be made as palatable as possible. Here is where some feeders fall down. Because it is a pig they are feeding they consider that it matters not how the meal is served to it. This is sometimes the cause of poor results in hog feeding. Care should be taken to keep within the pig's appetite. Scouring, dullness, or lack of appetite are indications of digestive trouble and calls for restriction in the ration. The fact that one feeder is able to make much more satisfactory gains than his neighbor, with the same breed of hogs fed on the same kind of ration, shows that a good deal depends on the feeder. The following table from a Bulletin issued by Prof. H. Barton, Macdonald College, gives the feed requirements of pigs of different weights.

Weight of pig.	Feed per day in meal or the equivalent.
30 lbs.	1½ to 2 lbs.
50 "	2 to 2½ "
75 "	2½ to 3 "
100 "	3 to 3½ "
125 "	3½ to 4 "
150 "	4 to 5 "
200 "	5 to 6 "
225 "	6 to 6½ "



A Gloucestershire Spotted Pig.

Brood sows of this breed have sold as high as \$625 in England.

It is estimated that six pounds of skim-milk or buttermilk will equal one pound of meal. Young pigs should be given plenty of exercise and may be allowed the run of a grass paddock; if it is sheltered by trees, so much the better. In cheese factory districts the by-product known as whey has a fairly high feeding value for hogs. Experiments have shown that from 1,000 to 1,200 pounds of whey are equal to 100 pounds of mixed grain for feeding pigs.

It is considered by some feeders that more rapid gains can be made with the minimum of feed by using a soiling crop rather than pasturing, especially with young pigs. Once the pigs reach 80 to 90 pounds in weight they may be turned on some form of pasture to advantage. Clover, alfalfa, vetch, rape, rye, or a mixture of these crops, make excellent feed for the growing hogs. This is one way of making economical gains and yet saving the grain supply. Shotes will not make satisfactory gains on pasture alone; they require grain. At the Montana Experiment Station hogs on pasture with a full grain ration required 412 pounds of grain for 100 pounds of gain, and they made 1.39 pounds gain per hog per day. Hogs on a half grain ration only gained .98 pounds per day, but they required only 291 pounds of grain per 100 pounds of gain. Thus it will be seen that if the feeder does not wish to have his hogs gain rapidly he could make a considerable saving in grain by pasturing and using half the regular ration. Similar results have been obtained at other experiment stations.

At the Ontario Agricultural College a study has been made of feeds for young pigs, with the aim in view of finding out what mixture will give the best results, or if any satisfactory substitute can be found for milk. Young pigs were divided into four groups, and the lot on meal and water alone made an average daily gain of .846 pounds at a cost of 6.58 cents. The group on meal and skim-milk made an average daily gain of .89 pounds at a feed cost of 9.15 cents per pound of gain. The group on meal and tankage made .867 pounds daily

average gain at a feed cost of 7.86 cents. The group fed meal, skim-milk and tankage made the average daily gain of 1.11 pounds at a cost of 7.54 cents. Thus it will be seen that the greatest gain was made when skim-milk and tankage were both used with meal, although fairly good gains were made with the meal and tankage. This shows that while skim-milk is one of the best feeds for young pigs, tankage can be used to supplement it with very good results. It is not considered advisable to have the tankage constitute more than ten per cent. of the meal ration, and a smaller quantity can be fed as the pigs grow older.

While shorts, finely-ground oats, and skim-milk, together with a soiling crop or pasture, make an ideal ration and possibly the most economical ration for growing pigs, it is quite feasible to finish the hogs and have them weighing around the 200-lb. mark at six months of age on the ration mentioned. Of course, it is necessary to regulate the amount according to the appetite of the pigs. The aim should be to keep just within the appetite at all times. For finishing pigs, corn or pea chop is considered an ideal feed. However, it is not always possible to secure it; in fact, all feeds are scarce at the present time. If corn can be secured at a reasonable figure, it might advisedly form half the ration when oats or shorts are used, when putting the last 75 pounds of weight on the hog. If skim-milk or a little tankage were used, this would make a fairly well-balanced ration. The new standard feed which is being compounded and will, no doubt, be on the market shortly is supposed to meet the requirements of the hog. As to the price of this feed we cannot say, but by buying and handling in large quantities as is the present plan of the committee who have the matter in charge, it should be possible to furnish this feed to the feeders at a fairly reasonable figure considering its nutritive value. When hogs are thrifty and given a balanced ration, they will make a pound of gain on from 4½ to 5 pounds of feed, and a hog should gain around a pound a day. The highest gains are usually made from 125 pounds up to 190 pounds. With hog feeds at the present price and hogs selling around eighteen cents, some feeders claim that they are making a fair profit over and above interest on investment, labor, etc., while others contend that they barely break even. Those who have an abundant supply of milk and have clover, rape, or some other pasture crop on which to run the growing hogs, will undoubtedly be able to make better returns than those who confine their hogs to the pen and rely on grain alone to grow and finish them. With corn and shorts at the present prices, it will require practically 12 cents per pound to grow and finish the pigs. This is without counting the initial price of the pigs, labor, and whatever drink the pigs are given. By using pasture or soiling crops the cost will be reduced.

Cleanliness in the pen, shelter in the pasture field, regularity in feeding, keeping the hogs and pen free from vermin, are points to consider if the most economical gains are to be made.

Weak Market Detrimental to Increased Production.

EDITOR "THE FARMER'S ADVOCATE":

Last fall an increase in hog production was urged and farmers were advised to keep an extra sow. They have responded well, but the reduction in price which occurred recently has thrown a damper on increased production. I don't see any way in which the hog business could be ruined quite so much as for the price to drop just at the present time when the sows are being bred. In our vicinity I believe that there are fifty per cent. fewer being bred this spring than last fall. With shorts, barley and corn at an exceptionally high price hogs must remain high if farmers are to continue breeding them. The writer has 150 hogs on hand, some of which were purchased at 20½ cents per pound, which was the ruling price a few weeks ago for shotes. If the price goes much lower, I do not see how I am to meet my expenses, of feed and labor, and if I am unable to make wages and bank interest on the money invested I will certainly not keep as many hogs next year. Unless the price keeps up hogs will be more scarce in 1919 than they were in 1917. One farmer in our vicinity, who was delegated to visit the farmers on the line and inform them of the great necessity for increased meat production, kept five sows last winter, which was an indication of his belief in the need for increased production of bacon and also that the price would remain sufficiently high to permit of a slight profit being made on the busi-



Making Good Use of Bluegrass.

ness. This spring he is only breeding two sows and other farmers are doing the same. If more bacon is wanted the price of pork must be kept high, or else the price of feeds reduced. A farmer cannot be expected to continue raising hogs on a large scale unless he is assured that the price of the finished product will be commensurate with the price of feed. It appears to me that the longer hours the farmer works, and the more he produces on his land, the less he will get for his products.
Middlesex Co., Ont. A. P.

Some Flies Which Worry Live Stock.

The animal parasites of cattle alone comprise more than a hundred different species, and belong to various groups of the animal kingdom. Happily not all of these parasites occur in this country. A great many of them are uncommon and a large number are comparatively harmless.

Flies are very injurious to live stock on account of the annoyance, pain and loss of blood due to their bites and stings. A few are carriers of diseases, and some are parasitic in that the larval stage is passed within the animal.

The Stable Fly.

The stable fly very closely resembles the house fly, but unlike the latter it is a biting insect. In warm, cloudy weather the stable fly is very fearless and persistent and worries the cattle to an alarming extent. This fly also has the reputation of transmitting anthrax from diseased to healthy animals, and there is some evidence to show that other forms of disease are due to this perfidious fly. In addition to fly repellents mentioned later in this article, much can be done to ward it off by keeping the stable darkened. The fly breeds in manure, especially fresh horse manure. A prompt disposal of all droppings and a clean barnyard will greatly reduce the number. It has been found at the Central Experimental Farm, Ottawa, that bags hung from the top of the door, just so they will brush the flies from off the backs of the cattle when they enter the stable, are a very practical and efficient contrivance.

The Horn Fly.

The horn fly found almost everywhere has the habit of clustering about the base of the horn. It is said they congregate there only to rest. When resting their wings are held down close to the body, but when feeding the wings are held out nearly at right angles, ready for flight. They usually attack the upper parts of the body, particularly those out of reach of the animal's tail, and after puncturing the skin suck the blood, which largely makes up their diet. This fly lays its eggs in freshly-dropped cow manure. They hatch in about twenty-four hours and the larvæ or maggots develop to the pupal stage in four or five days. After another week or ten days the mature fly emerges. It can be seen, therefore, that only about two weeks are required for the horn fly to develop from the egg to the mature stage. Fly repellents are more or less effective in combatting this tormentor and the breeding ground can be rendered less attractive by spreading the droppings with a shovel, or dragging the pastures with a brush drag, where this is practicable.

The Warble Fly.

The grubs, warbles, or worms, found under the skin on the backs of cattle during the latter part of winter and in early spring are the young of a fly known as the "heel fly" or "warble fly". The individuals of this pest are about one-half inch long, very hairy, and somewhat resemble a small, black bee in appearance. The flies appear early in the summer and are more or less prevalent until the beginning of cold weather. They deposit their eggs on the skin of cattle, fastening them to the hairs. Many eggs are deposited on the heels, above the hoofs, hence the name heel fly.

Although the flies are unable to bite, the cattle seem to be much afraid of them and they are sometimes stampeded by the presence of this fly. For a considerable time the opinion existed that the larvæ hatching from the eggs found their way through the hide into the backs of the cattle and there made their home. However, Dr. B. H. Ransom, of the United States Bureau of Animal Industry, in a report of The Animal Parasites of Cattle, says: "Either the eggs or the tiny maggots hatching from them are carried into the mouth by the cattle licking themselves. In the former event the eggs hatch in the mouth or in the paunch; in either case the maggots or larvæ migrate into the esophagus or gullet and penetrate into its walls, where they undergo a portion of their development. From the esophagus the larvæ migrate through the tissues of the body toward the back and according to one investigator enter the spinal canal, where they spend a certain period. Finally they appear about January beneath the skin of the back, forming the well known swellings. The posterior end of the grub is near the small opening in the hide through which the grub breathes and discharges its excrement, and through which when its development is complete it finally escapes. The anterior end of the grub is at the bottom of the tumor where the mucous collects upon which it feeds. By spring or early summer the grub is full grown and forces its way out of the skin, falling to the ground into which it burrows for a short distance and transforms into the pupal stage. In about a month the mature fly emerges."

It appears that no satisfactory preventive treatment or effective remedy has yet been discovered for the warble fly. During the winter the grubs may be pressed out and destroyed. In summer the cattle may be frequently treated with a fly repellent to ward off egg laying.

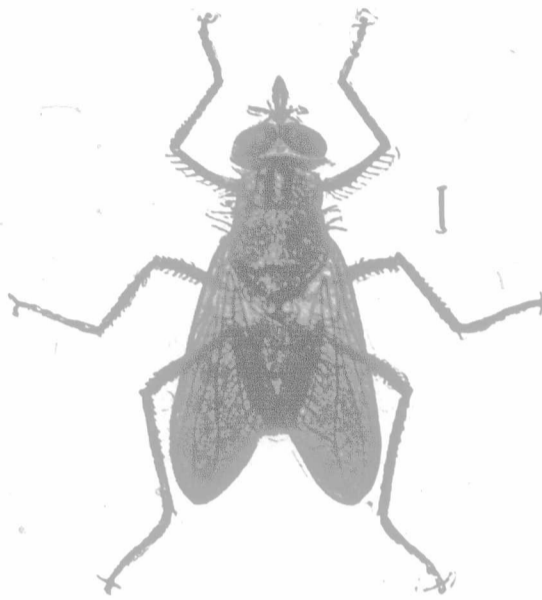
The Horse Bot Fly.

The adult of the horse bot fly closely resembles the

honey bee in form, except that the female has the end of the abdomen elongate and bent forward under the body. The eggs are attached to the hair of the horse, chiefly on the legs and shoulders. The larvæ or eggs are licked off by the animal and swallowed. The larvæ attach themselves to the inner coat of the stomach and remain there until full grown then they pass from the animal and crawl into some protected place to complete their life history.

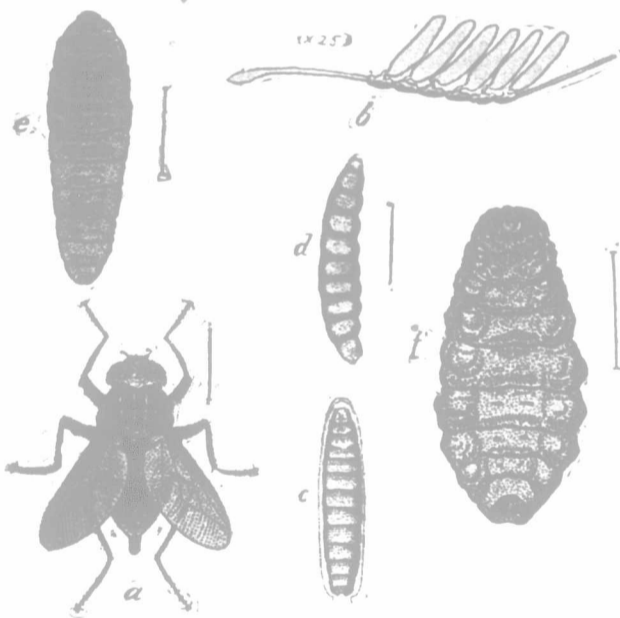
The Sheep Bot Fly.

The sheep bot fly is another species, the young of which live in the head of the sheep. When full grown they pass out through the nostrils and undergo their transformations beneath the surface of the ground. These flies are discussed in another article.



The Horn Fly Much Enlarged.

The large amount of spittle or froth which is to be seen on the blades of grass this year has given rise in the country to a fear that some fly injurious to live stock may be finding a resting place within. This froth is the work of the spittle insect, or frog hoppers and has nothing to do with cattle pests at all. The froth is supposed to be just the sap which the insect has pumped from the plant by means of his beak and passed through its alimentary canal. In the midst of each of these masses of froth there lives one or more young insects, and it is asserted that they undergo all their transformations within this mass. While the spittle insects are an undesirable visitor in the fields they very rarely become serious and there is no occasion for alarm.



The Warble Fly, Eggs and Larva.

a, Adult female; b, eggs attached to hair; c, d, e and f, the larva in different stages. All enlarged. From U. S. A. Department of Agriculture Bulletin.

Fly Repellents.

There are a number of fly repellents on the market, which are effective for varying lengths of time. A repellent can be prepared at home, if desirable, from some of the following mixtures. At the South Dakota Experiment Station, fish oil 100 parts; oil of tar, 50 parts; crude carbolic acid, 1 part, and applied by means of a small hand spray pump, was found efficient. At the Mississippi Experiment Station a mixture of two parts of crude cottonseed oil, or fish oil, with one part of pine tar, and applied with a large paint brush, was found to be successful. In other cases a mixture of one part of crude carbolic acid, to about ten parts of fish oil has been found to repel flies when applied by means of a cloth or sponge dipped into the liquid, squeezed partly dry, and passed lightly over the hair. If rubbed in it is liable to cause blistering.

Sterility in cows is due to a variety of causes, but results largely from disease of the reproductive organs. This diseased condition is largely inflammatory and arises from the presence of bacteria, which gain entrance as a result of unclean conditions.

Grub in the Head of Sheep.

All sheep suffering from grub in the head do not necessarily show symptoms of their presence, but sturdy gird, dizziness, and other peculiar complaints indicate the presence in the head of the sheep of grubs or larvæ of the sheep bot-fly. During the warm weather of the summer months this fly becomes very annoying to the sheep. It is quite common to see a member of the flock begin to shake its head, at the same time striking the ground with its forefeet. It then commences to run, holding its nose close to the ground, thus endeavoring to escape its pursuer. The animal may run into the middle of the flock, which as a body becomes alarmed even if only one fly is in evidence. They place their noses close to the ground and pack together as closely as possible in order to prevent the fly attaining its object. Some authorities claim that the fly deposits the larvæ on the mucous membranes within the nostrils, while others assert that the egg is laid there. In either case the larva causes an intense irritation and finally propels itself up into the head where its larval period is spent. Sheep thus affected frequently sneeze in an effort to expel the mucous and sometimes the matured larvæ. The animal will lie down and hold the nose pointed in the air, gradually turning its head around and backward.

Remedial measures are of little avail in a case of grub in the head, but preventive measures should be resorted to particularly at this time. While the mature flies are likely to be present, keep the nostrils and lips of the sheep smeared with tar, or tar mixed with grease. This may entail considerable labor in the case of a large flock. The practice in such a case is usually to bore holes in the upper side of a log and fill them with salt. The edges of the hole are then daubed with tar. In their efforts to get at the salt the sheep will keep their nostrils and lips smeared. This acts as a repellent. The holes should not be bored too much on the side of the log or the fleece will become tarred through the sheep rubbing against the timber.

THE FARM.

Some of This Year's Corn Problems.

EDITOR "THE FARMER'S ADVOCATE":

When it was definitely known that the usual sources for seed corn supply would scarcely be adequate to meet local conditions, let alone supply those localities almost wholly dependent on them for their seed stocks in the past, there was no little anxiety among the large seed houses who had agreed to supply the retail stores with their usual quota of seed corn, as well as among the farmers who used the corn to grow silage. Without a supply of this cheap, succulent food, milk producers and others were at their wits' end how such a problem could be solved. It was a great relief when the Government through the agency of the Seed Branch was able to say to all concerned that an adequate amount of seed corn of the later, sappier varieties was practically assured. They would be such varieties as were already well known, such as Mammoth Southern Sweet, or Giant Prolific, Red Cob Ensilage and Fodder Learning. There was much disappointment, however, when it was learned that no flint varieties would be available for the strictly silage-growing districts. Fortunately, there were some dealers here and there who had kept some of their surplus over from last year. They were able to get four or five times what they paid for it in the first place; \$7.50, \$8 and even \$10 were common retail prices, while, as was largely published at the time, at an auction sale in Western Ontario one lot sold for as much as \$50 per bushel. There were many local dealers over the Province who had a lot of flint seed corn left from the previous year's orders. But who sold it for feed when the price of feed corn advanced, so that they got out on the price they had paid for their seed corn in 1917. Little did anyone suspect that the early frosts of September 9, 1917, would pinch the seed corn as it did. There were some farmers who were fortunate in having some of their unused seed left over, which, when kept in a dry place—if good vital seed in the first place—would retain its vitality almost perfectly.

As soon as some farmers heard there was likely to be a scarcity of even the late seed corn varieties, they commenced to order from two or more dealers, in order to be sure of their supply. Some of the dealers stimulated by these orders, placed larger orders with the wholesalers, and everyone looked for a heavy seed trade in corn. In the meantime a Rochester seed firm who do a big business through agents in Canada gave their agents instructions to work the corn scarcity scare for all it was worth, and they did. Many farmers, believing that a firm in the States would be more likely to make deliveries than Canadian firms, placed orders with these agents and they were able to do a land-office business. They operated over more territory than usual and raised their prices, as the season advanced, to about double what it was when they first started taking orders in the early winter. Had the United States not lifted their embargo on seed corn about the first of May, it is doubtful if this American firm could have delivered their goods. However, they have delivered some good corn that germinates ninety per cent. and better, which they call "The Pride of Nishna." This seems to be a large, rank-growing, yellow dent corn that gives a good deal of ear and makes excellent silage. It is probably one of the old corns with a new name. In some cases corn deliveries were slow and dealers became impatient. Their customers were clamoring for their seed; many of the farmers wanted it early enough to make a test to see if it were vital. I believe a larger number of growers than usual tested the vitality of their seed corn this

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year, which was in itself a good thing. The Southern varieties proved to be about eighty-five per cent. germinable. The field test confirmed the preliminary tests. Many fields have been seen that were cultivated during the first week in June where the stand was everything that could be desired. At some freight sheds quantities of corn were seen, as they had been unloaded from the cars during the last week in May, that dealers had refused as it had arrived too late and farmers were for the most part done planting. This will mean that a good deal of adjusting will have to be done by some persons. It was noted, too, that a lot of dealers had accepted the late arrivals of corn and were trying to get some easier terms. It wasn't a good year to get loaded up with seed corn of these late varieties and have to pay the prices asked. Still another factor which lessened the demand for seed corn was that after the Military Service Act came in force it so upset some farmers' plans that they cut down the area to be planted as they were alarmed at the labor prospects of growing and harvesting this crop. Some dealers who had more than they expected to sell, reduced the price towards the last as a further inducement for farmers to buy. After the embargo was lifted there is no doubt but that quantities of unused seed corn on the American side found its way to some Canadian points. In a few cases some poor germinating seed found its way into the market.

A Montreal firm had a variety they were offering as Longfellow. It wasn't anything like our Longfellow and its germination was, generally speaking, below fifty per cent. A good many got fooled with it. Some farmers will be fooled, too, in that they thought they were buying Early Leaming when it was only fodder Leaming. Some local retailers bought it for Early Leaming; others imagined they had Early Leaming when that variety

was asked for. From some source a quantity of White Cap Yellow Dent and Wisconsin No. 7 was also sold. The Seed Branch had some very good White Cap and Early Delaware grown in Delaware for sale, at the close of the corn season. It germinated over ninety per cent. but it was too late to make many sales of it, although these earlier varieties would have been much better to plant, especially at the last of the season. If however, after all the troubles are over the corn shall give a good account of itself, for filling up the silos this fall, we will forget most of our troubles and trust that we will not have such conditions prevail again, even in war time.

Dominion Seed Branch.

T. G. RAYNOR.

June Notes From Peel County.

EDITOR "THE FARMER'S ADVOCATE":

Since I last wrote you we have had very cold and frosty weather in this part of Leeds County, and on the morning of June 20 it capped the climax by freezing vegetation off to the ground in some places. As for the hay, there will only be about half a crop. Grain, where the land is high or well drained, is looking extra good. Corn is just showing at this writing, (June 21) and some large corn farmers are not planting any at all, which will have a tendency to make hay prices a little stiffer where large herds of cattle are kept. Despite the high price and shortage of help there are a number of large barns going up, and in driving over the country by auto I noticed farmers are buying considerable woven wire and building No. 1 fences, which augurs well for farming, as these jobs, when well executed, are permanent.

Last spring we farmers understood that the price of condensed milk was to be set by the Government, as was that of cheese, but so far I haven't seen or heard of it being done. I have heard lately that the Government were contemplating setting the price of live pork; if that is done they will kill the goose that laid the golden egg, as farmers have stood about all of that sort of stuff they are going to. Setting the prices for farm products and allowing the manufacturers of all machinery to set their own prices is getting to be a little too stale, and I was just wondering how long we farmers are going to sit by and let other people do our business. We are expected to produce short-handed, to pay the largest share of the taxes, have nothing to say in the affairs of the State, and have our prices set by people who don't know what it costs to produce a bushel of wheat or a pound of cheese, pork or beef, while the packers and canners make their own prices. It's a pity the farmers haven't sense enough to see that the packer and manufacturer has his politics in his pocket, and the farmer has his in his head. Surely we have men in agriculture who are capable of managing our affairs in the Government. But we are divided; there seems to be a jealousy in localities which ought not to be. Personally, I think the farmer who is industrious and a hard worker ought to succeed, and if he and his family wear good clothes and ride in an auto they deserve credit, rather than criticism; and this criticism generally comes from the fellow who sits around in the corner grocery store, or on a nail keg in the rural blacksmith's shop, and lets his wife look after the chores at home.

Now, in regard to the war, the people in this district are about all of the one mind, namely, willing to do the best ever to win.

Leeds Co., Ontario.

D. F. ARMSTRONG.

Automobiles, Farm Machinery and Farm Motors.

The Carburetor.

Amateurs are prone to tamper with the carburetor, and because of this failing they constantly cause trouble for themselves, as well as for the agents and manufacturers of automobiles. This weakness on their part is due to the fact that they know, as every one else does, that the carburetor is the medium by which the raw gasoline is mixed with the proper amount of air to form the explosive combination that subsequently creates power in the cylinders. The carburetor is also a fruitful source of meddling, because it is so exposed and so readily accessible at the side of the intake manifold. Motorists seem to believe that because it prepares the mixture for firing in the chambers and because it is not difficult to locate that they should constantly look at it for every source of trouble. Our own humble opinion is that the carburetor should never be touched by the owner or driver, but its adjustment left entirely to those from whom the car was purchased. Once it has been properly regulated there is no ordinary reason for changing it. Of course, we must qualify this statement by adding that it is good policy to give a little richer mixture in the winter months than in the summer. Not long ago a man who had a small amount of knowledge of machinery purchased a car and soon became enamored of the carburetor. He constantly called at the garage and complained that his motor was not operating uniformly. To make a long story short, he never had a satisfactory car until the agent marked the adjustment of the carburetor, told him what he was doing, and refused to again touch the machine if the carburetor was tampered with. This should serve as a warning to leave the carburetor alone. Put up the responsibility

of its proper adjustment to the man from whom you purchased your machine, and then rest assured that under safe conditions everything will be all right.

For your own information, however, let us say that a lean mixture occasionally develops difficulties. Some motorists are so anxious to get a high mileage on their gasoline that they cut down the mixture until it is too thin for general purposes. In other words, they endeavor to mix too much air with the gasoline. When the combination is too weak, the engine explosions become irregular and lose power. Then, too, the power plant does not start easily. There is also a likelihood that back-firing will take place in the carburetor.

When the mixture is too rich and the amount of gasoline is out of proportion to the quantity of air, black smoke will usually blow from the exhaust, and if smoke is not thrown out the exhaust you may detect a smell of acid. There are other symptoms that indicate too rich a mixture, and we may include in them such conditions as the heavy consumption of gasoline, and the fouling of spark plugs. You will realize if you are getting a small mileage per gallon of gasoline, that you are using more fuel than is necessary, and you can rest assured that if the spark plugs are all covered with soot, that in all probability more gasoline is being sucked into the cylinders than is absolutely necessary. It might be well under such circumstances to look at the needle valve. Sometimes a slight turn to the right will remedy the difficulty. But in this as in all other cases where the carburetor is concerned we recommend the employment of an expert. Sometimes when the throttle is opened quickly the engine develops sluggishness and loses "pep." This is usually due to the fact

that the mixture is too rich. The power plant is being choked to such an extent that it seems to die down and loses its quick action.

Some carburetors leak because the float gets into a fixed position. You can usually remove the top and by touching the float gently get it back into proper operation. It is always well to remember that after a cork float has served its purpose for sometime that it may become loggy through the absorption of gasoline. This makes it too heavy for snappy operation. It should be taken out and thoroughly dried, and subsequently covered with a coat or two of shellac in order that it may not in the future suck up too much fuel, and become too heavy for practical purposes. If there is a metal float in your carburetor it is possible that it may get punctured in some way or other, and then difficulties arise. If this should happen punch another hole in the float and so get all the gasoline drained from the inside. You can now solder up both holes and thus put the float back into condition for good service. These ideas may seem very simple and easily put into effect, but you must remember that the carburetor is a sensitive mechanism, and that the slightest mistake can greatly reduce its efficiency.

We hinted in a previous paragraph that very often the carburetor was blamed for trouble that did not properly belong to it. We have known a manifold that has developed air leaks to such an extent that they seriously affected the operation of the carburetor. Do not forget that a leak in the intake manifold causes back-firing, even though the carburetor is in proper adjustment.

AUTO.

Canada's Young Farmers and Future Leaders.

Organization and Partyism.

The other day we were in conversation with a gentleman who, besides being a farmer and a well-known live-stock man, is well known and respected by many in other walks of life. He has lived sufficiently long and has been wide awake enough to observe a great many things which the ordinary man would pass by without a second thought, and for that reason his opinion is worth noting. In some manner or other the conversation turned to the question of organization, a natural subject for discussion just now, since there is probably no single topic which could or would interest a group of intelligent farmers more quickly to-day than means and methods of bringing about a successful organization of the agricultural forces of Canada.

This gentleman expressed sentiments which to us seemed to hit the nail pretty much on the head, and we think they are worth passing on to the "young farmers" of Eastern Canada as well as any others who may chance to read this page. Memory alone must guide us in repeating his remarks, but we venture to think that what he said made so deep an impression upon us that the words we use here will not combine to misconstrue his thought. "The problem of farm organization is a big one, and it is quite probable that it will be a long time before it will be solved even in a passable manner, although as I see it, the time necessary should not be so long if farmers would not persist in defeating constantly the very ends for which they are working. Party politics are the bugbear of farm organization. Before agriculture can become effectually organized, farmers must be willing to forego the doubtful pleasure

of voting for the candidate of a certain party simply because he belongs to that party and, instead, vote for the man who in their opinion will best represent the constituency in Parliament; and who, moreover, will carry to Parliament and throughout his whole term of office a clear idea of what his constituents will expect him to do.

"But farmers have a great deal to do in the way of organization before they are in a proper position to elect a man to represent them in the Government or in the House. Representatives in Parliament are what they need in order that agriculture may get such consideration as she is entitled to, after election as well as before it. From the farmers' standpoint the best time to consider that the agriculture of the country is the backbone of the nation is after the election instead of a few weeks previous to it. However, in order to bring about this desirable condition of affairs it is necessary that each candidate seeking the support of the farmers' vote realize the seriousness of the responsibility placed upon his shoulders with this vote. In order to make this responsibility plain to every candidate, some means must be found of crystallizing the opinion of the farming community so that representatives can be sent to Parliament with a clear idea of what is expected of them. At the present time there is so little unity to be found among farmers that once a man is elected to Parliament, he can, if he is merely a politician, do practically as he likes and get away with it.

"Organized agriculture must stand for something and that something must be definite, and it must be decided upon after full consideration of all the forces that go to make the country a success among the nations of

the world. No farmers' representative should be allowed to go to Ottawa who will lessen the dignity of farming, nor should any representative be asked to go to Ottawa and be humiliated before his fellows in the House because the industry he represents is so unorganized that it has sent him there without definite instructions."

Unscrupulous politicians have succeeded in obscuring the power of the ballot to some extent. Appeals to party loyalty have ruined the cause of many a good candidate and cast the honor of representing a constituency upon the shoulders of those who were unworthy. Party politics and religion have probably caused more unfriendliness than any other things it would be possible to name, and of all things these two should cause the least number of quarrels. What we need in this country is more education for citizenship and less of the perfunctory kind of academics that is administered as a kind of "culture," which one is thought fortunate to acquire because everybody seems to think it is a good thing. Why in the name of common sense two people can condescend to quarrel over the merits of two things when all there is to distinguish them is that one is called Tory and the other Grit, is entirely beyond our comprehension. If one could hold a brief interview with Saint Peter as to the numbers of each which have been turned away from the pearly gates to seek eternal rest elsewhere, the chances are that each political party could show quite similar numbers of unfortunates. The power of the ballot and the significance of the franchise are still as great as ever, but to most of us the significance that was once attached to the two parties has sunk into oblivion. The rate of

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progress in modern times and the rapid turn of events make it unsafe to rely upon the wisdom of our forefathers in choosing one party or the other and sticking to it. Sometimes a change is beneficial, and this applies no less to votes and politics than to other things. The candidate and the issue involved count more than any party affiliations.

Agriculture needs representation in Parliament just as she needs organization. Farmers should have more say in the government of the country than they have been getting in the past, but it is doubtful, to say the least, as to where the whole of the responsibility lies. It is up to the young men who are coming on and who are taking up the ballot for agriculture to use it wisely and, above all, to gather a correct conception of what organization will mean to the industry. Once this conception is gained the problem of representation in Parliament is simple.

THE DAIRY.

Silo Capacity and Measuring Silage.

As the silo gives satisfaction on dairy farms throughout the country, and as the building of silos spreads from district to district, their advantages become more generally realized and appreciated, and their use takes on added impetus. This is not alone true of dairy farms but on the general or mixed farms as well, where cattle are fed and other live stock raised in good proportion. The silo is usually built during the summer months whenever sufficient time can be found from the work of growing the crops. Many men are at a loss to know how large a silo to build and what type will give best results. The latter point is not to be considered at this time, except to say that the modern silo is usually round in form instead of square or many sided, as may be seen frequently among those built some years ago.

It is important that the silo be built of the proper size, for if it be too large the expense will be unnecessarily high, while if it be too small for the number of head of stock kept, the owner will be placed at a decided disadvantage. It is possible to calculate with at least a fair degree of accuracy the size of silo needed for the farm, provided the number and kind of live stock to be fed from it is known. The number of head may vary throughout the year, but the owner can calculate sufficiently close to the average number to use this as a basis for determining the size of the silo. As a general rule, where a large number of animals are to be fed, it is much more satisfactory to build two silos of small diameter than only one very large one. There are two principal reasons for this—first, because the small silo will stand better against the wind than a large one, owing to the rounder surface providing a sharper cutting factor than the flatter surface of the large silo. In the second place a small silo does not provide so great a surface of silage for spoiling, and this is important, since it is necessary to feed certain amounts off each day if this spoilage is to be prevented.

The first thing to know, therefore, is the total amount of silage required, in pounds or tons, to feed the stock through the winter. If the silo is to be used only for winter feeding it will only require that about half as much be fed daily as in summer, so that if thought advisable, the silo might be built of greater diameter. In other words, only about one-half as many head of stock will be required to keep it fed off if winter feeding only is followed, providing they were all of one kind. The following figures from the Nebraska Experiment Station give the approximate amount of silage which may be fed daily to various kinds of stock under average conditions:

Kind of Stock	Weight Pounds	Pounds per day
Colts.....	500	5
Stock horses.....	1,200	12
Work horses.....	1,300	10
Calves.....	500	12
Stock cattle.....	1,000	20
Beef cows.....	1,300	30
Dairy cows.....	1,000	40
Fattening cattle.....	1,200	25
Stock sheep.....	3
Fattening sheep.....	3

From this table then, if only the dairy herd was to be fed and it consisted of 15 cows, they could be fed from the middle of November until the middle of May (180 days) on 108,000 pounds or 54 tons (5 x 40 x 180 = 108,000). The owner would, therefore, need a silo that would hold 54 tons of silage to feed his herd for the six months. The question then arises as to the diameter and the height of the silo which would be most suitable. A silo either 12' x 29', 13' x 28', 14' x 23', 15' x 21' or 16' x 19' would hold this quantity. Which size is most desirable? The next table will show that a silo could be 15 feet in diameter for this herd in winter, since they will eat 600 pounds of silage each day. The table shows the quantity of silage required to be fed off each day in winter and in summer, and the approximate number of different kinds of live stock necessary to consume the various amounts. These latter figures are, as stated, based upon summer feeding, so that if our herd of 15 cows were to be fed in summer they could only take care of a silo about 11 feet in diameter instead of 15 feet, as in winter.

Rate of Feeding From Silos.

Diameter in feet	Approximate Pounds to be fed daily		Approximate number of different kinds of stock required to keep silage from spoiling in summer.					
	Summer	Winter	Horses	500 lb. Calves	Stock Cattle	Beef Cattle	Dairy Cattle	Sheep
10	525	263	48	44	26	21	13	175
12	755	378	69	63	38	30	19	252
14	1,030	515	94	86	52	41	26	344
16	1,340	670	122	112	67	54	34	446
18	1,700	850	155	142	85	68	42	567
20	2,100	1,050	191	175	105	84	53	700

Measuring Silage and Silo Capacity.

Height of Silo or Depth of Silage	Diameter of Silo in Feet											Weight per Cubic Foot
	8	9	10	11	12	13	14	15	16	17	18	
10	5.68	7.04	8.84	10.76	12.78	15.44	17.40	19.96	22.72	25.69	28.78	22.61
11	6.43	7.97	10.08	12.16	14.48	16.98	19.70	22.62	25.72	29.08	32.60	23.28
12	7.22	8.93	11.30	13.64	16.25	19.05	22.10	25.36	28.89	32.64	36.57	23.94
13	8.04	9.94	12.53	15.18	18.07	21.20	24.60	28.24	32.29	36.32	40.67	24.59
14	8.88	11.00	13.90	16.89	20.00	23.46	27.20	31.22	35.54	40.18	44.97	25.24
15	9.77	12.80	15.24	18.45	21.96	25.76	29.90	34.53	39.08	44.10	49.40	25.88
16	10.65	13.19	16.75	20.19	24.00	28.16	32.68	37.50	42.67	48.40	54.00	26.52
17	11.59	14.34	18.12	21.95	26.11	31.30	35.50	40.68	46.39	52.45	58.75	27.15
18	12.55	15.54	19.60	23.77	28.28	33.30	38.45	44.19	50.27	56.75	63.61	27.77
19	13.55	16.77	21.16	25.62	30.49	35.75	41.50	47.68	54.05	61.25	68.64	28.38
20	14.56	18.00	22.78	27.55	32.75	38.45	44.60	51.23	58.28	65.83	73.80	28.99
21	15.56	19.30	24.40	29.52	35.14	41.23	47.80	54.90	62.48	70.54	79.13	29.66
22	16.66	20.30	25.96	31.54	37.54	44.05	50.58	58.80	66.70	75.32	84.48	30.16
23	17.77	21.92	27.14	33.61	40.00	46.95	54.40	62.50	71.80	80.30	90.09	30.73
24	18.88	23.35	29.50	35.67	42.45	49.85	57.80	66.30	75.48	85.27	95.53	31.29
25			31.30	37.85	45.20	52.83	61.30	70.38	80.00	90.36	101.25	31.84
26			33.08	40.00	47.66	55.45	64.80	74.40	84.64	95.54	107.22	32.38
27			34.92	42.21	50.28	59.00	68.40	78.62	89.30	100.85	113.20	32.91
28			36.78	44.50	53.00	62.13	72.10	82.80	94.10	106.25	119.25	33.43
29			38.67	46.80	55.75	65.31	75.80	87.10	98.90	111.75	125.40	33.94
30			40.60	49.16	58.50	68.60	79.50	91.30	103.80	117.30	131.66	34.44

If our herd consisted of 40 cows they could keep down an 18-foot silo in winter and a 12-foot silo in summer. In addition, the longest table shows readily the capacity in tons of silos of different sizes. We will suppose, for instance, that we have a silo 12' x 24' and we wish to know how much silage it holds, so as to be sure of having sufficient feed if we purchase a few more cows. Looking along the top we come to the figure 12, representing the diameter. Following this column down until we get level with figure 24 on the left-hand side, representing the height, we find that this silo if full would hold 42.45 tons. If it were only half full it would only hold 16.25 tons.

Of course, several factors serve to influence the number of tons of silage which can be put in a silo. These are: the conditions of the corn at filling time, the rate of filling and the time given for settling before measuring the depth. The figures given in the larger table are based upon the fact that the weight per cubic foot of silage varies with the depth, a fact which can be very readily seen from the last column of the large table. In addition, it is assumed that the silage is in normal condition when put into the silo, that there is no delay in filling, that it is allowed to settle for about 24 hours and refilled, and that two men are kept tramping the silage during filling.

The last column of the large table is only of real use when determining the capacity of a silo other than a round one. In such a case the volume of the silo must be worked out. Suppose a rectangular silo 20 feet high had a volume of 10,000 cubic feet. From the last column we find that the weight per cubic foot of silage at a depth of 20 feet is 28.99 pounds. Therefore, 28.99 multiplied by 10,000 and divided by 2,000 gives 144.95, as the total weight of silage in tons in the rectangular silo. If the same silo were only filled to a height of 12 feet our calculations would be exactly the same except that the volume of silage would not be so great: 10,000 ÷ 20 x 12 = 6,000 cubic feet instead of 10,000. Then, 6,000 x 28.99 ÷ 2,000 would show a total of 86.97 tons instead of 144.95.

Digestibility and Food Value of Cheese.

The food value of cheese should be emphasized in every advertisement for this is one of the most nutritious foods we have. There is, however, a very general idea that cheese causes constipation and intestinal troubles. In fact, this idea is so common that it is a by-word that cheese is a constipating food.

Cheese is a very concentrated food, and, no doubt, if eaten in large quantities by itself, although it is very completely digested, the action is rather slow, and will result in slight pain in some cases. But when eaten with bread or other foods which add bulk there is no such condition, and cheese is not constipating. As a matter of fact if eaten at the rate of one to three ounces per day, it assists rather than hinders digestion.

Easily Digested.

Experiments have been carried on where the ration was made up of cheese, bread and milk. In these experiments three-quarters of a pound of cheese was used, 94 per cent. of the protein in the cheese was digested and 93 per cent. of the available energy was utilized. Such

results are not at all uncommon. There are any number of artificial digestion experiments on record, and these indicate that the juices of the stomach will digest about 50 per cent. of the protein of cheese and that 96 to 98 per cent. of the remaining 50 per cent. will be digested by the intestinal juices. These artificial digestion experiments have been checked by experiments on men and have been shown to be practically the same.

What is true of cheddar cheese is also true of cottage cheese. In experiments where cottage cheese, bread, milk, and a small quantity of sugar formed the entire ration of men at hard labor, there were no digestive disorders or any loss of vitality. This ration consisted of 1.1 pounds of cottage cheese, which had been mixed with cream, 1.16 pounds bread, 4.12 pounds of milk, and .06 pounds of sugar. In this ration the cheese supplied 40 per cent. of the protein and 20 per cent. of the fat. Ninety-six per cent. of the protein was digested and 91 per cent. of the available energy taken by the body.

A Good Food.

How does cheese compare in food value with some of the other foodstuffs? First, one pound of cottage cheese to which cream has been added is equal to about one-half pound of cheddar cheese, and with this in mind, the following table will answer for both cheddar and cottage cheeses.

Name of food	Calories per lb.	Grams protein per lb.	Cost per lb.	25c. will buy	
				Calories	Grams Protein
Cheese.....	1950	118	35c	1393	82
Eggs.....	700	72	25c	700	72
Smoked ham.....	1940	73	40c	1212	46
Lamb chops.....	1540	80	35c	1100	57
Pork chops.....	1580	77	35c	1129	55
Beefsteak.....	1130	84	35c	807	60
Codfish.....	325	72	35c	232	51
Oysters.....	235	28	50c	117	14
Bacon.....	3030	43	50c	1515	22

From this table it will be seen that 25 cents will buy more energy in the form of cheese than in any of the other foods cited excepting bacon, and in this only a slight difference. Most of these foods, however, are bought in order to furnish protein, and in this cheese is the cheapest.

On the other hand, the cheesemaker should build up the quality of his product so that it is beyond reproach. One of the important points in selling a product is not only to get rid of the goods on hand, but make one sale encourage another. A shrewd business man asked for assistance to improve his cheese (a foreign type). He said: "I have sold all I have made, but nobody has taken a second order." This should be kept in mind; make your cheese of such quality that the orders will be repeated.—W. A. R.

The name of the \$106,000 Holstein bull calf, Champion Sylvia Johanna, purchased at the recent National sale at Milwaukee by Carnation Stock Farms, Oconomowoc, Wis., has been changed to Carnation King Sylvia.

Hamilton Holstein Sale.

An average of \$406.54 for 55 head was the pleasing record of the first consignment sale of Holsteins held at the Jockey Club, Hamilton, on June 25. Of the 55 head sold, 45 were females and averaged \$374.88, while 10 males averaged \$549. The grand total for the sale was \$22,360, a very creditable amount, which might have been increased, however, had some of the animals been in better condition.

Arrangements had been well made in preparation for the sale, and there must have been in the neighborhood of 350 persons gathered under the tent during the earlier part of the sale. Colonels B. V. Kelly and R. E. Haeger, of Syracuse, N.Y., and Algonquin, Ill., were successful in keeping the crowd in good humor, but in spite of the fact that very little time was lost in starting, it was six o'clock or after before the last animal was sold.

J. W. Richardson's year-old bull, Riverside Johanna Pontiac, established the high price early in the sale, going to C. Slavin, Malton, for \$2,000. This bull is out of a 29-lb. cow, Toitilla De Kol Sarcastic, who has 3 R.O.M. and 3 R.O.P. daughters, one of the latter having a milk record of 24,094 lbs. He was sired by King Johanna Pontiac Korn-dyke, an imported bull with 27 R.O.M. daughters. The high price for females was paid for Lakeview Canary Countess, who cost A. C. Hardy, Brockville, the respectable sum of \$1,400. She was consigned by Lakeview Stock Farms, Bronte, and is a four-year-old with a 31-lb. record at 3 years. Her average test was 5.13 per cent, and she was sired by Count Hengerveld Fayne De Kol. Other animals worthy of mention were Lakeview Rattler, \$1,375, and Lakeview Lestrangle Dutchland, \$1,525, consigned by Lakeview Stock Farm, Manor P. H. Flower, \$1,000, consigned by Manor Farm, Clarkson, and Ridgedale Sir Pontiac Rattler, \$960, consigned by Ridgedale Stock Farm, Palermo.

The number of head consigned by each of the consignors and the average for each lot are as follows: 16 head from Lakeview Stock Farm, Bronte, averaged \$580.93; 11 head from Manor Farm, Clarkson, averaged \$404.54; C. V. Robbins, Wellandport, 6 head, averaging \$226.66; H. Dymont, Dundas, 5 head, \$153; W. G. Bailey, Paris, 5 head, \$182; Ridgedale Stock Farm, Palermo, 4 head, \$488.75; J. W. Richardson, Caledonia, 4 head, \$766.25; Mr. Cox, Grimsby, 4 head, \$160. Individual sales over \$100 were as follows:

Females.

Lakeview Mona Rattler Girl, Harvey A. Schweyer, Jarvis.....	\$ 300
Manor P. H. Maud, D. A. Cameron, Varna.....	255
Hengerveld Queen Posch, R. B. Griffith, Granby, Que.....	255
Canary Colantha Abbekerk, Geo. Coles, Barrie.....	245
Riverside Pontiac Daisy, David Smith, Glandford Station.....	290
Bonnie Staple Echo, A. Merryweather, Bridgeburg.....	300
Molly Temple, J. E. Brethour & Nephews, Burford.....	140
Lakeview Rattler Girl, Sir Henry Pellatt, King.....	260
Lakeview Segis Rattler, Hamilton Hospital for Insane.....	130
Aaggie Wayne Korndyke, Cummings & Gosselin, Cumming's Bridge.....	285
Lady Mercena Royal, Harold S. MacLeod, Niagara Falls.....	340
Premier Johanna Posch, Geo. Coles, Barrie.....	170
Johanna Korndyke Luraine, D. A. Cameron.....	500

Males.

Lakeview Daisy 4th, Sir Henry Pellatt.....	\$ 505
Lakeview Daisy 3rd, Harvey A. Schweyer.....	400
Aaggie Pontiac Walker, D. A. Dunlap.....	800
Manor Segis Lady, H. J. Miell, Hagersville.....	265
Hilda Butter Girl, Mrs. (Maj.) Calverley, Oakville.....	495
Hilda Butter Girl 2nd, F. A. Heaslop.....	205
Riverside Pontiac Sarcastic, Donald Logan, Hamilton.....	275
Lakeview Rattler 5th, D. A. Cameron.....	320
Lakeview Rattler 6th, F. A. Heaslop.....	335
Jennie Brookbank Beets, Jno. F. Miller, Stevensville.....	165
Brook Butter Girl, Jno. C. Brown.....	150
Lakeview Dutchland Artis 2nd Segis, F. A. Heaslop.....	175
Lakeview Lyons De Kol, Geo. N. Rogers, Peterboro.....	200
Premier Pauline Sylvia, W. C. Houck, Chippawa.....	155
Bloomfield Butter Girl, Geo. N. Rogers.....	190
Manor Pontiac Calamity, J. S. Baird, Scarborough Jct.....	200
Lakeview Dutchland Artis 2nd, Heximer Bros.....	420
Lakeview Lestrangle Dutchland, R. Cooper, Welland.....	1,525
King Nicolo Sadie Keyes, T. A. Spratt, Billing's Bridge.....	195



Aaggie Pontiac Walker.

The two-year-old 20.77-lb. heifer that sold at the Hamilton sale to D. A. Dunlap, Dundas, for \$800. Consigned by Manor Farm, Clarkson.

Lakeview Rattler Sir Mona, J. H. Sherk, Kitchener	\$ 200
King Pontiac Sadie Keyes, Fred. A. Hammond, Glen Allan.....	200
Ridgedale Sir Pontiac Rattler, Wm. Cox, Hamilton.....	960
Premier Abbekerk Keyes, Roy Smye, Grimsby.....	110
Riverside Johanna Pontiac, C. Slavin, Malton.....	2,000
Count Spofford Segis Keyes, Gaiser Bros., Welland.....	220

How Much Water For the Cow?

Bearing on the question of the importance of water in the ration of a dairy cow and the varied functions it performs in the body of the animal, some very interesting experiments were conducted at the South Dakota Agricultural Station. These experiments arose out of a previous investigation into the effect of alkali water on dairy cows and dairy products, when it was realized that much remained to be learned about the utilization of water in the body of the cow. Several investigators had studied the question previously, but apparently not so much in detail as the investigations at South Dakota, although the latter still leave something to be desired as regards the extent and uniformity of the experiments.

Gilchrist had found that cows fed on either a heavy mangel ration as on pasture, give milk but little, if any, different in quantity or quality from cows fed on a ration of hay and grain. Armsby found that cows drink more water when fed a high protein ration than when fed a low protein ration. The same investigator also found that cows drink about 40 pounds more water when fed dry roughage than when fed green hay. It is well known, of course, that all feeds, even those apparently dry, such as corn or hay, contain certain percentages of water which is just as useful as water consumed in the ordinary way by the animals. Henry states that in general, the water provision for dairy cows should be about 12 1/2 gallons or about 100 pounds per day. Collier found that cows obtained 4.6 pounds of water from food and drink for every pound of milk they yielded. "Dry" feeds usually contain from 10 to 15 per cent. of water while roots such as beets, and turnips contain about 90 per cent. of water. Concentrated feeds such as wheat bran, cottonseed meal, linseed meal, gluten feed and shorts contain from 7 to 10 per cent. of water.

The object of the investigations in South Dakota was to study the effect of watering cows at different intervals and in varying amounts, upon the amount of food consumed, digestibility of feeds, composition of products and the physical condition of the cows.

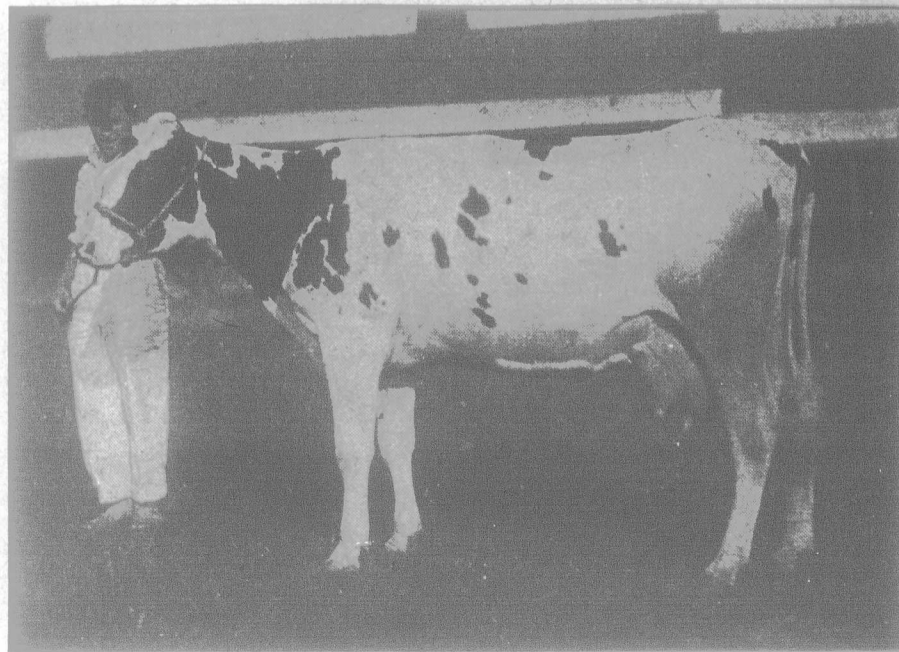
Consumption and Digestion of Food.

In these experiments it was noted that, especially in the case of hay, there was some decrease in the amount of food consumed when the cows were watered only once each day. Four cows in the first experiment together consumed about seven pounds of hay, two pounds of silage, and nine pounds of water less, daily, than when watered three times a day. Moreover, there was a slight decrease in the amount of milk produced, amounting to about two pounds per day, although it would seem that the decrease in milk did not correspond to the decrease in food consumed. During period No. 2, also the cows gained on the average eighteen pounds each when receiving water three times per day, while there was a loss of eleven pounds per cow when receiving water only once each day. It was apparent in all the trials that there was a tendency for a gain in body weight when the cows were watered at least twice a day, and a tendency toward decrease in body weight when they received water at greater intervals. During period



Riverside Johanna Pontiac.

Top price animal at Hamilton Holstein sale, June 25. This year-old bull sold to C. Slavin, Malton, for \$2,000, and was consigned by J. W. Richardson, Caledonia.



Lakeview Canary Countess.

High priced Holstein cow at the Hamilton sale. She has a 31-lb. record as a three-year-old, and was consigned by Lakeview Stock Farm, Bronte.

keep

Sheep	175
	252
	344
	446
	567
	700

Weight per Cubic Foot

22.61
23.28
23.94
24.59
25.24
25.88
26.52
27.15
27.77
28.38
28.99
29.58
30.16
30.73
31.29
31.84
32.38
32.91
33.43
33.94
34.44

are any num- record, and ch will digest and that 96 cent. will be ese artificial l by experie e practically

of cottage eese, bread, and the entire no digestive on consisted been mixed nds of milk, the cheese per cent. of was digested aken by the

e with some d of cottage ual to about his in mind, cheddar and

oc. will buy

Calories	Grams Protein
303	82
700	72
212	46
100	57
129	55
307	60
232	51
117	14
515	22

nts will buy any of the this only a owever, are this cheese

ould build beyond re-lling a pro-hand, but d business e (a foreign de, but no-ld be kept y that the

alf, Cham-at National ns, Ocono-ation King

6, when the cows received only one-half their normal ration of water, the cows lost an average of ninety-five pounds during the thirty days. When receiving all they would drink once in sixty hours, each cow lost seventeen pounds. It was also noticeable that when the cows received their full amount of water at long intervals, the expected decrease in milk production did not occur, and in view of the fact that a slight decrease in food consumed takes place and that the cows also lose weight, it is apparent that they are able to utilize water already stored up in the system for milk production and other body functions.

Frequency of watering also affects, to some extent, the amount and percentage of food digested. This is especially true in the case of crude fibre. A greater percentage of crude fibre is digested when cows receive water at greater intervals, and also when the amount of water is reduced. When the cows were watered three times a day 54 per cent. of the crude fibre was digested; when water was given once a day 55 per cent. was digested. In period 3, when they received water three times a day 55.7 per cent. was digested and in period 4, when the same cows were watered once in sixty hours, the percentage was increased to 71.07. It becomes apparent, therefore, that the lack of normal water supply causes the cow to draw upon the body storage water, but, of course, this drain of water could not continue and still keep the cow in good condition to efficiently digest her feed. Greater amounts of feed, as well as greater percentages, are digested when cows are allowed to drink all they want at long intervals, but when the supply is cut down the amount of feed is decreased. It has been generally understood from various investigations that digestion of crude fibre—which is very difficult to digest in any case—depends to a large extent on bacteria active in the digestive tracts, as well as on the action of digestive juices. It seems probable, therefore, that an increased amount of water taken into the body would retard bacterial action and it is also probable that less water taken into the digestive tract would leave the digestive juices more concentrated and therefore more effective. From the standpoint of efficient digestion of foods, the experiments conducted at the South Dakota Experiment Station indicate that it is wiser not to give an abundance of water either immediately before or immediately after feeding a heavy ration.

Effect of Water on Excreta.

It is apparent that the more water a cow drinks the greater will be the dilution taking place in the contents of the stomach. Analysis of the contents of the stomach would undoubtedly show a percentage of water closely related to the amount of water drunk. The percentage of water in the faeces and in the urine, however, do not vary much. It appears that the digestive organs are only able to absorb water very slowly after the contents of the stomach have reached a certain stage of density. In these experiments cows drank about three pounds of water for each pound of dry matter consumed. This is different, somewhat, from the statement of Kellner, who places the amount at from four to six pounds for milch cows. Henry, however, states that possibly due to their laxative nature, feeds rich in crude protein, bran, linseed meal, peas, etc., cause a greater demand for water than starchy feeds. The cows in the South Dakota experiments were not heavy producers. It was noticed that in each of the experiments, there was some difference in the ratio between the amount of water and dry matter consumed. Part of this must at least be due to increased evaporation from the skin, due to higher summer temperature during some of the periods.

The composition of the milk remained remarkably uniform during all of the experiments and, to quote from the results we find that: "It is believed from these results that the normal cow is able to regulate with great accuracy and uniformity the consumption of this natural food. When receiving only one-half of the normal water requirements it was believed that the composition of the milk or of the chief milk components would be changed. The rise of body temperature and the nervous condition of the cows resulting from this lack of water did not materially affect the composition of the milk. It is believed from these experiments that the cows would go entirely dry due to lack of water rather than to cause a change in the composition of the milk and milk components. Even this would be brought about very gradually, as the cow is evidently able to draw from her own body and thus supply water for the manufacture of milk."

Body Temperature.

The temperature of a healthy and normal dairy cow seems to be remarkably uniform. When the cows are watered once a day, it takes only about fifteen minutes for the temperature of the body to reach its lowest point. When much larger quantities of water are taken in at intervals of sixty hours, it takes about one and a half hours for the body to reach its lowest temperature. Among some breeders of dairy cattle the idea is current that there is a relation between body heat and per cent. of fat in the milk from the cow. The higher the body temperature of the cow, the greater the per cent. of fat in the milk is supposed to be. On this account some breeders have practiced blanketing cows, reducing the water and keeping the cows in a warm place in order to raise the body temperature. If this lack of water is continued very long and the cow is fed at the same time a heavy protein ration, the cow assumes a feverish condition, and the body temperature rises several degrees above normal. Such a rise in body temperature is brought about because of an accumulation of waste matter such as urea. This latter is a decomposition product from any cow and is increased in quantity by a heavy protein ration. A normal water supply is

needed to carry off this soluble poison. In thus withholding water from the large producing cows fed a heavy protein ration, there is much danger of impairing the health of the cow.

That there is some relation between the percentage of fat in the milk and the body temperature of the cow was brought out by some separate experiments conducted in connection with these investigations. A difference of nearly one per cent. in the fat content of the milk was brought about by raising the temperature of the room from 69 to 104 degrees, and the body temperature of the cows from 101 to 104 degrees. The amount of fat, however, did not increase in the same ratio, since there was a daily decrease of milk which to a large extent offset the higher fat content.

Physical Condition of Cows.

Withholding water from cows induces nervousness, a gaunt appearance and a higher body temperature. The nervous condition is due directly to a craving for water and was especially noticeable when cows were receiving only one-half their normal ration. They would crowd up in their stalls, with heads erect and a tense expression in their eyes. They would also continually shift from one foot to the other and crowd ahead on to the stanchions, mooring in a low tone. It is also apparent that where less water is given much more of the food is required for the purpose of supplying energy to accomplish the body functions. This was evidently due to three reasons: first, the efficiency of the cows to carry on life's functions was probably decreased; secondly, the cows were more active due to the craving for water, and thirdly, the higher body temperature required more energy to lower it.

It will thus be seen that water performs a large number of different functions in the body of the cow and the importance of supplying abundant quantities of pure, fresh water can scarcely be over-estimated. Probably the best source of supply for drinking purposes for dairy cattle is deep well water, pumped into a tank or cement trough. Running streams or springs probably rank next in desirability. Ponds are not objectionable if they contain clean water, but they are so frequently contaminated by drainage water and stock so frequently wade through them, that the water is often polluted to such an extent that it is entirely unfit for drinking purposes. Not only will cows take in impure water, but under such conditions they are not as likely to drink their full requirements as if the water were pure and wholesome.

United States Holstein Men Meet.

The 1918 annual meeting of the Holstein-Friesian Association of America was held at Milwaukee, Wis., June 5th, four hundred and twenty-eight members being present. The President, D. D. Aitken, of Flint, Mich., opened the meeting, which was the thirty-third annual convention of the Association. Several amendments to the by-laws of the Association were introduced and voted upon. One of these referred to the advanced Register, the following being substituted for Rule 1, referring to the conduct of official tests: "Any registered Holstein-Friesian cow may be entered in semi-official long-time tests whose average daily fat production during her first monthly official test period may exceed by ten per cent. the daily average requirement for like age in a seven-day test; and, provided she meets the long-time requirements and the test be approved by the Superintendent, the cow may be admitted to advanced registration as A. R. S. O. and the record entered in the Advanced Register." It was also voted to authorize the entry of cows in the Advanced Register on semi-official records with due credit to the sire for each daughter entered.

Applications for membership to the number of seventy-five were filed at the meeting, and these, together with 648 accepted on June 4, and 1,195 reported April 30, make a total of 1918 new members to June 1, and a grand total of 11,462. The usual banquet was held after the meeting, a very large attendance necessitating the securing of additional accommodations. Dr. E. V. McCollum, of John Hopkins University, was the principal speaker. Next year's convention will take place in Philadelphia. The President's address dealt with the war-time effort of the Holstein cow and the necessity for correct conceptions of type and breeding on the part of Holstein breeders. He stated that he believed eighty per cent. of all the high record cows are reasonably true to type.

The cash balance of the Association is \$45,279.97, while the total expenses for the past year were \$229,379.93. The Association now carries in its reserve and surplus \$205,000 in Liberty Bonds and \$52,651 in high-class railroad bonds. The officers were re-elected as follows: President, Hon. D. D. Aitken, Flint, Mich.; Vice-Pres., G. Watson French, Davenport, Ia.; Secretary, Frederick L. Houghton, Brattleboro, Vt.; Treasurer, Wing R. Smith, Syracuse, N. Y.; Superintendent of Advanced Registry, Malcolm H. Gardener, Delavan, Wis.

Cost of Handling Cheese.

"The Farmer's Advocate" is in receipt of a letter from Messrs. Jones-Grant-Lunham, Limited, Montreal, cheese and butter exporters and provision merchants. The letter is concerned with the cost of handling cheese purchased by dealers from cheese boards and factories from the time of purchase until it is taken over and paid for by the Dairy Produce Commission. The cost of handling this particular lot of cheese has already been given publicity in the daily press, but we are giving space to this letter because we believe it will be of interest to many of our readers, some of whom may be in a

position to provide further light on the subject of cheese prices as paid by the Dairy Produce Commission and their relation to the price which should be received by the cheese manufacturer.

Messrs. Jones-Grant-Lunham believe that farmers are not conversant with the cost of marketing cheese, and it is desirable in their opinion that these costs should not be underestimated. Their letter follows:

"Knowing the intense interest that you take in all matters respecting farmers, and knowing that you always considered the farmers' interest as of paramount importance, we have pleasure in submitting to you a statement covering the actual results on 150 boxes of "Cherry Valley" factory cheese purchased by us at Picton and paid for on June 4. In this case we attach the detailed disbursements connected therewith. We have had the pleasure of a visit from Mr. A. M. Platt, who is also the salesman of this particular factory, to whom we have given a copy of this statement and furnished him with all corroborative vouchers and receipts connected therewith. You will easily see that for all cheese purchased in excess of 22 1/4 cents f. o. b. there must necessarily be a loss to the exporters under the conditions as they are at present." The statement follows:

150 B/C net weight 12,856 lbs., bought at 22 9/16c. f.o.b. Picton.....	\$2,900.63
Exchange on draft.....	2.80
Paid our buyer 1/2c. commission, for which he guarantees quality and weights, Montreal.....	16.07
Boat freight, Picton to Montreal, 13,000 lbs. at 23c. per cwt.....	29.90
Cartage from boat to warehouse, 150 boxes at 3c. per box.....	4.50
Warehouse and storage charges, 150 boxes at 3c. per box.....	4.50
Cooperage, fire insurance and office expenses on 150 boxes at 5c. box.....	7.50
Cartage outwards warehouse to boat, 150 boxes at 3c. per box.....	4.50
Wharfage and port warden charges, 1c. per box.....	1.50
War risk insurance whilst on dock, 5c. per \$100. 3 weeks and 3 days' interest on \$2,950 at 6%.....	10.25
	\$2983.65
By 12,856 lbs. cheese sold commission at 23c. per lb.....	\$2,956.88
Actual loss on transaction.....	\$26.77
These cheese were paid for at Picton on June 4, 1918, Received in Montreal.....	June 7,
Tendered to Commission.....	June 8,
Inspected by Commission.....	June 10,

Shipped on instructions from Commission, June 17, on on S.S. Sicilian, and will not be paid for by them until boat is out to sea—when we do not know—as we are informed that boats are held, and sail only on instructions from Admiralty.

NOTE.—When cheese go into cold storage "the cost will be about 6c. per box higher."

POULTRY.

Summer Care of the Fowl.

EDITOR "THE FARMER'S ADVOCATE":

At no time of the year does cleanliness count for more in the poultry business than when the warm weather commences. Fowls kept in closed, stuffy sleeping quarters cannot be kept in a really healthy condition or give very good returns. It would be much better to have the windows removed from the poultry house, to have them cleaned and stored away in some place where they could not be damaged until needed again, and a piece of wire netting put in the place of the glass window, which will keep out any vermin such as cats, dogs, skunks, etc., and at the same time allow more fresh air for the birds. Many of the losses among adult fowls in the summer season are the result of unhealthy roosting quarters.

The poultry house should be thoroughly cleaned. Give the roosts a good coat of kerosene or some liquid lice killer, clean out the nests and burn the old nesting material, then give them a good thorough whitewashing inside and out, leaving them to dry in the sun for a while. A good thorough whitewashing of the whole interior of the house will make the place more sanitary. If the floors are of earth, remove a few inches of the top soil and replace with some fresh, sandy soil. If they are of wood or cement, scrape and sweep them clean, then wash them with a fairly strong disinfectant solution. Sunshine combined with fresh air is one of the best germ destroyers we have, but it is also possible to have too much sun for the fowls if some kind of shade is not provided in very hot weather to be used when needed.

Colony houses scattered through an orchard make a very desirable place for fowls or growing chickens. Always provide plenty of pure clean drinking water in clean pans and keep it in a sheltered place out of the sun. Be sure the adult birds are not too heavily fed on any of the fat producing foods, especially corn or buckwheat. Select the fowls which you do not intend to hold over for another breeding season and sell them early when the price is high and while they are in good condition, before they commence to moult. The fowls which are to be kept over as breeders, and also all growing chicks intended for stock birds should be given liberal range.

Free range where there is an abundance of green food and also, animal food in the form of insects, worms, etc., to be had is very essential to the best growth, health, vigor, and vitality in stock intended for either breeding or laying purposes.

Success in any branch of the poultry business depends very much upon careful attention to the small details

so often neglected. A flock of birds well fed and watered one day, and allowed to go without anything next day will never break any egg records or pay very large dividends on the investment.
Chateaugay Co., Que. J. D. L.

HORTICULTURE.

Home Grown Seeds.

EDITOR "THE FARMER'S ADVOCATE":

Before spring I looked over a number of books on gardening with which enterprising publishers have been catering to the public. I am not writing to spray these volumes with cold water because most of them serve a more or less useful purpose, but they need to be applied with common sense and lots of elbow grease, and after all, there are some things one must learn by experience. Very often they seem to contain nearly everything but the particular bit of information needed—some detail in practice upon which a good or poor crop turns. And then, the cock-sure way in which these war garden boosters lay down the law to the man or woman with the hoe, is either disconcerting or amusing. Here is a maxim to the point from one of them:

"It is dangerous for an amateur to depend upon seed of his own saving for much skill and experience is required to save good seed, and an amateur may lose a great deal of valuable time waiting for seeds that never germinate."

Having tried it, I have simply to say that it is not "dangerous," but decidedly beneficial, interesting and a great help to accurate knowledge. As most of your readers recall, 1917 was a trying season for maturing many sorts of seeds, but I have relied on Golden Bantam and Golden Nugget sweet corn seed of my own saving, and could not ask for better germination. Every kernel seems to have sent up a vigorous shoot. Ripening beans was a most exasperating process last fall, and yet the home-grown seed of the yellow-podded Kentucky Wonder is coming along just as well as the original stock did a year ago and some newly purchased seed as well. By the way, it's a climber, but like horses and other things bearing the Kentucky brand, it is some bean in quality and yield and well named.

But to turn to smaller seeds, more troublesome to handle, like the tomato. I saved seed of eight varieties grown in 1917, and though I have in the past obtained seeds from most of the well-known houses, I have never had a better stand of plants in any respect than these in germination, type and vigor. I like to be exposed to such "dangerous" trials and have no regret that I was bull-headed enough to take the risk notwithstanding this book-maker's warning. But some one says: You've tried that before! Yes, but there was no more trouble about securing reliable seed the first time than the last. If any readers wish to try saving tomato seed for themselves this season, the plan followed was to choose a well-loaded vine and then select two or three large, smooth, early-maturing fruits, leaving them on the vine to ripen or, what will hasten the reddening, tie small grocery paper bags about them. They were set aside in marked strawberry boxes and the first rainy hour after they were "dead ripe" I squeezed out the seed pulp and put it to soak with added water in labelled cocoa tins for a few days; then washed and strained out the seed, dried it on blotting paper sheets on top of the range or in the sun, and put it away in marked envelopes where mice and moisture could not invade. In saving sweet corn I tie a bright string around, say twice as many good, maturing ears as I am likely to need for next season's planting. These are left to ripen on the stalks, when they are pulled and after being thoroughly dried and husked are hung up in small cotton bags such as those used for sugar or fine dairy salt.

This season I have had equally satisfactory results with home-grown 1917 Yellow Globe Danvers onion seed. After the balls of seed were ripened, dried and shelled, they were immersed in a pan of water several times and the culls skimmed off. The good seed sinks and this is again dried perfectly in a fine-meshed strainer or sieve. The more perfectly seeds are matured and dried, without extremes of temperature, the longer they will retain their vitality, and it is well to have some over in case of shortage the next year.

Turning from things to eat to things to look at—for happily we need more than war bread to live—I know by a little experience that one can rely upon home-saved seed of many floriferous beauties, annual, biennial and perennial, such as the fine old double Hollyhock; the gorgeous Oriental Poppy; the stately multi-colored Foxglove; the cheery, branching Canterbury Bell; that profuse autumn bloomer, Cosmos and the resplendent Aster, which in our open Canadian gardens rivals the hot-house Chrysanthemum.

As a rule, our seedsmen will be found reliable. In the long run, it does not pay to be otherwise and the majority of growers will continue to depend upon them, but I predict that increasing numbers of Canadians, some for home use and others on a commercial scale, will take to growing choice vegetable and flower seeds. The seed trade will be benefitted rather than otherwise by persons here and there becoming expert in seed production. There are opportunities ahead in Canadian seed growing and useful suggestions in "The Farmer's Advocate" from the experience of others, would be appreciated by amateurs like myself. It takes some time but it is time well spent, and how many hours even during the stress of war are less usefully employed. With many it is a matter of will rather than time. It promotes habits of carefulness, and there is an intense satisfaction in realizing that one has produced something

as good or better than the garden ever grew before. One also determines the varieties and types best adapted to the locality. All this is a wholesome, relieving tonic from sorrows or sordidness, just as the spirit of liberty and heroism shines out against the black, murky cloud of Germanism that threatens to engulf the world.
Middlesex Co., Ont. W. T.

Transportation Pointers.

We learn from G. E. McIntosh, in charge, fruit transportation, Fruit Branch, Department of Agriculture, Ottawa, that some changes are proposed in express classification which will be of interest to fruit growers. The Express Traffic Association has made application to the Board of Railway Commissioners for approval of certain changes and additions to Section No. 22, page 11, referring to the conditions of carriage, the following being of interest to fruit growers and shippers:

(a) Each package, bundle or loose piece in a shipment must be plainly, legibly and durably marked, showing the name of only one consignee, and of only one station, town or city and province to which destined. Unmarked marks must be removed or effaced by the shipper.

(b) Shipments wrapped in paper, or packed in boxes, crates, barrels, corrugated strawboard, pulpboard or fibreboard containers must be marked with pen, brush, stencil, waterproof crayon, or by label securely attached with glue or equally good adhesive.

(c) Nursery stock and trees in bundles or bales must be marked with not less than two tags, securely attached, and when in bales, shippers should place a duplicate address tag inside the bale for the purpose of identification.

(d) Lot Shipments—Except when in carloads, each package or article in a lot shipment must be marked in compliance with these requirements.

Another decision which will be of primary interest to British Columbia strawberry growers is that referring to the weight which is to be allowed for strawberry crates by express companies. The size of the full pint crate is 19 1/2 inches by 14 1/2 inches by 6 3/4 inches, and the tariff estimated weight, applicable last season, was 22 pounds. Until an estimated weight is decided upon, the Dominion Express Company have agreed to accept the actual weight instead of 22 pounds.

With reference to the amendment to the Fruit Marks Act having to do with pilfering of fruit, the transportation companies are arranging to post notices in express cars and at shipping points for the information and guidance of employees. The public will also be advised through the press and by bulletin.

A Monster Greenhouse.

Readers who are interested in the growing of vegetables would have appreciated a recent visit that we made to one of the largest greenhouses in the Province of Ontario. This house is located on the Toronto-Hamilton highway, just a short distance out of Hamilton, and is owned by George Unsworth. Mr. Unsworth is the type of man who might be called venturesome, by some people, for having erected a greenhouse 375 feet long by 51 feet 2 inches wide, when he already had five greenhouses of ordinary size which look now, however, very small indeed compared with the mammoth structure recently completed.

This large house is of the very best iron frame construction with lapped glass and a ventilating system which makes it possible to control temperatures very easily. At present there is a splendid crop of tomatoes in all of the houses. Mr. Unsworth swears by a variety of his own which he calls "Sunset". The ripe fruits will run about five to the pound and are from all appearances fairly smooth and developing upon even trusses. The crop in the house at present is late, from the fact that the completed house was supposed to have been turned over to the owner in December, but Mr. Unsworth was not able to plant anything in it until March 1. A crop of lettuce was immediately put in which, was followed, as the lettuce was taken off, by tomatoes. Consequently, the tomatoes are not as far forward as they would otherwise be. However, Mr. Unsworth expects to take off very nearly if not quite a full crop, which he intends to follow with melons. This will be a more or less risky proposition, perhaps, but by getting the crop of melons on the market shortly before Christmas the owner believes the crop can be made to pay him well.

Some idea of the size of this immense greenhouse may be gleaned from the fact that the house holds seven thousand plants. For the last four years, in the smaller houses which Mr. Unsworth has, he has secured an average yield of ten pounds per plant, and he hopes to equal this average from the present crop in the larger house. All the tomatoes are marketed wholesale, and it is probable that something in the neighborhood of thirty-five cents per pound will be received for the present crop. A fair share of the house is well mulched with manure, but labor conditions are such that it was impossible to cover the whole house. However, the showing for fruit is excellent and the plants are in a very vigorous and healthy condition. Mr. Unsworth relies chiefly upon wind and proper ventilation to secure effective pollination, but where necessary a camel's hair brush is used. The temperature of the house is kept at about sixty-five degrees in the shade for tomatoes, but at this season of the year Mr. Unsworth states that he does not object if the temperature rises to one hundred degrees sun heat. We enquired as to whether he had ever experienced a disease which has been more or less common in some greenhouses for the last two or

three years, particularly in the Hamilton district. It is a physiological disease, the cause for which has not been ascertained but which has caused enormous loss to some growers of indoor tomatoes. Mr. Unsworth stated that he has fought this disease for four years, and finally came to the conclusion that he himself was to blame, since, after he had revised his methods of ventilation and watering, he was able to prevent further recurrence of the disease and has never been troubled since.

The plants in the house at present are to be allowed to form six trusses of fruit and are staked at one end by steel rods, which we are informed can be purchased for about six cents each. The remainder of the house is staked with bamboo rods, costing about \$17.50 per thousand. Mr. Unsworth's specialty is really lettuce, he having grown it for years and established a trade which at present will take more than he can grow. He has taken off in a single day as high as 450 or 500 dozen.

One feature of Mr. Unsworth's small farm which was not connected with the greenhouse, but which was nevertheless very interesting, was the use of about six or eight acres of land for gardening by people coming from the city. This land was apparently being used to good advantage and the crops were being kept in excellent condition, the workers being mostly doctors and business men from Hamilton who ran out to the farm whenever they could snatch an hour or two from their business. Mr. Unsworth was very proud of the good work these men were doing and seemed very glad to see his land devoted to some good purpose by these families from the city.

Staking Tomatoes.

A great deal could be added to the profitableness of a few tomato plants for the garden if a few added precautions were taken to get the most from the plants that they can produce. The space devoted to the garden is usually more or less limited and, particularly in a well conducted farm garden, the rows are placed far enough apart to permit of horse cultivation in order to save labor.

Chief among the possibilities for getting better results from the tomato plants is the use of stakes for training the plants instead of allowing them to sprawl all over the ground so that it is difficult to work among them, and so that the fruit usually gets very dirty and rots easily. It is a comparatively simple matter, about the average farmyard to find enough stakes about 6 feet long and not too heavy, to stake each plant. This should be done a few days after the plants are set so that as they grow, the plants can be tied to the stakes. Binder twine can be used but strips of old cloth are better, since there is not so marked a tendency to injure the vines by the weight which hangs on the string. Tying should be frequent enough also, so that the plant will not be called upon to bear too great a strain at any one place. The proper place to do the tying is just under the strong leaf-stem, since if tied above the leaf-stem the plant could more easily sag and hang loosely.

Ordinarily, when vines are allowed to sprawl all over the ground, the shoots which develop in the axils of the leaves, are allowed to grow and develop fruit stems, thus usurping to a certain extent the true function of the remainder of the plant. These shoots should be pinched out as soon as noticed leaving nothing but the main stem and the true leaves. These will produce and ripen all the fruit the plant is capable of bearing and maturing. The main stem can in this way be trained up rapidly to the top of the stake, when it should be pinched off at the growing point. A six foot stake will be high enough to permit the plant to bear several large clusters of fruit and they will begin to ripen from the bottom up. It may be, and probably will, that not all the fruits can mature before the frost catches them, but there is usually a demand for tomato pickle and the green fruits can be used to good advantage for this purpose. In any case, were the fruit not trained upon stakes, there would be much larger quantities of fruit which would still be green at time of frost.

Successional Garden Plantings.

A small area planted to garden vegetables may be made to grow a great variety and a very considerable quantity of vegetables if the fullest use is made of the ground and if the proper combinations of crops are made. The garden should be planned so that crops which work well together such as parsnips and lettuce, for instance, or lettuce and radish, may be planted in the same row, because one will be up and ready for use before the other, or, if both come up together they will not interfere with each other.

At this season of the year, however, we are not concerned so much with companion cropping in the garden as how we can use the space which will be left when the early crops come off. Successional planting, or following one crop with another on the same ground and the same season can be practiced very satisfactorily in such a way as to conserve considerable space. Sometimes the second crop may be planted on a piece of ground the very same day the first is taken off, although it is frequently advisable, if the most is to be made of the second crop, to dig over the ground and work in some more manure, raking down well before setting the new plants.

Some examples of successional plantings illustrating this means of conserving space in the garden are the following: Early beets followed by celery; early beans followed by turnips; lettuce or onions sets followed by tomatoes; radishes followed by tomatoes; spinach, lettuce or radishes followed by cabbage or cauliflower.

Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending June 27.

Receipts and Market Tops.

Dominion Department of Agriculture, Live Stock Branch, Markets Intelligence Division

	CATTLE						CALVES					
	Receipts		Top Price Good Steers (1,000-1,200)				Receipts		Top Price Good Calves			
	Week Ending June 27	Same Week 1917	Week Ending June 20	Week Ending June 27	Same Week 1917	Week Ending June 20	Week Ending June 27	Same Week 1917	Week Ending June 20	Week Ending June 27	Same Week 1917	Week Ending June 20
Toronto (Union Stock Yards)	5,133	5,236	5,902	\$16.00	\$12.25	\$16.00	1,451	1,151	1,568	\$17.00	\$15.50	\$15.50
Montreal (Pt. St. Charles)	1,155	628	993	15.25	11.80	17.10	2,388	1,920	2,278	15.00	13.00	16.00
Montreal (East End)	1,101	630	1,018	15.25	11.80	17.10	1,241	1,185	1,517	15.00	13.00	16.00
Winnipeg	2,728	2,006	3,084	15.50	11.00	15.25	256	118	261	16.00	13.00	16.00
Calgary	991	538	1,161	13.00	9.30	13.75						
Edmonton	441	321	350		9.00	13.60	31	3	91	14.00	9.00	14.00

	HOGS						SHEEP					
	Receipts		Top Price Selects				Receipts		Top Price Good Lambs			
	Week Ending June 27	Same Week 1917	Week Ending June 20	Week Ending June 27	Same Week 1917	Week Ending June 20	Week Ending June 27	Same Week 1917	Week Ending June 20	Week Ending June 27	Same Week 1917	Week Ending June 20
Toronto (Union Stock Yards)	6,244	5,770	5,048	\$18.00	\$16.50	\$18.00	1,236	1,913	1,404	\$22.00	\$18.00	\$21.00
Montreal (Pt. St. Charles)	987	1,320	903	19.25	16.25	19.25	746	401	184	22.00	9.00	22.00
Montreal (East End)	927	840	915	19.25	16.25	19.25	605	495	187	22.00	9.00	22.00
Winnipeg	6,286	5,815	5,122	18.50	15.25	18.00	137	195	82	18.50	18.00	18.00
Calgary	2,990	2,372	2,768	17.35	14.90	17.25	552	325	39		18.50	
Edmonton	658	592	240	17.00	14.25	17.00	50	45	2			

Market Comments.

Toronto (Union Stock Yards).

In a week of featureless trading, cattle prices made further declines and quotations on the closing market were fully 50 to 75 cents lower than those of the previous week. Only a very small proportion of the cattle offered had been stall-fed and the bulk of the grass cattle showed scarcely sufficient finish to command the highest prices. Quotations on the market were receding in sympathy with the lower figures on the Buffalo and Chicago markets, and this, together with the drop in quality, succeeded in making cattle quotations considerably lower than those of two weeks ago. As deliveries become heavier during the next month or two, further declines must be expected. With thirty-five hundred head of the week's total of fifty-two hundred head of cattle on the Monday market, trading was inclined to be sluggish, and prices were down 25 to 50 cents per hundred on all excepting really choice animals. As the week advanced quotations showed further declines and on Wednesday and Thursday common stock was hard to sell. No really choice heavy cattle were on sale and the best loads of heavy cattle sold from \$15 to \$15.75 per hundred. Of steers weighing from ten hundred to twelve hundred pounds, one load totaling twenty-five head averaging ten hundred and twenty pounds sold on Monday at \$16.25 per hundred, the top price of the week. A few loads sold at \$16 while several other good loads were weighed up from \$14.75 to \$15.50. On Wednesday most of the good loads sold from \$14 to \$14.75. Steers and heifers under ten hundred pounds sold as high as \$15, one load of twenty-five head, averaging nine hundred and ninety-five, selling at that figure, while the larger proportion sold from \$13.75 to \$14.50. Medium cattle realized from \$12.50 to \$13.50, and common eastern cattle from \$8.50 to \$10.50 per hundred. Bulls sold fairly well all week and prices held steady, the quality being well maintained. Really choice heavy bulls sold from \$11.50 to \$12.50, while an odd sale or two was made at \$13, medium bulls sold from \$10 to \$11, and bologna bulls from \$8.50 to \$9.50 per hundred. Cow receipts were heavy and prices in this class suffered accordingly. While a few of the choice cows sold at \$12.50, most of them were weighed up from \$11.50 to \$12.25, and a few at \$12.50. Good cows realized from \$11 to \$11.75, medium cows from \$9.50 to \$10.50, and common cows from \$8 to \$9. There was a small movement in stockers and feeders, in which good feeders sold from \$11.50 to \$12.25, and good stockers from \$10.75 to \$11.50. Calve prices are having an upward tendency and choice veal calves sold during the week from \$16 to \$17 per hundred, and those of medium quality from \$13 to \$15.

Sheep were in slow demand. Choice light sheep sold from \$13 to \$14.50 per hundred, and heavy sheep and bucks from \$10.50 to \$12. Spring lambs were weighed up at from \$20 to \$21 per hundred. Quite a number of useful breeding ewes are now being marketed and farmers desiring to start a new flock or increase their present holdings, should be able

CLASSIFICATION	No.	TORONTO (Union Stock Yards)		MONTREAL (Pt. St. Charles)	
		Avg. Price	Price Range Bulk Sales	Avg. Price	Price Range Bulk Sales
STEERS heavy finished	210	\$15.47	\$14.75-\$16.00		
STEERS good	356	14.76	14.00-15.75	91	\$14.50-\$15.25
STEERS 1,000-1,200 common	19	12.97	12.50-13.50		
STEERS good	438	14.26	13.00-14.75	176	13.75-14.50
STEERS 700-1,000 common	214	12.19	11.50-12.50	75	12.00-13.00
HEIFERS good	363	14.89	13.75-15.50	47	12.25-15.00
HEIFERS fair	273	12.48	11.75-12.75	45	9.25-9.50
HEIFERS common	48	10.96	10.00-11.50	70	8.25-8.50
COWS good	1,143	11.00	10.50-11.50	118	10.50-11.00
COWS common	870	9.26	9.00-9.75	357	8.75-9.50
BULLS good	113	11.43	11.00-12.00	27	11.25-12.00
BULLS common	83	9.78	9.00-10.50	68	9.00-9.50
CANNERS & CUTTERS	135	7.00	6.50-7.25	36	6.25-7.00
OXEN				6	
CALVES veal	1,451	14.20	13.00-15.00	2,352	12.75-13.00
CALVES grass				36	10.50-11.00
STOCKERS good	356	10.83	10.00-11.50		
STOCKERS 450-800 fair	281	10.00	9.00-10.50		
FEEDERS good	151	12.20	11.50-12.75		
FEEDERS 800-1,000 fair	80	11.59	11.00-12.00		
HOGS selects	5,774	18.00	18.00-18.00	904	19.00-18.75-19.25
HOGS heavies	79	18.00	18.00-18.00		
HOGS (fed and watered) lights	149	16.62	16.00-17.00	25	
HOGS sows	233	16.42	16.00-17.00	53	16.00-15.75-16.25
HOGS stags	7	14.00	14.00-14.00	5	
LAMBS good	273	18.08	15.00-22.00	84	21.00-20.00-22.00
LAMBS common	11	15.82	13.00-19.00		
SHEEP heavy	456	11.93	10.50-13.00		
SHEEP light	347	13.82	12.00-14.50	250	14.25-14.00-15.00
SHEEP common	149	8.00	7.00-9.00	412	13.00-11.00-13.50

to purchase now as reasonably as at any time during the next few months. There was no change in hog prices during the week, select hogs selling at \$18 per hundred, fed and watered. Buyers state that the outlook is for steady prices. The quality continues to be good, while the average weight is in the neighborhood of two hundred pounds, compared with one hundred and sixty to one hundred and seventy pounds at the similar period of last year. Of the disposition from the Yards for the week ending June 20, Canadian packing houses purchased 947 calves, 72 bulls, 90 heavy steers, 3,713 butcher cattle, 4,912 hogs and 1,269 sheep. Local butchers bought 562 calves, 414 butcher cattle, 287 hogs and 644 sheep. Canadian shipments consisted of 86 calves, 69 milch cows, 81 butcher cattle, 438 stockers, 240 feeders and 53 sheep. Shipments to United States points consisted of 65 calves, 20 butcher cattle and 28 feeders. The total receipts from January 1 to June 20, inclusive, were: 117,229 cattle, 31,547 calves, 176,304 hogs and 14,895 sheep; compared to 107,536 cattle, 26,817 calves, 242,164 hogs and 14,146 sheep, received during the corresponding period of 1918.

Montreal. The drovers, buyers and trade in general had been predicting a decline in price as due about the end of June, but the fall in price was much larger than had been anticipated. Instead of a cut of \$1 to \$1.50 per hundred, that appeared likely on Saturday and early on Monday, the market broke \$1.50 to \$2 per hundred on nearly all grades of beef cattle. One drover who refused \$10.40 for cattle on Monday which he had expected to sell from \$11 to \$11.50, sold on Tuesday for \$9. Three or four drovers reshipped their cattle home, a few lots were placed in rented pastures near Montreal, and a number of head remained on the market. There were various reasons given for the decline in prices. It was stated that the prices paid during the past few weeks were higher than the prices of dressed meat warranted, but were paid in order to secure stock to supply customers. Another cause for the reduction was that grass-fed stock is of less killing value than the stable-fed stock. Furthermore, the retailers will only handle fresh killed beef at this time of year, and as the supply was too great for immediate consumption, the balance would have to be frozen and sold later at a reduced figure. Another

quite apparent reason was that the run was heavy enough to enable the buyers to set their own prices. The packers say they are prepared to handle more cattle than are likely to be offered provided that they can buy at prices that will permit them to bone the meat and freeze it. Steers that were bought expecting to sell at last week's prices, sold for \$14 to \$15.25 and offers of \$11.50 to \$12 were made for steers that on the previous market would have brought \$13 to \$13.75. In the same way cows, the equal of which had been selling for \$10.75 to \$11.50, sold around \$9. Bulls went as low as \$7.50. One lot of steers averaging about eleven hundred and ten pounds sold for \$15.25, another lot of about equal weight but not as breedy sold for \$14.50, and a number of grade steers weighing ten hundred to ten hundred and fifty sold for \$14. Out of one shipment, seven steers weighing around eleven hundred pounds sold at \$14, three steers weighing ten hundred and ten pounds sold at \$13.75, sixteen steers averaging nine hundred and sixty pounds at \$13.40 and eighteen head made up of six good cows and the balance steers averaging in all eight hundred and twenty pounds, sold for \$10.40. One heifer weighing thirteen hundred and sixty-five pounds

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sold for \$15. Four of the best cows averaging a little under twelve hundred pounds sold at \$11; one good bull, beef breed, weighed nineteen hundred and thirty pounds and sold for \$18, and a number of bulls averaging fifteen hundred pounds, of various breeds, sold at \$12, while the majority of the bulls sold from \$8 to \$10. Owing to the purchase on this market of about twelve hundred calves for shipment to the United States, the price remained firm. While the receipts of calves from the district about Montreal and west are falling off, the receipts from the east are increasing so that the supply was about equal to that of the previous week. Prices for good veal calves ranged from \$14 to \$15 per hundred, those of medium averaged about \$13, and the low-grade stock from \$10 to \$11.

Receipts of sheep and lambs are steadily increasing, thirteen hundred and fifty being on the market during last week. Very common sheep sold at about \$12 per hundred, and better grades up to \$15. Spring lambs sold at \$12 to \$14 each, or \$20 to \$22 per hundred. Prices for hogs weighed off cars remained at \$19 to \$19.50. The hogs offered averaged two hundred pounds or more in weight.

Of the disposition from the Yards for the week ending June 20, Canadian packing houses and local butchers purchased 2,278 calves, 46 canners and cutters, 87 bulls, 843 butcher cattle, 903 hogs and 426 lambs. There were no shipments to United States' points during the week.

The total receipts from January 1 to June 20, inclusive, were: 15,650 cattle, 36,682 calves, 29,382 hogs and 6,386 sheep; compared to 16,820 cattle, 35,098 calves, 42,578 hogs and 6,025 sheep, received during the corresponding period of 1917.

EAST END.—Of the disposition from the yards for the week ending June 20, Canadian packing houses and local butchers purchased 1,377 calves, 979 butcher cattle, 913 hogs and 382 lambs. Canadian shipments consisted of 140 calves, 39 butcher cattle, 2 hogs and 113 lambs. There were no shipments to United States' points during the week.

The total receipts from January 1 to June 20, inclusive, were: 13,895 cattle, 30,251 calves, 18,381 hogs and 6,456 sheep, compared to 17,818 cattle, 28,943 calves, 22,926 hogs and 7,480 sheep, received during the corresponding period of 1917.

Buffalo.

Cattle.—Cattle market has not been more demoralized at Buffalo in many years than it was last week, the result of an order by the Food Administration cutting down beef consumption to practically one day a week and limiting beef eating to families. The result, with runs liberal and the coolers filled, with retailers buying very lightly was that prices took a heavy tumble, values on most of the butchering stuff dropping from \$1 to \$2 per hundred, while on the best steers and choice butchering steers and heifers a full half dollar to a dollar was had. At the decline, there was the least demand Buffalo has had in many a month. There were a few loads of Canadians, some prime, good weight shipping steers, best of which sold at \$16.75, a full dollar lower than for the preceding week. Canners and cutters suffered the least decline. Stockers and feeders were off from seventy-five cents to a dollar and

dairy cows of all kinds ruled from \$5 to \$10 per head lower. Trade was slow and dull all week and some offerings here on Monday had not been placed the latter part of the week. Sellers do not think that this situation can last, as they believe the orders from Washington will be changed and that there will be freer outlet for beef. Offerings for the week were liberal, being 5,975 head, as against 6,375 head for the previous week and as against 4,275 head for the corresponding week a year ago. Quotations:

Shipping Steers—Natives—Choice to prime, \$17 to \$17.75; fair to good, \$16.50 to \$16.75; plain and medium, \$13.50 to \$15; coarse and common, \$11.50 to \$12.50.

Shipping Steers—Canadians—Best, \$15.50 to \$16.25; fair to good, \$14.25 to \$15.25; common and plain, \$12.50 to \$13.25.

Butchering Steers—Choice heavy, \$16.75 to \$17.50; fair to good, \$15.25 to \$16.50; best handy, \$15 to \$15.50.

Cows and Heifers—Best heavy heifers, \$13 to \$13.25; fair to good, \$12 to \$12.50; good butchering heifers, \$11 to \$11.75; fair butchering heifers, \$9 to \$10; common, \$8 to \$8.50; very fancy fat cows, \$11 to \$12; best heavy fat cows, \$9.50 to \$10.50; good butchering cows, \$9 to \$9.25; medium to fair, \$8.50 to \$8.75; cutters, \$7.25 to \$7.50; canners, \$6.75 to \$7.25.

Bulls.—Best heavy, \$11.50 to \$12; good butchering, \$10.50 to \$11; sausage, \$9.50 to \$10.50.

Stockers and Feeders—Best feeders \$10 to \$10.50; common to fair, \$9 to \$9.75; best stockers, \$9.50 to \$10; fair to good, \$8.75 to \$9.25; common, \$7.50 to \$8.

Milchers and Springers—Good to best (small lots) \$100 to \$140; in carloads, \$80 to \$100; medium to fair, (small lots), \$75 to \$85; in carloads, \$65 to \$80; common, \$45 to \$50.

Hogs.—Market occupied a more favorable position last week. Demand was good and prices, with the exception of one day, were stronger. Monday most of the hogs sold at \$17.40, few made \$17.50 and pigs reached up to \$18. Tuesday values were five to ten cents lower on good hogs, with pigs showing a decline of a quarter and Wednesday prices on all grades, except pigs were up 10 to 20 cents. Tuesday's market was steady to a dime higher, good handy mixed hogs and Yorkers, which comprised the bulk of the receipts, being placed at \$17.50 and \$17.60. Friday values were still higher. Pigs were on top, selling up to \$18, Yorkers and mixed grades sold from \$17.65 to \$17.75 and heavies were ranged from \$17.25 to \$17.50. Roughts \$15 and \$15.25 and stags \$12 down. For the past week receipts were 17,700 head, as compared with 16,479 head for the week before and 21,200 head for the same week a year ago.

Sheep and Lambs.—Prices, notwithstanding that receipts were light, showed some heavy declines last week. No spring lambs sold Monday above \$20 and before the week was out, or on Thursday, buyers got tippy kinds down to \$18.50. Friday the trade was stronger, few selling up to \$19. Top for yearling lambs was \$17 but during the latter part of the week choice dry-fed kinds were hard to sell above \$15.50. Sheep also ruled slow and lower. Wethers were quoted down to \$13 and \$13.50, and buyers bought ewes from \$12 down. Receipts for the past week aggregated 3,100 head, as compared with 3,746 head for the week previous and 4,050 head for the same week a year ago.

Calves.—Last week started with top veals selling at \$18.50 and the next three days the bulk moved at \$18. Friday the trade was stronger, bulk going at \$18.50. Best handy culls brought from \$16 to \$16.50 and light or less desirable kinds went from \$15.50 down. Market was active all week and a good clearance was had from day to day. The past week's receipts totaled 4,550 head, being against 4,132 head for the week preceding and 3,250 head for the corresponding week a year ago.

Chicago.

Hogs.—Butchers, \$16.65 to \$17.10; light, \$16.75 to \$17.10; packing, \$16 to \$16.65; rough, \$15.60 to \$16; pigs, good and choice, \$16.40 to \$16.90.

Cattle.—Beef steers and yearlings above \$15, and good butchers, common steers and light grassy heifers closing dull but unevenly higher than a week ago; sales mostly 50c. higher for the week.

Sheep and lambs mostly 50c. lower than a week ago.

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Toronto Produce.

Live stock receipts at the Union Stock Yards, West Toronto, on Monday, July 1, consisted of 192 cars, 3,369 cattle, 689 calves, 1,669 hogs, 320 sheep and lambs. Good butchers steers and heifers, steady; common kind, slow and 25 cents lower. Bulls and good cows were steady. Common cows 25 to 50 cents lower and hard to sell. Sheep were strong; lambs 50 cents higher. Calves 25 cents to 50 cents lower. Hogs \$18 to \$18.25, fed and watered.

Breadstuffs.

Wheat.—Ontario, No. 2, winter, per car lot, \$2.22; (basis in store Montreal). Manitoba wheat, in store, Ft. William— including 2 1/2% tax.—No. 1 northern, \$2.23 1/2; No. 2 northern, \$2.20 1/2; No. 3 northern, \$2.17 1/2; No. 4 wheat, \$2.10 1/2. Oats.—(According to freights outside) Ontario, No. 2 white, 79c. to 80c., nominal, No. 3 white, 78c. to 79c., nominal. Manitoba oats, No. 2 C. W., 85c.; No. 3, C. W., 82c. (in store, Fort William); extra No. 1 feed, 82c.; No. 1 feed, 79c.

Barley.—Malting, \$1.24 to \$1.26, nominal.

Peas.—According to freights outside; No. 2, nominal.

Corn.—American (track, Toronto), No. 3 yellow kiln dried, nominal; No. 4 yellow kiln dried, nominal.

Rye.—No. 2, \$1.80, nominal.

Flour.—Manitoba flour, war quality, \$10.95. Ontario flour, war quality, \$10.65 in bags; Montreal; \$10.65, in bags, Toronto.

Hay and Millfeed.

Hay.—Track, Toronto, No. 1, \$13 to \$14 per ton; mixed, per ton, \$12 to \$13.

Straw.—Car lots, per ton, \$8 to \$8.50, track, Toronto.

Bran.—Per ton, \$35.

Shorts.—Per ton, \$40.

Hides and Skins.

Prices delivered, Toronto:

City Hides.—City butcher hides, green, flat, 13 1/2%; calf skins, green, flat, 30c.; veal kip, 22c.; horse hides, city take-off, \$6 to \$7; sheep, \$3.50 to \$5.50.

Country Markets.—Beef hides, flat, cured, 15c. to 17c.; green, 12c. to 13c.; deacons or bob calf, \$2.25 to \$2.75 each; horse hides, country take-off, No. 1, \$6 to \$7; No. 2, \$5 to \$6; No. 1 sheep skins, \$2.50 to \$5; horse hair, farmer's stock, \$25.

Tallow.—City rendered, solids, in barrels, 16c. to 17c.; country solids, in barrels, No. 1, 15c. to 16c.; cakes, No. 1, 18c. to 19c.

Wool.—Unwashed fleece wool, as to quality, fine, 60c. to 65c.; washed wool, fine, 80c. to 90c.

Farm Produce.

Butter.—All classes of butter remained fairly stationary in price, selling as follows on the wholesales: Creamery, fresh-made, pound squares, at 45c. to 47c. per lb.; creamery solids, at 44c. to 45c. per lb.; dairy, 38c. to 40c. per lb. Oleomargarine.—32c. to 33c. per lb.

FIX BUTTER PRICE.

It was reported last week in Toronto that the price which the Allied Purchasing Commission has fixed for creamery solids is 43 1/2% a pound. The butter will have to be delivered at Montreal by the wholesalers for this price.

Eggs.—The egg market advanced slightly, selling as follows, wholesale: No. 1's selling at 42c. to 44c. per dozen; and selects at 45c. to 46c. per dozen.

Cheese.—Cheese sold at unchanged prices during the past week: Both old and new varieties selling at 24c. to 25c. per lb., wholesale.

Beans.—There is still a very limited supply of beans, but practically no demand, the price keeping stationary at \$6.25 per bushel for Japanese hand picked.

Poultry.—The demand for poultry has been very light during the past week, prices keeping stationary. The following prices were quoted for live weight: Spring chickens, 50c. per lb.; roosters, 25c. per lb.; fowl, 25c. to 28c. per lb.; ducklings, per lb., 30c.; turkeys, per lb., 30c.; turkeys, old, per lb., 25c.

Potatoes.—Old potatoes have been quite scarce, Ontario's advancing to \$2.25 per bag, wholesale. New potatoes have also advanced steadily and are now selling at \$7 to \$7.50 per bbl., with the prospect of reaching \$8 per bbl. shortly.

Montreal.

Horses.—Very few horses are changing hands, and dealers report an almost entire absence of demand from any quarter. They repeat prices, however, as follows: Heavy draft, weighing 1,500 to 1,700 lb., \$250 to \$300 each; light draft, weighing 1,400 to 1,500 lbs., \$200 to \$250 each; light horses \$125 to \$175 each; culls \$50 to \$75 each; fine saddle and carriage horses \$175 to \$250 each.

Dressed Hogs.—The market for dressed hogs was practically the same last week as it was for the week previous, quotations being 28 1/2% to 29c. per lb. for abattoir dressed, fresh-killed stock.

Maple Syrup.—The demand for maple syrup is keeping up exceptionally well this year, owing possibly to the difficulty of purchasing sugar in other forms. Prices continued unchanged at \$1.80 per gallon in barrels of 15 to 20 gallons; \$1.85 per gallon in 5-gallon tins; and \$2 \$2.15 in gallon tins. Sugar held at 23c. to 23 1/2% per lb.

Potatoes.—The supply of old stock is running low, and the market was quoted rather firmer at \$1.75 for Green Mountains. Consumption is turning towards imported new stock, where such can be obtained at reasonable prices. They were quoted in carlots at about \$6.25 per barrel of approximately 2 bags.

Eggs.—The price of eggs continued to advance, and it is predicted that during the coming winter consumers may have to pay as high as \$1 per doz. The weather again turned warm, and the effect of this was noticeable upon the quality of the stock. Offerings of new laid were lighter and selects advanced to 46c. per doz. Number 2 eggs were up to 39c. and No. 1, up to 43c.

Butter.—Creamery was in good demand, at slightly higher prices, being 44c. to 44 1/2% per lb. for finest; and 1/2% under for fine. Dairies ranged from 37c. to 39c. per lb.

Cheese.—Commission prices were 23c. per lb. for No. 1; 22 1/2% for No. 2, and 22c. for No. 3.

Grain.—Oats were slightly easier last week, with car lots of No. 2 Canadian Western at 96c. per bushel; tough No. 2,

Continued on page 1149.

Calves

Week Ending June 20

Table with 2 columns: Price, Quantity. Values range from \$15.50 to \$16.00.

Lambs

Week Ending June 20

Table with 2 columns: Price, Quantity. Values range from \$21.00 to \$18.00.

Top Price

Table with 2 columns: Price, Quantity. Values range from \$15.25 to \$8.50.

Top Price

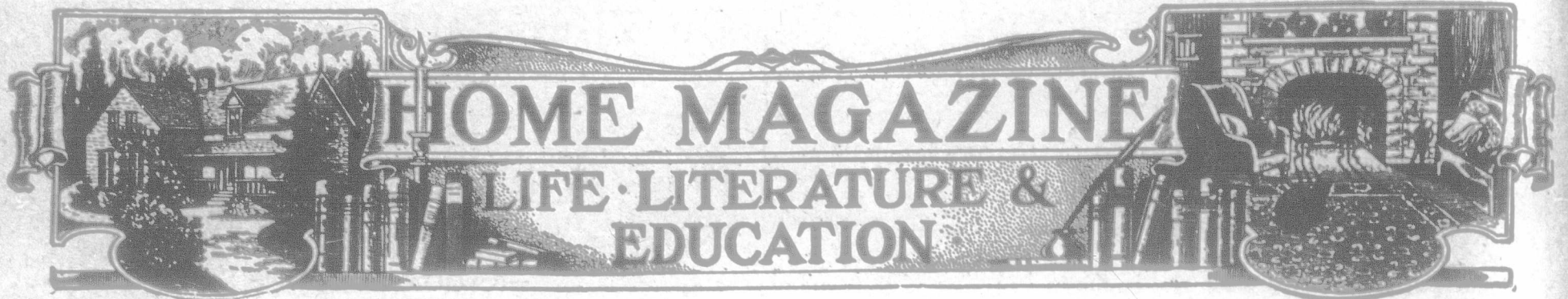
Table with 2 columns: Price, Quantity. Values range from \$15.00 to \$13.50.

Top Price

Table with 2 columns: Price, Quantity. Values range from \$19.25 to \$13.50.

Top Price

Table with 2 columns: Price, Quantity. Values range from \$13.40 to \$13.40.



"O, little gardens, that bring forth the spring."

Baby Welfare and "Soldiers of Production" in Peel County, Ontario.

JUNE 25th and 26th were gala days at the pretty little town of Brampton, the capital of Peel County, Ontario. And not only were they gala days,—they were days packed full of suggestion and inspiration for further effort. The occasion was the holding of a "Baby Welfare" exhibit and clinic concurrently with a "Soldiers of Production" review and inspection of the school plots by Hon. Dr. Cody, Minister of Education; Hon. Mr. Henry, Minister of Agriculture; and a number of prominent men belonging to the town and vicinity.

The event was planned by Mr. J. W. Stark, District Representative of the Department of Agriculture, to whose enthusiasm the Board of Education, the Women's Institute and other organizations invited to help, responded with an enthusiasm equal to his own.

And now the story in detail. It may be suggestive to other communities which are desirous of letting slip no chance to join in any forward movement.

THE initial steps towards having the "Soldiers of Production" review were really taken last year, when the School Board co-operated with the Department of Agriculture, and a number of flax plots were planted. Probably there was then no thought of this year's celebration in the minds of those interested in the work, but the work itself proved so promising that the Board decided to give the children a better chance. As a result more than 100 children were given opportunity to cultivate plots in the school flats.—And so the foundation was laid, the children, no doubt, working with greater zest because of the promise of the "great inspection" ahead.

When the idea of having a "Baby Welfare" demonstration for the town and surrounding country was broached, committees of women made a house to house canvass—in the town at least—and the mothers were told about the event and asked to bring their children. In the meantime arrangements were made with the "Bureau of Child Welfare," Provincial Board of Health, Toronto, (address "Parliament Buildings") to have the Provincial Child Welfare exhibit sent out, with the accompanying nurse and moving-picture men connected with the Department of Agriculture. Arrangements were also made to have "movies" taken of the young "Soldiers of Production" and any other interesting features that might be presented. For purposes of advertisement little "tags" labelled "Baby Welfare Days," with the date, were printed, and as the day approached were worn by the children and others interested.

The Farmer's Advocate and Home Magazine representative, on arriving on the afternoon of June 25th, found everyone, apparently, wearing these labels. The next evidence of "something doing" in the publicity direction was the window of the District Representative's office, which was filled with baby pictures and further devices to entice attention, including a sand-bagged dugout with miniature soldiers in one corner, and a mysterious "well" built up of bricks and sod in the other. . . . Accepting a placarded invitation to look down the well one found, illuminated by electric light, the statement "The baby is Ontario's greatest asset, and health is the greatest wealth."—Evidently the District Representative for Peel County knows how to place values correctly.

The Baby Welfare Exhibit and Clinic.

ARRIVED at the Presbyterian Church, whose school-room, etc., had been kindly donated for the demonstration, one found a whole side of the Sunday School Assembly Room given over to the exhibit of the Department of Health, from Toronto, with the placard ONTARIO'S GREATEST ASSET IS THE BABY, given a challenging position. Those who have seen this exhibit will remember, among the many injunctions and warnings scattered about, such words of wisdom as these:

"Children should eat regularly, not between meals. That is the stomach's resting time.

"Children should learn to chew food thoroughly; the stomach has no teeth."

"Don't ask your neighbor.

Don't ask your relatives.

Ask the Doctor how to modify the milk to suit your baby."

In short, if a whole people were to follow out religiously even the instructions for the feeding and care of children given so tersely in connection with this exhibit, the efficiency and longevity of the entire nation must be greatly increased.—It is startling to read that "Of the babies born in Ontario in 1915, one in every ten failed to reach its first birthday."—A truth emphasized in the exhibit by a revolving apparatus showing doll babies, one in every ten of which drops out of sight with each revolution. Children look at this representation with absorbed interest; grown folk with an ache at the heart—realizing so well what it means. It is to prevent such an overwhelming sacrifice of human life that such a movement as "Child's Welfare" has been instituted.

Supplementing the Health Department's exhibit, one found, in the school-room at Brampton, an attractive table prepared by the Women's Institute, and presided over by Mrs. Graham, who is well known to the Women's

the Red Cross, and in another an outfit of infant's clothes with sleeping basket had been provided by the Girl's Club.

THE adjoining rooms were given over to a clinic, in which the nurse from Toronto, Miss Knox, co-operated with the doctors, who made examinations and gave advice—free. During the first afternoon alone no fewer than 76 babies were thus examined.

In the evening, addresses were given by Dr. J. W. S. McCullough, Medical Health Officer of Toronto, and Miss Ethel Chapman also of that city, who kindly substituted for Dr. Helen McMurchy. Dr. McCullough pointed out the great necessity for care of mothers before the children are born and for continuous care of the little ones until they have grown up, holding up as an example New Zealand, whose Government has taken this matter up to such effect that there is now a nurse in every community in the country. These nurses not only inspect the children in the schools, they go into the homes and give the mothers advice wherever necessary.

Much has been done in this country towards prevention of disease—deaths from diphtheria, for instance, are now only 6% instead of 50% as they used to be before free serum was sent out by the Board of Health—but he would like to see much more done, and more can be secured by insistence and co-operation. Emphatically he urged mothers to nurse their children, also to see that babies were registered soon after birth.

Miss Chapman spoke on "The Child in the Community", emphasizing the necessity for parents to co-operate for health measures. Parents should adopt as their slogan, "No mother's baby is safe until every mother's baby is safe." Nearly every one has defects that might have been removed in childhood, while many men of great natural ability have been held back from great careers and

Soldiers of Production.

AT the Public School, on the morning of June 26th, over 600 children with their teachers, and a number of prominent men of the town, including Mayor Bull, Senator Blain, Mr. S. Charters, M. P., and Canon Walsh, received the Ministers, to whose party had been added Mr. A. E. V. Richardson, Superintendent of Agriculture, Australia, and Mr. C. F. Bailey, Assistant Deputy Minister of Agriculture.

From there a procession was formed to the school plots, where, after the visiting party had inspected the gardens, the children marched past, saluting Hon. Dr. Cody and Hon. Mr. Henry. Moving pictures were taken of the pretty scene by the operators for the Department of Agriculture.

Afterwards addresses of welcome to the distinguished visitors were made at the school by Mayor Bull, representing the town, Mr. A. B. McCullough representing the Board of Education, and Master James Smart, representing the school.

The addresses by Hon. Dr. Cody, Hon. Mr. Henry, and Mr. A. E. V. Richardson followed.

Dr. Cody pointed out that the best product of any community is its boys and girls. It has often been said that "Boys will be boys"; more important it is to remember that boys will be men and girls will be women. In the future a very great responsibility lies in wait for the children of to-day, for they will have to do part of the work that should have been done by our gallant soldiers who will not come back. . . . In concluding Dr. Cody expressed his pleasure in seeing the interest taken in the work of production and announced his intention to work hand in hand with the Minister of Agriculture. He congratulated the children on their gardens, and reminded them that they must take care to pull the weeds out of their lives as well as out of their gardens.

Hon. Mr. Henry also expressed his pleasure in the prospect of co-operative work on the part of the Departments of Education and Agriculture, and congratulated the school and Mr. Stark on the good results attained in the gardens, which presented an excellent showing in spite of the fact that the land is not of the best.

Mr. Richardson gave some interesting facts in regard to Australia and its splendid contributions to the war. He reminded the children that some day one of them might be Minister of Education or Minister of Agriculture, and emphasized the necessity of a broad general education to ensure fitness for any position or duty that might come. "Make education as liberal as possible", he said.

Songs and a drill were contributed by the school, then handsome bouquets of roses were presented to Dr. Cody and Mr. Henry, and the pleasant and inspiring proceedings came to an end.

It is to be hoped that the experiment in Peel County may be an inspiration to many other counties throughout Canada. Suggestion alone means much, and the very fact that a function is held to celebrate attainments in school gardening must do much to impress the dignity of "the soil" in the minds of the growing generation, and produce in them an interest in all agriculture.

Besides we all gain much by coming together and listening to the words of people who have "made good". No man who has become eminent through personal ability and the spirit of service can give an address without voicing high ideals. So far we have had too little of such inspiration. The country—the rural districts—need to hear speeches and lectures, more and more, from men who are worth while. Determination and co-operation will secure them.



Austrian Gas Bombs Captured by the Italians.

Photo by Kadel & Herbert, N. Y.

Institute workers in Central Ontario. Here were arranged meals for babies and children from weaning time up to six years of age.

"We arranged it all from Dr. McCullough's book, *The Baby*", said Mrs. Graham, and, indeed, when looking at the wholesome, nutritious foods, one felt that there could be no chance for rickets and other diseases due to malnutrition wherever such principles of feeding were observed.

A lunch-box for school children proved to contain, neatly wrapped up in waxed paper 2 hard-boiled eggs, 2 sandwiches, a piece of cake and a few dates.

In another part of the hall a sleeping room for a child had been fitted up by

great service to the world just because of such neglect. Miss Chapman well argued that the homes need attention as well as the schools, since before reaching school age the following percentages, die:

Whooping Cough—90 per cent.
Measles—85 per cent.
Diphtheria—82 per cent.
Scarlet Fever—54 per cent.

The Provincial Health Board's moving pictures, showing care of babies and teeth, followed, and the meeting was enlivened by a little "health" play given by the children, also solos by Mrs. Corkett—"Sunbeams, Where Are You Going?" and "Only Wait, Little Child."

Hope's Quiet Hour.

Abide With Us.

They constrained Him, saying, Abide with us: for it is toward evening, and the day is far spent. And He went in to tarry with them.—S. Luke 24 : 29.

The two disciples had walked a few miles in the company of Christ and, when He seemed about to leave them, they constrained Him to enter their home and stay with them. Very willingly did He yield to the eager appeal, and He went in to tarry with them. Think of what they would have lost if they had not so earnestly invited Him. Think of what we lose when we are so busy with the affairs of this world that we forget our Lord's presence, and miss the special blessing He wants to give us.

A magazine is lying open on my desk at an advertisement of the American Telephone and Telegraph Co. It is headed with a picture called: "The Miracle of the Marne". There are some French soldiers rushing ahead, with bayonets fixed, and leading them on is Joan of Arc—a shadowy figure, riding on a huge white horse.

No one has ever been able to explain away all the stories of the angels at Mons. Certainly many soldiers believe that the power which saved the day was the power of God revealed on earth in supernatural fashion.

Do you remember how Gideon held back in fear when given his great mission to save Israel from the hand of the Midianites. How could he—an untrained young man—with his little army of untrained soldiers, go up against a great host which covered the whole country.

"Have not I sent thee?" was God's message; but it was not enough to quiet his fears. He looked at the enemy and at himself, and felt that the task was hopeless.

But God turned his eyes another way, and said: "Surely I will be with thee". Of course his own power was insufficient for the great mission set before him—a man's own power always is insufficient for his needs. But this was God's war. He had called Gideon to fight under His banner. The young leader did not demand that God should come over to his side and fight for him against the national enemy. It was God's cause; and Gideon was invited and commanded to join the host of the Lord.

So, also, it had been a few years before, when Barak went out to drive Sisera from his country. Then Deborah the prophetess declared that the inhabitants of Meroz should be bitterly cursed "because they came not to the help of the LORD, to the help the LORD against the mighty".

No one has any right to decide on a course and then demand that God shall help him in it, whether it be righteous or unrighteous. The Judge of all the earth must do right, and no prayers—not the determined prayers of millions of people—can draw Him to help forward an unrighteous cause.

But one who feels sure that God has called him—as He called Gideon—to deliver the oppressed from cruelty and wrong, knows that in life and in death he can look up confidently and say: "Abide with us!" The answer comes at once: "Surely I will be with thee."

Here are some verses written by an American at the front and sent home to his father.

"When stands the flagstaff stripped and bare
And bugles shrill have ceased their sound,
When shadows, dim, creep o'er the ground
And quiet reigns in peace around,
I kneel, O Lord, in prayer.

Thou knowest, as I kneel to-day,
It's not the battle-line I fear,
Nor dead men's stare, nor captor's leer,
But, battling, cease Thee to revere:
Abide with me—I pray."

Mrs. Elizabeth Parks Hutchinson asked a wounded soldier what his thoughts had been when he was cutting wires at night on "No-Man's-Land". She had no idea the soldier cared about religion, and was startled when he answered: "There was nobody between me and God, when I was out there in the dark working at the wires and not knowing when the machine guns might start up and fill me full of lead; it seemed as if I was closer to Him

than I had ever been in all my life before; so I just talked to Him and told Him what I thought about things. There was nobody between us, and I think He heard."

Very few soldiers would have made that answer because men are very shy in telling their thoughts about God; but many a man has found God very near at such times. I don't see how they can help looking across at the life beyond death, when they know it is very probable that they may be called to step over there before many hours—or minutes—have passed.

I have just been looking at a picture of a lot of men from New Zealand, lying on the deck of a transport ship in the twilight and singing "Abide with me; fast falls the even-tide; the darkness deepens; Lord, with me abide." On the way to the front, to face danger and death, those words must mean more to them than they ever did before. Their hearts rise as they sing the words, written long ago by a man who was also facing death:

"I fear no foe with Thee at hand to bless;
Ills have no weight and tears no bitterness;
Where is death's sting? Where, grave, thy victory?
I triumph still, if Thou abide with me."

Look carefully through your Bible and you will find that God constantly repeats His great promise: "Fear thou not, for I am with thee." He has not changed.

that we have grown too accustomed to the marvellous to even see them.

DORA FARNCOMB.

The Windrow

Concrete slabs are now being made in the United States to construct dwelling houses, the first house having been built in Youngstown, Ohio. The houses are said to be comfortable, sanitary, permanent and inexpensive, and prettier than the old cement brick dwellings. Triangular slabs are made to fit in the gable ends.

Rich people in England have for some time been donating pearls to be sold for the Red Cross in the Grafton Art Galleries on July 2nd.

France is erecting a monument, near Bathelemont in Lorraine, to the memory of the three first Americans who gave their lives in the war,—Corp. James Gresham, Pte. Thomas F. Enright and Pte. Merle D. Hay.

An Italian boy of thirteen, Romano Dazzi, is making drawings of the war which are astonishing the artists of Italy. He gets his subjects from movies of the scenes at the front.



The Largest War Photograph in the World.

This great war photograph, the largest war photograph in existence, shows a wide portion of the battlefield during the actual advance of the Canadian Forces at Vimy Ridge. This splendid picture was taken on the morning of April 9th, 1917, when the Canadians accomplished their great victory at Vimy Ridge, preceded and protected by the barrage fire of their forces. The smoke in the background is produced by the counter-barrage attacks of the Germans, which were particularly aimed on a line of tanks. The Canadian curtain fire has already swept over the battlefield and is no longer visible. This memorable attack was one of the greatest of the war, and the Canadian gallantry in this advance will live in history. The brilliant attack was led by General Sir Arthur Currie. This monster photograph can be sized up in comparison with the men in the foreground. British official photograph.—Underwood & Underwood.

The Cost of Flies.

Dr. L.O. Howard, says a pamphlet issued by Colorado Agricultural College, "Estimates the cost of fighting flies at \$12,000,000,000 annually for the United States. Ten million of this amount goes for screening and the balance for fly-traps, sticky fly-paper, and fly poison.

The real cost of flies however, can not be estimated in dollars and cents. Typhoid fever, dysentery, tuberculosis and "summer complaint" of infants are perhaps most commonly disseminated by flies. Dr. Howard estimated the death due to "summer complaint" in one year at 52,213 of which 44,521 were under two years. In the most helpless months of the child's life this disease is most dangerous. We can in a way estimate what it costs to fight flies but we have no estimate what it costs to not fight them, or to fight them indifferently just because they cause us inconvenience and annoyance.

Keep the flies under, and remember that they breed to millions in undisturbed piles of manure.

The Beaver Circle

The Two Little Flocks.

Five little sheep on a hillside grazed
Where the raggedest daisies grew;
And just overhead, in a sunny spot,
Were five little clouds in the blue;
And the five little clouds in the sky looked down

On the five little sheep below,
And called out to them, in a friendly way,
"O little white flock, hello!
We look alike—we must be alike;
Now isn't that plain to you?
Come up with us in the pasture-sky—
O little white flock, please do!"
But the five little sheep on the hill looked sad,

And nibbled the grass instead;
And each one smothered a sorrowful sigh,
Shaking his wise little head.
And they called to the flock in the sky,
"Oh, no!

Such union would never do;
We must be fed on the greenest grass,
While your meadow-grass is blue.
And how would we look, when trying to fly,
With hard little feet for wings?
Sheep of the earth and sheep of the sky
Were made for different things!"
And the little white flock in the sky looked down

On the little white flock below,
And they said to themselves, "How queer
when we
Resemble each other so!"

Little Bits of Fun.

Too Often.—Mother (who is teaching her child the alphabet)—"Now, dearie, what comes after 'g'?"
The Child—"Whiz!"—Judge.

Little Dick, who was in the habit of receiving a good old-fashioned punishment when he said naughty words, was much excited the other day when he found his mother washing out the new baby's mouth with an antiseptic. "Hooray for her!" he cried, looking at Little Sister with dawning admiration. "Aw, Mother, tell me what she said, won't you?"
W. A.

Some More Prize Letters.

Dear Beavers.—I am sorry you had to wait so long to see the rest of the prize letters, but so many letters were waiting since long before that we could not avoid the delay. It must be remembered that these letters were written weeks ago, at the very height of the planting time.—Puck.

What I Am Going to do This Year to Help Win the War.

Dear Editor.—I have not written to your Circle before, but I have been an

interested reader of your page. Having seen about your competition on what I am going to do this year to help in the war, I thought I would like to write.

Last year I wanted to help in the war so I got a pig. When he got fat I sold him, and with the money I got a calf. I have another pig about ready for market, but it doesn't get very fat because it won't eat with the others, for it is a coward.

The seeding is now nearly over. I have a team that I drive myself. My father drives three horses on the disk or drill and I come behind with the harrows. One of the horses in my team is twenty-nine years old, but she can keep up with the colts yet. I guess she is trying to help to produce as well as the men. We are putting in five more acres of crop this year. If everything grows well I think the Allies will be fed.

When the haying comes my father will cut the hay and I will rake it up. When we draw it in I will build the loads and drive the horses on the hay fork. I did it last year, as my father had an operation and I had to do my part.

Last year I drove four horses on the binder, and the hired man did the shocking. When we drew the oats in I built the loads and threw the sheaves back in the mow. I am going to try to handle five acres more sheaves this year. We are going to try to get along without a hired man this year so that somebody who is more in want than we are can get one.

JAMES H. CAMPBELL.
Wingham, Ont., R. R. No. 2.

As we always keep a man, or boy who filled a man's place at the table, I volunteer to stay home from school in the busy season, which, when we had a man, was all year round.

I drive three horses on the cultivator and five sexton 16-ft. harrows, also with three horses, and a 10-ft. three drum steel roller. These broad implements get over a field pretty fast. Once while rolling, the end of the roller struck the fence, and frightened the team. They ran away. As my father had told me, if they went to run to throw the lines in front of the roller, I did so and they soon caught under the roller and stopped the team so quick I fell off but was not hurt. I drew out over 100 loads of manure.

So far my older brother loads and I unload with a manure hook and father spreads. I like outside work fine and think it helpful, for my seven brothers and two sisters had whooping cough and croup all winter, but I escaped it so far. I do all the milking and feeding the cows. Our Englishman used to say he fed and watered the cows. I used to put a white mangel in the turnip pulper before I went to school and at night it was still there, but he would insist the cows were fed their turnips. He was rough with the cows and killed a good cow with a big stone. As my father has rheumatism I have to see to the eight horses as well.

We have two large, improved Berkshire sows. One had 12 pigs and the other 11. I also feed the hens and geese, which prove by their eggs that they are fed well. We eat all the chickens and geese we raise so the pigs can all go to the soldiers. Though I don't mind the work I am very sorry to miss school as our exams come on in June, and also had to drop out of the Farmer's Advocate contest at the present time for new subscribers, at which I made over \$25. With some of the money I bought Belgian hares and have 64 young rabbits. They are nice pets and good to eat, and sell quickly for 75 cents to \$1.00 when killed. We have 100 acres. We always plant 15 to 20 acres of potatoes. It makes a lot of work but I hope to make good. I read a lot about girls not helping on the farm, but I hope no girl would cheat a hard working horse out of its feed for laziness.

Once father went to Hamilton, 15 miles, with a big load. The roads were bad and it was late and raining when he got home. We always feed boiled barley at night in the winter. Our man was sent to the stable with the hot feed. Next morning I found the barley in the wood-shed frozen. This fellow who says he is 15 is 19 and I am going to inform on him just to help the war. Yours truly,

Branchton, Ont. VERA COSTELLO.

Dear Editor.—This is my first letter to your charming Circle, but I have always enjoyed reading your page. When I saw what a very interesting title you had for your last competition, I thought I should like to try and write it. So I will begin

and tell you my story and plans for this year.

In this great European conflict, in which so many of our gallant boys have made the supreme sacrifice, in order that we may be saved from the murderous hands of the Germans; we, as daughters of the British Empire, long to aid the Motherland in this great hour of need.

So, we as loyal boys and girls of fair Canada, want to do our bit, and fight (labor shortage) the fight at home. We must be the "soldiers of the soil," while our boys are the soldiers of the battlefield. We want to try and take the places of the men, and do as much as lies in our power to do, so that we may help bring the war to an end soon.

I, being a farmer's daughter, have a good chance and so want to make good my opportunity. By so doing, I am going to put in a small garden of my own and work and care for it, so that I may sell the produce and give the money to help in the war. I am going to help hoe and take in the crops and work the team if needed. I am also going to knit socks and make other clothing for the soldiers in my spare time, and I hope that I may succeed so that I may have the pride and knowledge that I am doing my bit for king and country. I will close now wishing the Beaver Circle ever success.

AGNES SIM.
R. R. No. 1, Innerkip, Ontario.

Dear Puck and Beavers.—I have never written to your charming Circle before, but when I saw your competition "What I am Going to do this Year to Help in the War," I thought I would write.

Our hired man left us this spring and went on a rented farm. Papa didn't know what he was going to do about help, so I coaxed him to let me stay at home from school for a few weeks to help him put in the crop.

The first thing that he put me at was to roll the meadows. Then I disked and harrowed the ground for the peas. After we got them in I grubbed and harrowed the ground for the wheat. Then papa and I both went at the ground for the oats. We can't stay out very long in the evenings as we have some chores to do and to milk eleven cows.

My uniform consists of a pair of papa's overalls, a blue smock and a straw hat. I have got a pair of ladies overalls for the haying and harvest.

I suppose you have already guessed that I am a girl. I have always liked to be around horses and cows, but I never had a chance like this before.

Papa has promised me a kodak for helping him.

Well, I guess I will close as my letter is getting rather long. Hoping the Beaver Circle every success. I remain yours in overalls.

Chelsea Que. HELEN G. HUDSON.
Age, 15 years.

We hope all you plucky Beavers are having great success with your production work this summer. Some letters are still held over.—Puck.

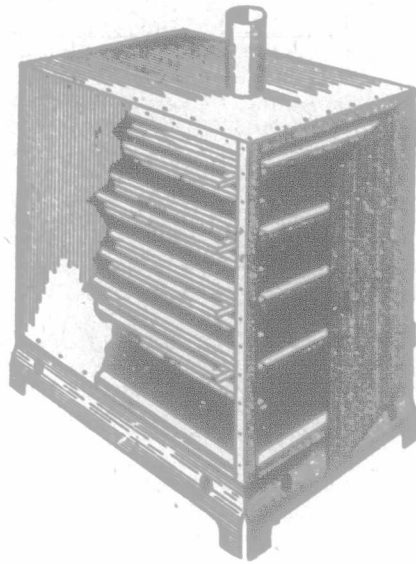
The Ingle Nook

[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.]

"Drying" an Economical Method.

THE "Plain Countrywoman" whose talks in the *Ladies Home Journal* (Philadelphia) I always read whenever I get the chance, told last year about a neighborhood "Drying Club" for drying corn apples etc. which had been established where she lives. Ever since reading that I have kept an ear open to hear if similar clubs have been set going in Canada but so far have not heard of any. It seems to me the idea might be a good one in some places where the people are sociable enough to want to work together, yet, on account of the expense, cannot yet see their way clear to starting a regular canning center such as has been set going so successfully at Parkhill Ont. Dried products are not as good as canned ones, as a rule, but they are quite good all the same.

The advantage of having a drying "center" would be, of course, that the work could be done more quickly, as the best paring-machines, driers, etc., would likely be secured. Also, as before remarked, the sociability counts with many people. Some folk are so constituted that they would be willing to work hard at paring or slicing, for whole afternoons at a stretch were there plenty of company about but could scarcely hold themselves down to the work at all when sitting alone in their own homes.—And the center would afford a good way of escaping muss in the home kitchens—an item that means a good deal to many people.



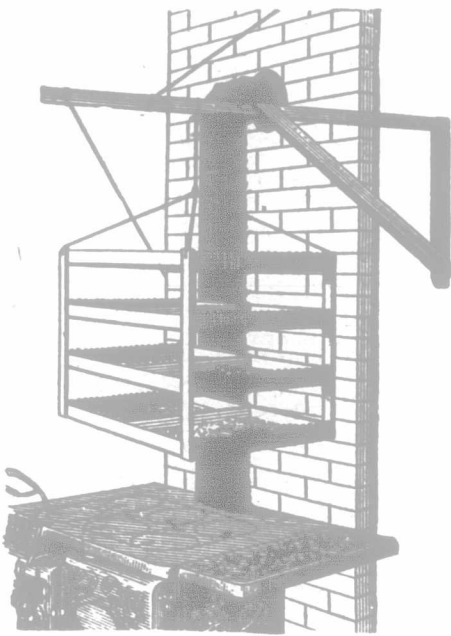
Homemade Drier to be Set on Top of Stove.

It is made of galvanized iron. Note ventilating holes and pipe. To prevent heat coming in contact with the product, a galvanized iron sheet is placed two inches above the bottom. (From Bulletin on "Canning and Drying," published by National War Garden Commission, Washington, D.C.)

Working at Home.

THERE are many people however who prefer working by themselves and to whom the bother of getting things ready and taking them to a center must seem waste of both time and energy. These people can do just as good work in this time of national—and world-over—need in their own homes.

Probably every woman in the land has been used to canning, especially fruits, but comparatively few have had any experience with drying except, possibly, apples. Yet when all the sealers



Homemade Drier to Hang Over the Cook Stove.

It is made of wood, with shelves or trays of wire netting. (Bulletin published by National War Garden Commission, Washington, D. C.)

one can afford to buy have been filled up there must still be on any farm, that includes a good garden and orchard, many products that may be wasted unless drying is resorted to. May it be repeated again: *Not one pound of food that it is possible to save should be wasted this year.*

The advantages of drying, then, are (1) Its inexpensiveness. (2) The certainty that the products will keep if properly dried and stored. (3) No sugar is required. (4) The readiness with which the paraphernalia for the work may be secured. It is only necessary to possess some good sharp paring knives, perhaps a paring machine and a rack or two which may be made at home by any man boy

or woman out of some slats or packing boxes, some nails and tacks, and a few yards of cheesecloth and mosquito netting. Last week a picture of a very simple rack for sun-drying, was shown. The "drying floor" of this may be made of cheesecloth, but there should be a frame above covered with mosquito netting to keep off insects. The old method of drying apples on strings exposed to flies was both troublesome and filthy.

With this appear designs for two more racks that may be used wherever heat has to be kept up constantly for any other purpose or in the late fall when fires have to be kept going in the house.

Drying may also be done in the oven, with the door partly open, but a watch must be kept to have the heat just sufficient.

Since directions for drying were given in last week's issue it is not necessary to repeat them here but it is perhaps necessary to impress the necessity for preventing waste of anything that can be eaten. The little woman who, by using all of her spare moments in preserving food, this year manages to save even all that her family can eat, has no idea how she is helping the world at this time when something like famine in the not-far-away future may be staring it in the face. But if she tries to imagine the total if all the women in all the homes do just as she is doing she may arrive at some vague conception of the bigness of the total result.

Another advantage in drying is that the children can help with it better than with canning and will even like to do so if not kept at it too long at a time. Children have not yet developed the persistence of grown people but they can accomplish a great deal if induced to work regularly for short periods and not kept "sticking" at it until they are so sick of it that they will not work satisfactorily at all.

OF the things that are "in" now, or will be immediately, raspberries, green peas and green beans have been successfully dried. Later will come several other things that may be preserved the same way. Raspberries are excellent when stewed thick in their own juice, without sugar, and dried on plates in the hot sun. Cherries, also, may be split and dried, as are plums. Leave the pits in, and if there is much leakage of juice before the cherries are put on the plates use it to make fruit syrup for pudding, sauces etc. When drying is finished, heat the cherries in the oven to kill possible insect eggs.

Green peas and beans can be successfully dried in a regular drying machine but I am not sure whether one could do much with them at home. A Washington bulletin gives the method of preparation as follows: Peas.—Blanch by dipping in boiling water 3 to 5 minutes, cold-dip, then lay in single layers on the trays. . . . Green beans.—Wash and string, blanch 6 to 10 minutes, cold-dip, drain and dry. To set the color add 1/2 teaspoon soda to each gallon of boiling water. It might be well to test a few of these by home-drying before venturing on any quantity. . . . Corn dried at home is a little darker than the canned corn, but is quite palatable and a very good food. It should be blanched on the cob 5 to 10 minutes, the kernels being then cut off with a very sharp knife and dried first in the oven to remove all moisture, then in the sun. When sun-drying is completed, heat again in the oven to 145° F. to kill possible insect eggs.

Always when drying keep the mosquito-netting frame over to keep off flies and insects; and before cooking the product wash it, if necessary, then soak over night and cook in the same water.

Vegetables or fruits which are to be treated should be dried as soon as possible after they are picked, and should be very young and tender, sound and perfectly cleaned. After putting in storage, keep in a very dry place and examine from time to time to prevent mould or insects. On the slightest appearance of either, heat in the oven and store again.

* * * *

Peonies.

I am indebted to the President of the St. Thomas Horticultural Society, Dr. Bennett, for a marked copy of the St. Thomas Journal containing an interesting account of the splendid showing of peonies recently seen in the charming little "Pinafore Park" in that place.—No fewer than 150 varieties



The Car of the Hour

NEW PRICES

Effective July 15th, 1918.

New Series

Model "Four Ninety" Touring	\$ 935.00
Model "Four Ninety" Roadster	920.00
Model "Four Ninety" Chassis	870.00
Model "Four Ninety" Sedan	1495.00
Model "Four Ninety" Coupe	1470.00

ALL PRICES f. o. b. OSHAWA

If you have not yet purchased your Chevrolet consult the nearest Chevrolet Dealer at once.

The CHEVROLET MOTOR CO., of CANADA, Limited
OSHAWA, CANADA

Western Parts and Distributing Branch: REGINA, SASK.

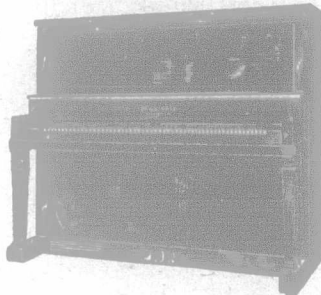
FROM spring until fall the dining-room and living-room of a home should have its touch of cut flowers. Nothing else can so help to "furnish", or to make a place look homelike, and one, or at most two, jars or vases are sufficient—or a jar with a number of flowers on the table and a vase with but a single blossom on the mantel; overdoing, in flower-decoration, like overdoing, in every else, kills the effect. Moreover, too, many flowers should never be crowded into one receptacle,—a few, loosely arranged, with some of their own foliage, are much more beautiful. Nor should too many kinds be bunched together. As a rule one kind looks best, or, at most, two that harmonize or form a real harmony in color. A single rose-bud, in a "bud" vase, cannot be improved upon.

Above all things the receptacle in which the flowers are placed should suit the character of the flowers themselves. Half of the beauty of a flower is lost if it is placed in the wrong sort of jar, therefore, every house should be provided with a number of shapes and sizes of flower-holders, kept somewhere on a shelf ready for use. Since these need not be very expensive a very small outlay will provide half a dozen. Not one of these should be a highly colored vase or jar "decorated." Unless one can afford to buy real works of art in pottery it is much safer to keep to plain glass holders in clear glass, green and blue, with a few dull finished jars in green pottery and, perhaps, a golden brown jar in Doulton earthenware. Sometimes black glazed pottery is very effective.

Above all things the form of the receptacle should be considered, plain graceful lines being invariably chosen. And always, when arranging the flowers, consider the character of them and place them in receptacles to suit—tall-growing flowers in tall holders, low-growing in low ones, and so on.

For stout branches of flowers, as those cut from trees or shrubs—lilacs, apple branches, japonica, etc.,—have a stout earthen jar of some kind, preferably opaque, as pottery in dull green or stone color. Tall garden flowers such as June lilies, tiger lilies and tall larkspur or foxgloves look best in tall slender vases, of clear or green glass. Roses, nasturtium gaillardia, etc., are perfect in a rose bowl of clear glass or in a low jar of dull green pottery. Cone-flowers and ox-eye daisies will be found very attractive in a jar or pitcher of golden-brown Doulton ware,

WILLIAMS New Scale PIANOS



Bungalow Model, \$450.00
THE WILLIAMS PIANO CO., LIMITED, OSHAWA, ONT.
Canada's Oldest and Largest Piano Makers

THE outward beauty that distinguishes a Williams New Scale Piano is an index of its intrinsic worth. Ideals are built into every one of these famous instruments—ideals of craftsmanship that make for the most enduring quality.



Prize Winners Prefer

Windsor Cheese Salt

THE CANADIAN SALT CO. LIMITED

Shorthorns at Mardella—10 young bulls, 12 young cows and heifers of good size and quality; breeding dual-purpose cattle over 40 years. "The Duke" at the head of the herd. They will be priced right. THOMAS GRAHAM, Pt. Perry, Ont. Bell phone.

Greatest Labor-Saving Invention of the Age For the Farm and Private Home



This Wonderful Automatic Churn makes perfect butter in from one to three minutes. Most sanitary churn in the world. Nothing but glass touches the cream. No dashers, paddle-wheels, etc. Self-cleaning in ten seconds. No corners, cracks or crevices to scrub. Operates with a slight pressure of finger. No strength or power required—vibration of steel springs does the work. A child can operate this churn successfully.

FREE: You should investigate this marvellous time, trouble and labor-saving churn. Write to-day for free, descriptive literature. Don't wait—get posted NOW.

The Hamilton Automatic Churn Company
41 King William Street, Hamilton, Ontario

LARGE AUCTION SALE

Farm Stock—Cattle, Horses & Hogs

Locke and McLachlin, auctioneers, will sell for C. F. Jackson, on the Middlemarch Farm, 2 1/4 miles west of St. Thomas, Ontario

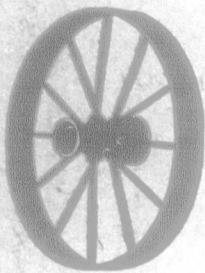
Monday, July 8th, 1918

Commencing at 2 o'clock sharp

30 cows, new milkers and springers; 20 young calves, mostly Shorthorns, from 1 to 6 weeks old; 100 stock steers and heifers, weighing from 500 to 1,200 lbs.; 6 pure-bred Shorthorn bulls (three registered); 4 pure-bred Holstein bulls; 1 young, extra good Jersey cow due to freshen time of sale; 100 good young hogs; 20 good young horses from 3 to 6 years old; 2 hayloaders and 2 lumber wagons. Cows will be sold from 2 to 4 p. m., horses and hogs from 4 to 6 p. m.

Terms:—4 months' credit, with interest at 6%, everything to be settled for on day of sale. Locke & McLachlin, Auctioneers, St. Thomas, Ont. C. F. Jackson, Prop., Port Stanley, Ont.

Save One-third on the Cost of Steel Wagon Wheels by Ordering Now!



Our prices will advance 33% on August 10th, next. Order received up to that date filled at present low prices.

Renew the life of your old wagon at small cost. "COOKE" wheels are giving satisfactory service all over Canada. Made to fit any size axle or skein, old or new. One of the greatest labor savers for the farm.

Write to-day for illustrated circular and price list, together with free chart, showing how to take measurements correctly, and booklet of testimonials from pleased customers. Remember we quote prices delivered to your nearest station, no matter where you live!

THE COOKE METAL WHEEL COMPANY
19 West Street, Orillia, Ontario

Good-Bye Potato Bugs!



A thorough spraying with

ACCO SPRAY POWDER

and bingo! the bugs are all dead. Get busy to-day.

ACCO is sold at Seed, Drug and Departmental Stores.

Buy it and use it.

HAROLD F. RITCHIE & CO., LTD.
10 McCaul St., Toronto

or in a jar of dull green, while the slender, graceful morning-glory will be a realized dream in a tall slender glass vase which flares out at the top somewhat in the form of the beautiful morning-glory flower itself. The rather coarse, yet quite handsome garden marigolds and zinnias are very well suited with a little brownish crock such as is used in the dairy, while pansies and violets ask for a very low glass dish supplied with a perforated glass holder for the stems in the middle of it. Also these sweet, delicate flowers look exceedingly well in a little glass basket with its little glass handle rounding above them. Hollyhocks and sunflowers of course, look best in tall stout jars that may be placed on the floor; hydrangeas invite massing in low jardinières, while ferns are at their very best in a wicker basket. Sweet peas may be placed in a rose-bowl, and trilliums are beautiful in a taller vessel. A very beautiful arrangement of the latter was seen this spring, when a green jar that shaded off to white, mingled with green, at the top. The jar seemed made especially for the flowers.

But why go on further? Once you have caught the idea you will love experimenting, and will soon hit upon the combinations that are absolutely pleasing to the eye.

The Man Always "Just Going To."

He was just going to help a neighbor when he died.

He was just going to pay a note when it went to protest.

He meant to insure his house, but it burned before he got around to it.

He was just going to reduce his debt when his creditors "shut down" on him.

He was just going to stop drinking and dissipating when his health became wrecked.

He was just going to introduce a better system into his business when it went to smash.

He was just going to quit work awhile and take a vacation when nervous prostration came.

He was just going to provide proper protection for his wife and family when his fortune was swept away.

He was just going to call on a customer to close a deal when he found his competitor got there first and secured the order.—Dr. Orison Swett Marden, in *The New Success*.

Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted and Pet Stock.
TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

COLLIE PUPS—SABLE AND WHITE, BRED from heifers, \$5 each; also one registered female collie, two years old, \$10. L. D. Willson, Aurora.

FOR QUICK SALE—POULTRY AND TRUCK farm; \$4,500 of orders for chicks, this season. New street being put through end of farm. Apply for full particulars to Burford Hatchery, Box 23, Burford, Ontario.

SITUATION AS MANAGER OF FARM OR dairy herd by experienced and trustworthy Scotchman; married, no family. Apply A. B., Farmer, Advocate, London, Ont.

Current Events

The Canadian Food Board has had an order passed which permits officials to search any premises if there is reason to suspect hoarding.

Prof. Thomas Shaw, widely known in Canada as author and agriculturist, died at St. Paul, Minn., aged 75 years.

At the triennial meeting of the Grand Council of Indians of Ontario at the Christian Island reservation, recently, the Indians decided to give part of their annual Government grants for patriotic and Red Cross purposes. Some offered half of their grant.

On June 24 an aeroplane delivered letters from Montreal to Toronto, the trip taking 6 hours in a slow plane.

Compulsory use of substitutes for wheat flour, in order that we may have more wheat to spare for our troops and Allies, was prescribed in an order issued on June 25 by the Canadian Food Board. The substitutes named are corn and oat preparations, barley, rice, rye, buckwheat, tapioca or potato flour, shorts, bran, hominy, tapioca, potatoes. After July 15, east of Port Arthur, the proportion of 1 lb. substitute to 9 of flour will be increased to 1 lb. substitute for 4 of standard flour.

Sir John Willison has been elected President of the Canadian Industrial Reconstruction Association.

Mr. Wm. Varley, a returned soldier representing the Labor party, and Mr. John Galbraith, a patent medicine manufacturer, will oppose Hon. Dr. Cody, Minister of Education, and Hon. George Henry, Minister of Agriculture, in the Provincial by-elections in Northeast Toronto and East York.

Lt.-Col. George Parkes, Mounted Rifles, has been awarded a V. C. for conspicuous gallantry at Passchendaele.

The bulk of the estate of the late Mr. J. Ross Robertson, of Toronto, will, after the death of his wife, pass to the Hospital for Sick Children, which, in the meantime, will draw \$10,000 annually.

Major W. A. Bishop, of Owen Sound, Ont., Canada's star aviator, went to France a month ago and brought down 25 more German planes. His record now is 72. He has been permanently recalled to England.

A provincial and civic welcome was given on June 28th, in Toronto, to the men of the 3rd Battalion, 363rd Regiment from Washington, U. S. Tremendous cheering for the Americans greeted the soldiers as they marched past the saluting base. On the next day the city gave not less enthusiastic welcome to the famous Alpine Chasseurs, who have so distinguished themselves in the war, many of them having been with Joffre at the Marne.

A German submarine during the week sank the C. P. R. steamers "Pomeranian" and "Medora."

The food supply in Finland is nearly at an end, and 1,600,000 people are facing starvation. In Petrograd also, a state of famine practically exists, the people now subsisting on potatoes and dried pot-herbs. Everything is being sold to buy food.

American soldiers to the number of over 900,000 are now in France. Their casualties now number over 10,000.

Deputy Hugo Haase, Independent Socialist, in the German Reichstag, during the last week of June, vigorously attacked the Government's foreign policy and the military rulers. He declared that their methods are making a decent peace impossible, and that the German people must take matters into their own hands. The German military power everywhere, he stated, is proving the "strangler of democracy and oppressor of freedom," instancing the severity of their rule in Livonia and Estonia, in Finland and Armenia.

Dr. von Kuehlmann, German Foreign Secretary, on June 26th offered his resignation.

The Dollar Chain

For the soldiers and all who are suffering because of the war.

Contributions from June 21 to June 28: Cecil Stamp, Thorndale, Ont., \$1; Mrs. J. D. McBain, Williamstown, Ont., \$1.50; "Scotia," London, Ont., \$1.00.

Previously acknowledged.....\$5,556.00
Total to June 28th.....\$5,559.50

Kindly address contributions to "The Farmer's Advocate and Home Magazine," London, Ont.

While others are giving life and limb what are you giving?

To the Tightwad.

(BY EDGAR A. GUEST.)
(Having no one in particular in mind).
'Tis a strenuous age we're living,
These are days of larger giving,
Days when yesterday's donations
Do not help to-morrow's score;
So restrain your muttered curses
At the touches at your purses,
Try to get yourselves accustomed
To subscribing more and more.

Every overworked committee
Knows it really is a pity
That the wounded need assistance,
And the boys need socks and shirts,
And when one comes after money,
'Neath a cheerful smile and sunny,
Hide the pain that you are feeling—
Don't admit that giving hurts.

Do not tell in voice that's shaken
Of the bonds that you have taken;
Don't recall the contribution
That you made six months ago.
Get accustomed to the notion,
Until peace reigns o'er the ocean
You'll be asked to part with money
Almost every day or so.

You've a heart that isn't brittle,
Let it stretch and bend a little;
Give to-day and give to-morrow,
Everyone must do his bit;
Let this stern fact be imparted—
That our giving's only started;
If it's painful to be helpful,
We must all get used to it.

Where Life is All That Life Can Be.

BY WINNIE M. AUGUSTINE

To-day the gates of agricultural opportunity swing wide, and the farmer has indeed come into the promised land, and may reign a king in a kingdom of his own. In the days that are gone the city's lights have lured from our sheltered homes, the strong son and restless daughter, but like the prodigal, they are coming back to find a welcome home.

What constitutes a complete life? In the not far distant past we may have erred and said great financial success, and turned our faces cityward to grasp the "Open Sesame" to our land of dreams. Have those dreams come true? Amid the restless clamour and the fevered city throng they have faded away.

And those whose footsteps have retraced the path that leads to the old home-farm have discovered that amid the hills of home, and beside the old hearth-stone those dreams are coming true.

Is it within the city office, where the clink of coin is a familiar sound? Or is it when you walk in a country garden at even-tide, amid the lilacs and the cherry bloom that the blue-bird of happiness sings loudest in your heart? For in a garden one can feel the pressure of God's Hand.

If difficulties are stepping stones to higher ground, the farmer has ample opportunity for a broad outlook on life. But let us not make the mistake of thinking that rural life consists of only the ungarnered wheat, for behold there are the lilies too.

"I hold no place of high import,
Where roars the thronging mart;
One of the little things of earth,
I do my humble part,
With fork and pail and stable-broom,
As evening shadows fall,
In common task I tend for Him,
The cattle in the stall!"

For since of old a stable knew
That wondrous baby's birth;
Methinks He loves the cattle best
Of all the beasts of earth.
Their kind eyes gave Him welcome there,
They heard His first faint call,—
Oh, proud am I to tend for Him,
The cattle in the stall!"

What's Keeping You Back?

There is no hope of success for any one to win out in the life race who enters the contest weighted with any defect or weakness of which he can rid himself.

No matter what it is that handicaps or retards your progress, whether it is a disagreeable disposition, bad manners, carelessness in dress, over-sensitiveness, lack of self-confidence, bad temper, the habit of knocking the firm, or whatever may be retarding your progress even but a very small fraction of your possible percentage, get rid of it.—Dr. Orison Swett Marden, in *The New Success*.

Markets

Continued from page 1141.

and No. 3, extra No. 1 feed, 93c.; No. 1 feed 90c.; No. 2 feed 87c. per bushel, ex-store. No. 3 yellow American corn was quoted at \$1.77; No. 4, \$1.67. Sample corn \$1.18 to \$1.55 according to quality; Manitoba rejected barley \$1.30; and feed barley \$1.26.

Flour.—Rye flour was selling at \$16 per barrel, in bags; barley flour \$12.50; graham flour, \$11.05; corn flour, \$12; Government standard spring wheat flour \$10.95, f. o. b. cars, Montreal, and 10c. extra delivered. Winter wheat flour \$11.40 in new cotton bags, per barrel.

Millfeed.—Prices showed little change, but the tone was slightly easy. Bran was \$35 per ton, including bags; shorts \$40; feed cornmeal \$62; mixed mouille, \$51; barley feed \$67.

Baled Hay.—Market held steady at \$14.50 to \$15 for No. 2 hay, in car lots \$13 for No. 3 hay; \$6 to \$10 for clover mixed, while some inferior hay was said to be selling as low as \$4 per ton, ex-track, which is the lowest price in years.

Hides.—Spring lambs, and clipped sheep skins were both higher last week, being \$1.25 each. The market was otherwise steady, with cow hides 18c. per lb., bulls 16c.; and steers 23c. flat. Hides, Montreal inspection, were 20, 19 and 18

cents per lb. Veal skins 52c. per lb. Horse hides \$5 to \$6.50 each. Tallow 3 1/4c. per lb. for scrap fat; 8c. for abattoir fat; and 16c. to 16 1/2c. for rendered.

Gossip.

Sale of Doddies at Glencarnock Stock Farm.

Stockmen interested in Aberdeen-Angus cattle will have an opportunity of securing individuals of show calibre at the Glencarnock Stock Farm sale to be held on Brandon Fair grounds on July 26. This herd is particularly well known not only throughout Canada but in the States, as from this herd has come the champion steer over all breeds at the Chicago International Show for two years, in succession. Mr. McGregor, the proprietor of the farm, is disposing of the entire 1918 show herd, which includes the famous cow, Majesty Queen, a five-year-old with a show bull calf at foot by that famous herd sire, Edward of Glencarnock. Majesty Queen was the champion female at the State fairs in 1910, and second at Chicago the same year as a three-year-old, in a class of fifty cows. In 1917 she was grand champion female of Western Canada. This cow will weigh around 1,800 lbs., which is an indication of her size and development. Pride of Glencarnock 3rd, a junior champion female of Western Canada last year, is also in the sale. She weighs well over the 1,400-lb. mark and is safely in calf to Black Cap McGregor. Besides the two individuals mentioned there are a number of other animals of equal merit. Pridista of Glencarnock, a senior yearling is considered a sure winner for this year. She is out of Pride of Cherokee 19th, a cow which has produced many winners for the Glencarnock Stock Farm. Glencarnock's Pretty Rose 2nd, is a junior yearling heifer and a choice individual. She is sired by the champion bull of last year Black Abbot Prince, and is out of the champion Scotch cow, Our Pretty Rose. Karama of Glencarnock 2nd, and Key of Glencarnock, are senior and junior heifer calves respectively and will be features of the sale. The two-year-old bull, Pathfinder of Gwenmawr, will undoubtedly attract a good deal of attention and as many breeders have their eye on him at the present time, bidding for this sire should be brisk and the breeder who secures him will have a herd header of which he may well be proud. Among the bulls offered is a junior yearling which weighs close to 1,300 lbs., and is sired by Pride Lad of Homer. Included in the lot are seventy-five breeding cows and twenty two-year-old heifers, which are heavy in calf. There are also twenty yearling heifers, some of them full sisters to some of the noted show cattle above mentioned. This sale is to be held on the Brandon Fair grounds, under cover, and will start at 12.30 sharp. Every animal in the sale is guaranteed a breeder and anything purchased which proves wrong can be returned and the money minus the return freight charges will be returned to the purchaser, or an animal of equal value supplied in place. Every animal catalogued will be sold without reserve. The sale is being held during the time of the Brandon Fair. The reason for dispersing the herd is that Kenneth McGregor intends leaving for the war as soon as the crops are harvested, and his father, J. D. McGregor, is so much engaged with duties as Food Controller for Western Canada and Director of Agriculture and Labor for Canada, that he is unable to give the necessary time required in looking after a herd of the size and calibre of that kept on Glencarnock Stock Farm.

A notification has been received from the British authorities to the effect that the Parcel Post Service for Prisoners of War in Turkey or Bulgaria is at present suspended. Until this service is resumed no parcels can be forwarded to Prisoners of War in Turkey or Bulgaria, and persons desiring to help Prisoners of War in these countries are advised to forward remittances to them. These can be sent by means of post office money orders which are issued free of commission. Particulars as to how to proceed may be obtained from postmasters of accounting offices. Any parcels for Prisoners of War in these countries which may be intercepted in the course of transmission will be returned to the senders, providing the name of the senders is given on the parcel.

GREAT DISPERSION SALE

OF THE CELEBRATED

Glencarnock

Aberdeen-Angus Herd

AT BRANDON, MANITOBA, DURING THE FAIR

Friday, July 26th, 1918

125 HEAD

125 HEAD

The cream in individuality and breeding of the Aberdeen-Angus Breed.

Fifteen Top bulls, three real champions; 25 head of yearling heifers; 75 head of breeding cows, mostly with calves at foot, and the whole 1918 show herd, good enough for any show in America, over 20 imported cows; 50 Blackbirds and Ericas.

Such famous cows as "Majesty Queen," 2nd prize at Chicago, 1916, with show bull calf at foot; "Queen Rosie of Cullen" (imp.), champion at the Highland and Royal Shows and at Chicago, with great bull calf at foot by the famous Edward of Glencarnock. "Pride of Glencarnock 3rd," champion of Western Canada, 1917, and regarded as the best two-year-old in America to-day; also outstanding yearlings and calves.

Arrange to attend this dispersion sale of the most celebrated Angus herd in America. It is a rare chance to get the best of the breed at the buyers' own price. Every animal sold without reserve. Write for catalogue at once. Shipments to Ontario can be made in groups. We will arrange all shipments. Bids can be wired to W. I. SMALE, Sec. Can. Aberdeen-Angus Assoc., Brandon, Man.J

JAS. D. MCGREGOR

Proprietor

Make Your Barns Safe This Year

\$100,000 is roughly estimated as loss Ontario farmers suffered in the great electrical storm of Tuesday night, June 11th. Barns were destroyed in almost every part of Southern and Eastern Ontario. Nearly all of this great loss could be saved by the proper rodding of buildings. Such has been proved by practical experience.

Here's the Proof—

Two-thirds of all rural barn claims settled by 40 Insurance Companies in Ontario, over a period of 12 1/2 years, were due to

Lightning

This year the country can ill-afford the loss of your barn or your crop. It will be well spent money to put your buildings in the "Safe" class. You can prevent the loss and reduce the cost of your insurance by equipping them with rods made by

Write Ontario Department of Agriculture

for Bulletin No. 220. On page 3 you will see the following:

"To-day we know from experience that Lightning Rods, properly installed, are almost absolute protection."

The Universal Lightning Rod Co.

Hespeler, Ontario

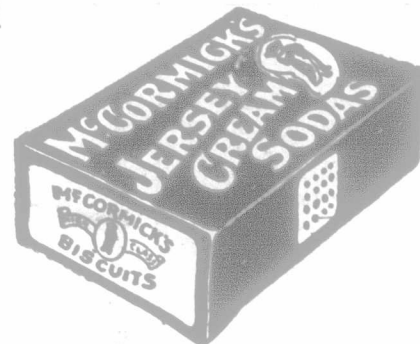
Send for free literature to-day.

McCormick's Jersey Cream Sodas

are made from Government Standard Flour and in accordance with the regulations of the Canada Food Board.



Sold by
Leading
Merchants
Everywhere



The McCormick Manufacturing Co., Limited

GENERAL OFFICES AND FACTORY, LONDON, CANADA
BRANCH WAREHOUSES

Montreal, Ottawa, Hamilton, Kingston, Winnipeg, Calgary, Port Arthur, St. John, N.B.

78

Canada Food Board Licenses: 11-003, 14-166.

STONE'S FERTILIZER For Fall Wheat

Manufactured by WM. STONE SONS, LIMITED. Head Office, Woodstock, Ontario. Factory, Ingersoll, Ontario



Condensed advertisements will be inserted under this heading at three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisement inserted for less than 50 cents.

BABY CHICKS AT REDUCED PRICES. 16% off in June, 33% off in July. Buy your chicks now for spring layers. Barred Rocks, Rhode Island Reds, White Wyandottes, White Leghorns. Satisfaction guaranteed. Tay Poultry Farm, Perth, Ont.

CANADIAN RINGLET BARRED ROCKS—Bred-to-lay strain; 241-egg kind; trapnested; heavy winter layers. Eggs, \$1.50 setting, guaranteed. F. Coldham, Box 12, Kingston, Ontario

Choice Eggs for hatching, from free range flocks—S.-C. White Leghorns (Barron's 282-egg strain), Bred-to-lay S.-C. Brown Leghorns, (O. A. C. and Guild strains), Barred Rocks—\$2 per 15, \$10 per 100. Fawn I. R. Duck eggs, \$3 per 10; Mammoth Bronze Turkey eggs, \$5 per 9 (show stock). Also choice Yorkshire Hogs, all ages. T. A. KING, MILTON ONT.

Rose-Comb Rhode Island Reds and Barred Rock eggs for hatching, \$1.50 per 15 Rose-Comb Rhode Island Red cockerels \$3 each
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2 20-H.P. Geo. White Traction Engines
1 Geo. White Separator, 36 x 56 Feeder & Blower.
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2 Water-tanks, 1 heavy wagon.
1 13" Joliette chopper, bagger and jack. In good working condition. Apply—
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German soldiers are still deserting into Switzerland despite a barrier of 3 barbed wire fences, one of which is charged with electricity.

THE NINTH ANNUAL

Toronto Fat Stock Show

UNION STOCK YARDS, TORONTO

December 5th and 6th, 1918

The management of the Show wish to announce the following changes over previous shows:

There will be no classes for female cattle.

All stock entered must be owned by exhibitor at least ninety days before opening date of show.

In addition to single cattle classes, there will be classes for three animals.

Premium List will be ready for distribution August 1st.

LIVE POULTRY

We are open to handle large quantities of live spring chickens or live poultry of any kind; highest market prices paid according to quality. Write us for quotations; Prompt returns.
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School Re-opens Sept. 11, 1918
Civic and Parliamentary Studies, Gymnasium Work and Swimming.
For Calendar apply to
Rev. F. L. Farewell, B. A. Principal.

When writing advertisers will you kindly mention "The Farmer's Advocate."

Daylight Saving.

Until a few years ago, hard working people used to save daylight by rising an hour earlier in the morning. That method of daylight saving, however, has never been popular, and did much to make the hired man a perennial problem. When the universe was created, the Creator started our planet on its course. In His infinite wisdom He arranged the movements of the planets so that our own, as it moves on its whirling course round the sun, is visited with alternating and varying periods of daylight and darkness, warmth and cold. Since these fluid times, which later inspired the Nebular Hypothesis, and until a year or two ago, the people of this planet have arranged their activities according to the schedule which was arranged by the Creator. The world in which we live has progressed and flourished for thousands of years by accepting without question that schedule.

However, an American politician, who never became known as a statesman, began to find flaws in the universal schedule a few years ago, and later he crystallized his objections into a bill called the Daylight Saving Bill. His propaganda was unique, and found supporters. Soon there was a body of earnest people on the American continent who spent their money and energy in agitating for the adoption of a daylight saving schedule. To these people belongs the startling honor of having first pointed out the fact that we save daylight by moving the hands of the clock an hour forward during the summer months. When people began to think deeply about the matter, the idea won many friends and the far-reaching benefits of a daylight-saving scheme threatened to undermine the reason of politicians who were enthusiastically supporting its adoption. However, the people as a whole did not take the matter seriously, and probably for that very reason a Daylight Saving Bill became law in Canada a month or two ago. The clocks were moved forward an hour, and everybody settled down comfortably to wait for the marvellous effects of this unique experiment.

So far, nothing has happened to place the framers of the Daylight Saving Bill in the ranks of world benefactors. The cities are running on the new time, which gives golfers an extra hour of daylight and permits automobile owners to burn up an extra gallon or two of gasoline in joy riding among the city suburbs during the evening. The mornings are just the same as they used to be. It takes just as long to cook breakfast, and the scurry to punch the time clock is doubtless just the same as it used to be. The evenings are somewhat insipid, being so long drawn-out, and it is hard to get the children to bed and still harder to lull them to sleep. The long evenings most likely have the effect of keeping people up late, which makes rising in the morning a greater effort than ever to people who call 7 a.m. early. Such are some of the marvellous effects of daylight saving in the cities.

In the country, daylight saving is not regarded as a great boon. Indeed, as far as my observation goes, it is not regarded at all. It is simply ignored. Thus its first effect is to cause confusion, as the farmer's time is one hour behind city time. The farmer is essentially a daylight saver. He has seen more daylight, particularly before noon, than the city man is ever likely to see. He regards this Daylight Saving Bill as a farce, and his reasons will bear scrutiny. In the first place, it simply means that the farmer exchanges a good substantial working hour in the afternoon for a cold, wet hour in the early morning. The thing is ridiculous on the face of it. Those who have farmed in Ontario know that many an hour is wasted in the morning as the farmer waits for the dew to dry off before commencing cutting clover. Under the schedule by which the world has operated until a year or two ago he had to wait probably till ten o'clock before he could commence cutting for the day. Under

Saving.

ago, hard working daylight by rising an morning. That ing, however, has and did much to perennial problem. was created, the net on its course. He arranged the nets so that our ts whirling course d with alternating daylight and dark- old. Since these ter inspired the until a year or this planet have according to the arranged by the which we live rished for thous- cepting without

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Handy Scales for Farm Use

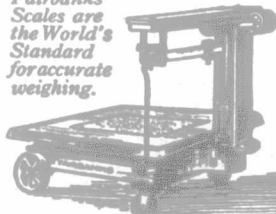
Convenience and service are the chief features of the

Fairbanks Farm Scales

The handle at the base of the weighing post permits of ready transportation on its own wheels to any part of the farm buildings. In house or barn or dairy it serves any purpose up to 2000 pounds capacity. Fairbanks Portable Farm Scales are compact and absolutely accurate. The platform is 34 x 25 1/2 inches and has a clearance of 11 3-8 inches above the ground. Write our nearest branch for full details of this and other types of scales.

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Fairbanks Scales are the World's Standard for accurate weighing.



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It saves the whole crop, preventing waste. You can keep more stock, utilize more roughage. You can have excellent feed for your stock Summer and Winter, tides you over the growth period—and the Bissell Silo won't decay. It has strong, rigid walls, air tight. It's your Silent Money Maker. Write us for information as to your particular requirements, or ask the Bissell Agent.

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IRON AGE

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IRON AGE Traction Sprayer meets the need for a fast-working, high-pressure field sprayer. Covers 4 or 6 rows—55 or 100 gal. tank. Write today for free booklet.



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HOLSTEIN BULL

Pure-bred, six to twelve months old; state price delivered here. Would like to see photograph. W.R. BROWN, Port Arthur, Ont.

the politician's daylight saving schedule he will have to wait till eleven before the dew has dried off.

Those Western farmers who observe the Daylight Saving Bill will have an extra hour of morning dew to contend with during haying and harvest. Those who cut flax this year will realize this fact quite poignantly.

Of course, the farmer can work an hour later at night, as the daylight lasts until after bed-time. This suggestion is entirely feasible, as the farmer can just as easily work seventeen hours a day as sixteen.

The advent of labor-saving machinery, however, has ruined the farmers' appetite for hard work and the hired man has independent ideas about working hours. They are not enamoured, therefore, with the possibilities of our Daylight Saving Bill, and are indicating their horse-sense by following a schedule that permits them to do the greatest amount of work during a working day.

Some people are very bitterly opposed to the Daylight Saving Bill. Others defend it with great zeal. It is tolerably certain, however, that the scheme is not worth a moment's excitement. Human beings have to do foolish things sometimes, apparently, and our Daylight Saving Bill is perhaps the most classic example to hand of pure, unadulterated foolishness. By its operation we have actually passed a law, the object of which is to make ourselves believe that we are adding an hour to each working day. A law to make adults hang up their stockings on Christmas Eve in expectation of a visit from Santa Claus would be quite as sensible, and would probably have better results.—Donald Stewart.

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.

Ensiling Red Clover.

I have a large acreage of small red mammoth clover and have been thinking of putting it in the silo. Do you think it would keep well if stored in this way?

W. E. M.

Ans.—In some parts clover has been ensiled very satisfactorily, but it is not a crop which lends itself to being ensiled as well as does corn. Owing to the higher percentage of protein there is considerable loss of food nutrients due to the process of fermentation which goes on in the silo. However, we know of instances where the clover was kept in good condition and the stock did very well on it. If it could be cured as hay we would prefer having it in this form, but should the weather be catchy greater feeding value might be obtained if the crop were ensiled. It would be necessary to tramp it thoroughly at the time of putting it in the silo, as it does not go together as firmly as does corn

To Prepare Sheep Skins For Mats.

Make a strong lather with hot water, and let it stand till cold. Wash the fresh skin in it, carefully squeezing out all the dirt from the wool. Then wash in cold water till all the soap is taken out. Dissolve a pound each of salt and alum in 2 gallons of hot water, and put the skin into a tub sufficiently large for it to be covered. Let it soak for twelve hours, and then hang it over a pole to drain. When well drained, stretch it carefully on a board to dry, and stretch several times while drying. Before it is quite dry, sprinkle on the flesh side 1 ounce each of finely-pulverized alum and salt-petre, rubbing it in well. Try if the wool be firm on the skin. If not, let it remain a day or two, then rub again with alum. Fold the flesh sides together and hang in the shade for two or three days, turning them over each day till quite dry. Scrape the flesh side with a blunt knife, and rub it with pumice or rotten stone.

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may induce you to try the first packet of

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but we rely absolutely on the inimitable flavour and quality to make you a permanent customer. We will even offer to give this first trial free if you will drop us a postal to Toronto. B113

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If you have a gasoline engine—if you have electric power—then no longer need you even work the lever of a hand-power washing machine. Let "power" help your work as it does your husband's!

Of course you realize that a washing machine, even run by hand, is quicker, easier, better than washing by muscle-power. But here's a washer that does everything—all you have to do is "turn on the juice."



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Power Bench Washer

—will do the washing while you do other work! No need to watch it—it can't go wrong. It will do the wringing too. Easy to operate—simple and strong in construction—perfect in mechanism. Made in one-, two-, or three-tub size; operated equally well by 1/6 h.p. electric motor, or any gasoline engine. Write us to-day for full particulars—it will be time well spent.

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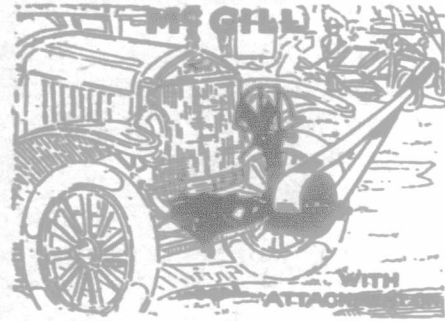
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(PATENTED)

With an AUTOPOWER ATTACHMENT on your FORD CAR, you have the best 14 h.-p. Portable Gasoline Engine in the world; absolutely no injury to your car.

This new and improved attachment makes it possible to convert your Ford into a power plant in two minutes, or back to a pleasure car in two minutes. In this new attachment, the casting, which stays on the car, makes an excellent holder for your license number, and at the same time nearly hides from view the



casting on the car, as shown in the accompanying cut. In this way it does not mar the appearance of your car in any way.

IT HAS THE POWER

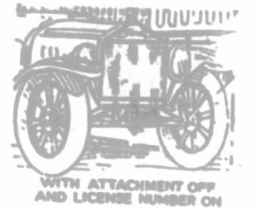
You know the power of the Ford. It is brought home to you every time you climb a hill, or you see the heavy loads the Ford trucks are hauling, and you ask why cannot I use this power

on my farm? Autopower makes this possible. The gasoline consumption alone over the ordinary stationary engine will pay for the attachment in a short time. Just think of having a portable power plant at your control, that you can take to any job with the Attachment on if you wish, and furnish heaps of power to grind as high as 60 bushels of oats per hour; run your Ensilage Cutter to its fullest capacity, run a wood saw with two notches of gas; run hay presses, pumps, and, in our Canadian West, farmers are running 28-in. Separators with blower attached, threshing as high as 700 bushels of wheat in 10 hours, or 1,000 bushels of oats in 10 hours.

The attachment has an auxiliary fan which keeps the engine cool under all conditions. A special clutch pulley makes it possible to start the engine and then pull in the load. The attachment is fully guaranteed, over 1,000 in use and giving entire satisfaction. The Attachment pulley is 10 inches in diameter by 4 1/4-inch face. The engine runs at same speed as running on the road at 20 miles per hour, which is about 1,000 R.P.M.; 40 feet of belt should be used.

Price, \$60.00, F.O.B., Toronto.

Order now and get some use out of your car this summer. We will ship C.O.D. \$60.00, and after 30 days trial, if not absolutely satisfied in every way, it may be shipped back and money refunded.



A. M. MCGILL, 203 Lee Avenue, TORONTO, ONTARIO

Wentworth Farmers See Five Counties by Motor.

Continued from page 1131.

were observable and much interesting information procured. Seventy acres of hay were inspected on the farm of Mr. Innes, who does all the work on his farm with the help of two boys, sixteen and seventeen years of age respectively. On this farm machinery is discounted, side-delivery rakes, manure spreaders, mechanical milkers, and other so-called modern machinery receiving scant consideration. A splendid herd of big Holsteins, thirty-one Clydesdales, nearly all registered, and the hay crop, were three points worthy of remembrance in connection with this farm. Mr. Pullin's farm carries eighty head of pure-bred Holsteins and fourteen grades. That morning he had sent to Woodstock 1,620 pounds of milk, or about twenty cans. "Grand View Dairy", Mr. Pullin's home, gave the party from Wentworth County a good reception and plenty of food for thought. Another stop was made at Shell Bros., where four hundred acres of land in two farms carry about one hundred and fifteen head of pure-bred Holsteins. Some of these cattle were heavy producers and were possessors of good records.

From this farm the party proceeded to Paris, where Mr. Green gave over the guidance of the party to R. Schuyler, Representative of the Department of Agriculture for Brant County. A stop was made at Oak Park Farm, the home of W. G. Bailey & Son, Holstein breeders, before proceeding to Brantford for dinner. Mr. Bailey has twenty-two head of milch cows and the milk from the herd is sent

to Brantford, wagons coming from the city to the farm to take it away. Proud winners of show ribbons were in evidence, and when Mr. Bailey was asked if he used a milking machine he stated that his cows were too good to take a chance on a machine.

After luncheon the start was made homeward, the first stop being made at the farm of Jas. Douglas, Caledonia, a well known breeder of Shorthorn cattle and Leicester sheep. Mr. Douglas Sr. not being at home, it was left for the party to make themselves at home, which they did, inspecting the herd under the guidance of Mr. Douglas Jr., the thick-set typy matrons in the pasture calling forth favorable comment from all sides. The sheep, too, came in for close inspection as well as the herd sires in paddocks by the barn. Another stop was made at the home of J. W. Richardson, Caledonia, but only for a short time. Mr. Richardson is a breeder of pure-bred Holsteins with a well known reputation and his herd was inspected with much interest. His fine home, too, came in for many appreciative remarks and the farm itself showed evidence of a progressive owner.

From the Richardson farm the party proceeded to the last stop, the farm of Mr. Isaac Wylie, of Caledonia. Having just returned from a two-day trip covering five Counties, it was a notable tribute to Mr. Wylie to say, as did some members of the party, that his crops were the best that had been seen any place. Farming one hundred acres, Mr. Wylie has become very successful in building up the soil to a high state of fertility and establishing a well merited name for the production of good baby beef. Grade Shorthorn cows are used,

one of which was sold to the butcher a few days ago weighing 1,800 pounds. Mr. Wylie ships cream to Caledonia and is well known as a very successful farmer in his neighborhood. While at this farm the party inspected an instructive fertilizer experiment. Last year forty acres were sowed to barley, and four tons of commercial fertilizer were put on thirty-nine acres; one-half of this fertilizer was acid phosphate, while the other half was a 5-12-0 mixture, sold by a fertilizer firm. The yield of barley last year on the fertilized portion was fifty-four bushels to the acre, and this year the effect of the fertilizer is very noticeable indeed on the clover. Three years ago Mr. Wylie fertilized with acid phosphate two acres in a seventeen-acre oat field. On the fertilized portion the grain was two weeks earlier and in spite of the fact that the season was wet the grain did not lodge.

In order to finish off the trip, one of the cars made a hasty run to Caledonia for some ice cream and this was dispensed generously, at the expense of the Boards of Agriculture, before the crowd finally returned to their respective homes. The officers of the Boards of Agriculture for North and South Wentworth deserve great credit for having conducted this very profitable automobile tour. Mr. Erland Lee, Stony Creek, President, and Mr. A. E. Smuck, Glanford Station, Secretary, of the South Wentworth Board of Agriculture, and Mr. Wm. Drummond, Waterdown, President, and Mr. Alfred Parnell, Pushling, Secretary of the North Wentworth Board of Agriculture, are all men of good progressive spirit, and it is to be hoped that future years may see the ideas which they have put into effect taken up by other Boards

of Agriculture and more opportunity afforded for farmers and stock breeders to visit adjacent counties and see what their neighbors are doing.

Questions and Answers. Veterinary.

Diarroea in Pigs.

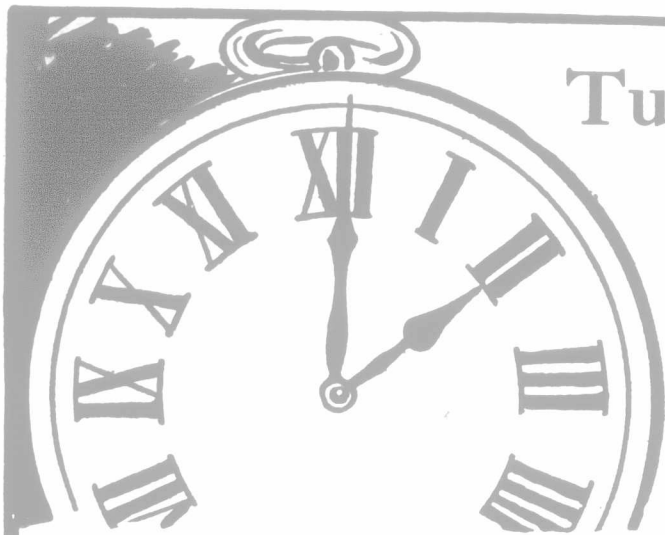
Pigs 9 months old are fed on shorts, bran and barley mouille, equal parts. Two of them commenced to vomit, and this was soon followed by acute diarrhoea.

Ans.—Feed on shorts, bran and chopped oats with the hulls sifted out, and sweet milk. Also allow free run on grass for a few hours daily. Add to the milk or water taken 1/4 of its bulk of lime water. If necessary to check diarrhoea promptly give 20 drops of laudanum and 30 grains each of prepared chalk and powdered catechu in a little new milk every 4 or 5 hours until it ceases.

Partial Paralysis.

Pregnant cow went lame on one hind leg. We could find no swelling or soreness. She had difficulty in rising and later became unable to rise. She gave birth to a large calf and has been unable to rise since. Is this disease contagious or can the bull to whom she was bred be responsible?

Ans.—She has partial paralysis. It is not contagious, neither can the bull be held responsible. Keep her as comfortable as possible, feed on laxative food, milk regularly, keep her bowels moving freely by administering a pint of raw linseed oil as indicated by the condition of the bowels, and give her 2 drams of nux vomica 3 times daily.



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Sure Cure For **POISON IVY**

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Please Mention Farmer's Advocate

Canada's Opportunity For Exports of Food.

Canada's opportunity for export at the present is to supply food for the Allies. We are the nearest agricultural country to Europe, our distance being less even than that of the United States, while the countries of the southern hemisphere average about three times our distance; and distance is a vital consideration in these days of inadequate shipping facilities. We have enormous possibilities for producing food, abundance of fertile soil and a climate that is suited to producing the foods needed for a warring population. We have not the density of population essential for a great manufacturing country, but we have a bountiful supply of the natural opportunities needed to make us a great producer of foods.

Demand for Staple Foods.

Our share in the great struggle makes the opportunity and the duty for us to produce and ship every possible ton of food, no matter whether or not there be personal gain in it for the farmers and shippers. There is the greatest possible profit in it even if we should give away the food to our Allies; there is the greatest loss we can possibly suffer if immediate private gain, or other consideration, caused us to produce less than we might for our Allies who are confronted with famine.

Fortunately, there is every likelihood of personal profit for those who help to increase the food supplies, and there is certainty of great national profit resulting from an increased food exportation program. We are heaping up a great national war debt to other countries. International debts are paid in goods, and food is the most profitable form of goods with which we can pay. Furthermore, let us be quick about it if we wish to be shrewd. A bushel of wheat or a pound of pork will pay off twice as much war debt to-day as the same quantity a few years after the war when prices have fallen by one-half.

Honor, business shrewdness and self-preservation demand our greatest possible production of foodstuffs during the war. Motives of personal gain and national prosperity call for a program of increased production for export of such commodities as will prove most profitable in our foreign market for years to come. Fortunately, as we shall presently show, the lines of great profit for the reconstruction period after the war are the same as those demanded for the war, namely, production of foodstuffs.

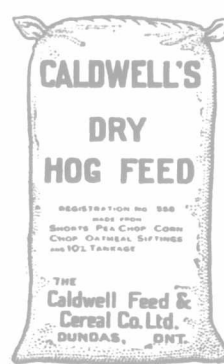
The Allies need all kinds of staple foodstuffs; they have given up luxuries; they want essentials. The food which they are calling for is the kind that Canada is best prepared to supply; the staple crops and animal products of the temperate zone. Of cereals they most need wheat, for wheat is the most readily prepared for human consumption by the machinery and methods which they have ready at hand, and wheat is the most valuable breadstuff possible to procure in quantity. Wheat is the most efficient means at man's disposal for turning the fertility of the soil into human food. Canada is, moreover, the foremost nation in the world in raising wheat for export, with the possible exceptions of Russia and India. Nature has given us the facilities for raising all the wheat the Allies need if man could do his part. What we should do is to devote every possible energy which can readily be used for this purpose into raising wheat. We can sacrifice our luxuries easily if the energy required in producing them can increase our wheat.

It may be asked, why should we not devote all our energies to raising wheat? It certainly would not be advantageous for us to feed out our good wheat even to produce bacon for the Allies. Why then devote effort to raising pork and beef or potatoes that could be used to help produce wheat? Part of the answer is clear, the rest none the less certain.

There are areas not suited to wheat raising; continually raising wheat on the same ground is frequently a policy unproductive of the best results; there are times of the year when the wheat does not require our attention; there are many possibilities for raising other food which would be far less advantageously employed if wheat raising were our only opportunity. In short, some of our energies will be much more productive of results if spent on other products.

Then again, the fighting forces need a

Bacon for the Boys on the Battle Line



Will you help produce it? If you require meal to help balance the ration for your hogs, give *Caldwell's Hog Feed* a trial. Our Hog Feed has found favor with many large feeders and breeders of hogs, and it therefore should be of special value to the patriotic beginner who is keeping a hog or two in the back yard, and knows little of their food requirements.

Feeding instructions come with every sack, and on the sack you will note the Government analysis. The purity and uniformity of this food is guaranteed.

Canada Food Board License, 9-7627

Do not delay ordering *Caldwell's Hog Feed* from your feedman; or write to us direct. Insist on getting **CALDWELL'S**.

The Caldwell Feed & Cereal Co., Limited

Dept. 2 **DUNDAS, ONTARIO**
Makers of all kinds of Stock and Poultry Feeds. (Capacity, 100 tons daily)



EMPIRE MILKING MACHINES

This DAIRYMAN is Thoroughly Satisfied

Here is the letter of a London, Ont., dairyman, who was frankly sceptical, but who installed an Empire Milking Machine, and found, like hundreds of other farmers and dairymen, that the investment was a wise and profitable one.

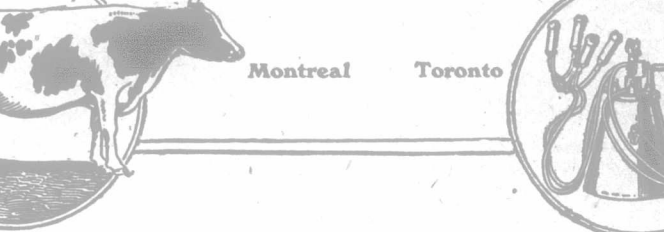
To Whom It May Concern: **London, Ont., March 20.**

This is to certify that I have had an Empire Milking Machine in my barn about twelve months and will say that it has given entire satisfaction in every way. We have had no teat or udder trouble whatever. The milk flow has been just as good, if not better, than when we milked by hand, and one man with one double unit can milk about as many cows as three could by hand in the same length of time. The washing of the machine is not a big job. We delivered our milk, which was milked by one machine, in the city to some of the most critical customers, and we never received one complaint. In fact, it is reasonable to think that we would not receive any complaints, because I know personally that the milk, as milked with the machine, is cleaner than it is possible to have it when milking by hand. When I was approached about putting a machine into my barn to milk my herd, I must say I was very sceptical as to whether the machine would give satisfaction or not, therefore I had it installed on three months trial, and to-day, after using the machine one year, I can conscientiously say that the machine has done everything that the company claims for it, and I can strongly recommend it to any dairy farmer as being everything that is claimed for it, and, as a last word, will say to my brother dairymen, if they are milking ten or more cows, they are taking no chances in installing an Empire Milking Machine. Of course, if they are milking less than ten cows, or the cows are near drying off, it is not profitable to milk with the machine, but I will strongly recommend it for, say, nine months out of each year.

Yours truly, **JOS. WINTER.**

R. R. No. 3, London.
We would like to send every farmer and dairyman who is bothered with the milking problem copies of other similar letters that we have received, as well as some of our literature on the Empire Milking Machine. If you are interested, write us, asking for Catalogue J.

THE EMPIRE CREAM SEPARATOR CO. of CANADA, Limited



ESCANA FARM SHORTHORNS

Five Bulls for Sale. One roan senior yearling; one choice twelve months white calf; by Right Sort (Imp.); one select, dark roan, ten months calf; one roan yearling, by Raphael (Imp.); one reroa nd yearling, for grade herd. Farm 1/4 mile from Burlington Jct., G.T.R.
J. F. MITCHELL, Limited **BURLINGTON, ONTARIO**
SEVENTY-THREE HEAD OF SHORTHORNS.
Four good young bulls of serviceable age; Nonpareil Ramsden =101081= and Royal Red Blood, =77521=, at the head of the herd. These young bulls range in age from 8 to 15 months, and are for immediate sale. They are out of good dams, which will bear inspection. Our cows and heifers will please, and you'll like the bulls. Also three extra-good grade heifers, from heavy milk-producing dams, **James McPherson & Sons, Dundalk, Ontario**

The SAFEST Matches
in the World, also the
CHEAPEST, are

Eddy's "Silent 500's"

SAFEST because they are impregnated with a chemical solution which renders the stick "dead" immediately the match is extinguished.

CHEAPEST because there are more perfect matches to the sized box than in any other box on the market.

War-time economy and your own good sense will urge the necessity of buying none but EDDY'S MATCHES.

The E. B. EDDY CO., Limited
HULL, CANADA

BOO Spavin

Cure the lameness and remove the bunch without scarring the horse—have the part looking just as it did before the bluish came.

FLEMING'S SPAVIN CURE (Liquid) is a special remedy for soft and semi-solid bluish—Boo 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 Advisor describes and illustrates all kinds of bluish, and gives you the information you ought to have before ordering or buying any kind of a remedy. Mailed free if you write.

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75 Church Street, Toronto, Ont.

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Linseed Oil Cake Meal, Corn Oil
Cake Meal, Gluten Feed Meal,
Bran, Shorts, Feeding
Corn Meal.

Also a full line of the reliable Good
Luck Brands of Poultry Feeds.

Write or 'phone for prices.

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Dovercourt Road, Toronto, Ontario

"MAPLE LEAF FARM"

SHORTHORNS SHROPSHIRE
CLYDESDALES BERKSHIRES

John Baker, R.No.1, Hampton, Ont. Bell Phone
Solina, C.N.R., Bowmanville, G.T.R. and C.P.R.

Brownlee Shorthorns. Offers a choice lot of young bulls, ranging in ages up to nine months, and sired by the Nonpareil bull, Royal Saxon. See these before buying elsewhere. Could also spare a few females. Douglas Brown, Bright, Ont., R. R. 3. Ayr Station, C. P. R.

Shorthorns Pail-fillers for sale. Young bull and heifers out of high record cows. A few young cows and bulls with extra good breeding and quality.

PETER CHRISTIE & SON
Manchester P.O. Port Perry, Ont. Co.

Lochabar Stock Farm

is offering two right good Scotch Shorthorn bulls, 12 and 18 months; a roan and a red; also some females. D. A. Graham, R. R. 4, Parkhill, Ont.

GLENFOYLE SHORTHORNS
College Duke 4th in service—a high record son of Rothschild and Taylor's noted stock. Am offering young cows and heifers, bred to this great bull. Have a few bulls of breeding age on hand.
Stewart M. Graham, Lindsay, Ontario

portion of this food in a more concentrated form than cereals. They need fats and they need meat. It may not be economical for them to turn any commodity already in Europe that is suitable for human consumption into feed for animals in order to have the animal products, for this process may turn out less food value than what was consumed. It is, on the other hand, profitable for us to feed animals. The reason for this, in addition to the above-mentioned necessity for the concentrated food of animal products, is the lack of transportation facilities for bulky foods. The Europeans may not be able to afford to feed to animals any food which is already there and available for human consumption. We can raise the animal products for them, and these concentrated forms of food will make smaller demands upon the limited shipping facilities than will cereals. Furthermore, we can produce animal products from rough fodder and forage, from waste products, from the many feedstuffs which are not suitable for human food. The more such products we can make into meat and other animal products the nearer shall we be to victory.

The most economical animal for converting feed into food for the Allies is the hog. The cow is the nearest competitor, but her most efficient product, which is milk, is not readily available for shipment overseas. However, valuable as the hog is, making 15.6 lbs. of edible solids while the steer only makes 2.8 lbs., yet it is only certain kinds of feed which the hog can readily use. Grass and hay are the raw materials for beef, not pork. Since Canada has extensive areas best suited to grazing or raising forage and areas beyond our present ability to bring under the plow, there is a great opportunity to produce beef for the Allies with natural products and human energy that would otherwise be relatively unproductive.

Sheep are slightly more efficient producers of food from feed than are steers under ideal conditions. Since one produces wool and the other leather as a by-product, both of which are vitally necessary at present, and since both are efficient means of converting forage into human food, we must bend every possible energy to the conversion of such forage into a means of victory.

The hog possesses the advantage of rapid multiplication better than any other form of live stock except poultry, and this gives it a great advantage in an urgent programme of increased production. Garbage or other waste products or surplus potatoes are suitable for hog feed; the hog is the most efficient means of utilizing such products. Where damaged or low-grade grain is available it should also be used for making pork, unless it is needed to round off a plentiful forage ration for cattle. The hog and the dairy cow take first place if concentrated feeds are available; steers and lambs can be raised largely on forage. Where the stock and the facilities for handling poultry already exist, our common barnyard hen is an excellent business proposition in our campaign. She utilizes almost any kind of food, multiplies rapidly, and produces two forms of highly nutritious food.

There is a very good reason to suppose that prices for farm products will rise relatively faster than for other commodities. In brief, the most profitable things to offer the world market will be those products which are relatively in demand and were rising fastest in price in normal times, namely, the products which we can raise on our farms. We cannot doubt that it will be profitable to have these things to sell in abundance when the war is over, when we consider the most serious depletion of the agricultural resources of Europe and the resulting semistarvation which is imminent.

Canada is most fortunate in finding herself in an excellent position to cater for this demand. In fact, agricultural products are the kind of exports which we are best able to offer. We have vast agricultural resources, part of which have barely been "scratched" up to the present time. We have the most fortunate situation in the world geographically, with our nearness to Great Britain and our close proximity to the United States, which is fast also becoming an importer of foodstuffs. On the other hand, our industrial opportunities are, as yet, limited. We have no coal in the heart of the country where the bulk of the popu-



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Dunlop Tires—"Traction,"
"Special"—represent doing
best what other tires may
have been trying to do well.

"Masters of the Road"

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DUNLOP TIRES

SHORTHORNS

For Profits

Shorthorn steers dressed the highest percentage at the Chicago International in 1917. Shorthorn steers are preferred by the largest buyers of feeders on the Chicago market. Shorthorn steers show greatest weight for age.

THE BREED FOR FARM OR RANCH
DOMINION SHORTHORN BREEDERS' ASSOCIATION
W. A. DRYDEN, Pres., Brooklin, Ont. G. E. DAY, Sec., Guelph, Ont. 10

Write the
Secretary
for free
Publications.

GLENGOW SHORTHORNS

We have a choice offering in young bulls, fit for service. They are all of pure Scotch breeding, and are thick, mellow fellows, bred in the purple.

WM. SMITH, COLUMBUS, ONTARIO. Myrtle, C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.

Robert Miller, Stouffville, Ontario

still has a few Shorthorn bulls, fit for service, and some females that are as good as can be found for the man that wants to start right in Scotch Shorthorns. They will be sold for a low price, considering the quality, and the freight will be paid.

Write for anything in Shorthorns. One hour from Toronto.

IMPORTED SCOTCH SHORTHORNS

Our present offering includes 100 imported females and 12 young imported bulls, representing the most desirable lines of breeding. If interested come and see them. Burlington Jct., G.T.R., is only half mile from farm. J. A. & H. M. PETTIT, FREEMAN, ONTARIO

SHORTHORNS, SHROPSHIRE

Four richly-bred Lavinia females for sale. Grand lot of bull calves sired by Lochiel (Imp.) for next fall's business. Also nice bunch of Shropshire lambs, sired by Miller ram. Come and see them.
Wm. D. Dyer, R No. 3, Oshawa, Ont. 2 1/2 miles from Brooklin, G.T.R.; 4 miles from Brooklin, C.N.R., or Myrtle, C.P.R.

CREEKSIDE SCOTCH SHORTHORNS

Herd headed by Gay Monarch 79611; dam, Sally 8th imp., and sire, the great Gold Sultan 75411. My present offering of young bulls includes several 7 to 14 months' youngsters, all thick, mellow well-grown fellows—reds and roans—and priced right. Can also supply females in most any numbers
Geo. Ferguson, —Elora Station, C.P.R., G.T.R.—Salem, Ont.

NICHOLSON'S SHORTHORNS

We have about a dozen young bulls (ages 8 months and upwards), sired by our herd headers, Best Boy = 85552 = and Browdale Winner = 106217 = . Write or come and see.

R. and S. Nicholson, Parkhill, Ontario

FLETCHER'S SHORTHORNS

Our herd of Scotch Shorthorns represents Orange Blossoms, Kiblean Beauties, Matchless, Mysies, Missies, Clementinas, etc., and is headed by the Watt-Stamford bull, Victor Stamford = 95959 =, a Toronto winner. Present offering—one young bull and several heifers and cows.
GEO. D. FLETCHER, ERIN, R. R. 1, ONT. Erin Station, C. P. R., L.D. Phon 6

SPRING VALLEY SHORTHORNS

Herd of seventy head, straight Scotch, good individuals. Headed by the great show and breeding bull, Sea Gem's Pride 96365, and Nonpareil Ramsden 83422. We have for sale four as good young bulls as we ever had, and a few females. KYLE BROS., Drumbo, Ont. (Phone and telegraph via Ayr.)

WILLOW BANK STOCK FARM

SHORTHORN CATTLE and LEICESTER SHEEP. HERD ESTABLISHED 1855—FLOCK 1848
The great show and breeding bull, Browdale = 80112 =, by Avondale, heads the herd. Extra choice bulls and heifers to offer. Also a particularly good lot of Leicester rams, mostly from Imp. ewes.
JAMES DOUGLAS CALEDONIA, ONTARIO

BLAIRGOWRIE SHORTHORNS

I have females all ages and bulls of serviceable age. Worth while to come and see, or write.
JOHN MILLER Myrtle Station, C.P.R., G.T.R. ASHBURN, ONTARIO

lation is, and we have not yet turned our water-power to full account. Anyway, we have not yet the density of population in the country as a whole to claim a high place as a manufacturing nation. Our talents so far are for the products of the soil. We are equipped with transportation facilities to handle our crops. The foreign demand for foodstuffs is most urgent at present and promises to continue to be strong after the war. If we seize the opportunity to meet this demand we shall do our duty for the present and be able within the least possible time to change our war debt into national prosperity.—By R. J. McFall, Chief of International Trade Division, in a recent issue of "Monthly Bulletin of Agricultural Statistics."

Tobacco Crop Outlook For 1918.

EDITOR "THE FARMER'S ADVOCATE":

At the present writing transplanting has been completed in Prince Edward Kent and Essex Counties. The crop has been planted in the field on an average of two weeks earlier than last year. More or less general rains have come throughout the whole tobacco producing area. The young plants are starting off nicely in the fields, and are looking very promising.

Cutworm damage has been very small considering the earliness of planting.

The acreage of tobacco set has been increased over last year. Most of the increased acreage has been set to White Burley. The Bright or flue cured tobacco acreage has been increased somewhat as well as the snuff, and the cigar types. The increase would have been much greater if labor and plants could have been obtained. The new tariff regulations seem to have given encouragement to an increased acreage.

Practically everyone who tried to produce plants this year was successful with their plant beds. Very little disease of any kind has been noted in the plant beds or field so far. Despite the fact that plants were good there was a great demand for them, and those having more plants than they needed had no difficulty in disposing of them at from \$2.25 to \$2.50 per thousand. One large grower had orders for about three million plants, but was not able to ship more than one third of the plants ordered. The heavy demand for plants came from small growers who preferred to buy enough for two or three acres rather than go to the trouble of growing them; and from larger growers who decided to plant more tobacco than they thought of planting at seeding time, on account of the very favorable and early spring and the anticipation of a stronger demand for Canadian tobacco this fall.

Taking everything into consideration at this time the tobacco crop outlook should be very satisfactory to the grower and manufacturer as well. If favorable climatic conditions keep up as they have started a very fine crop will be produced. The acreage has been much larger than it is this year, but the crop has not looked more promising for several seasons. The market is good, and the demand is strong, and promises to be very satisfactory this fall.

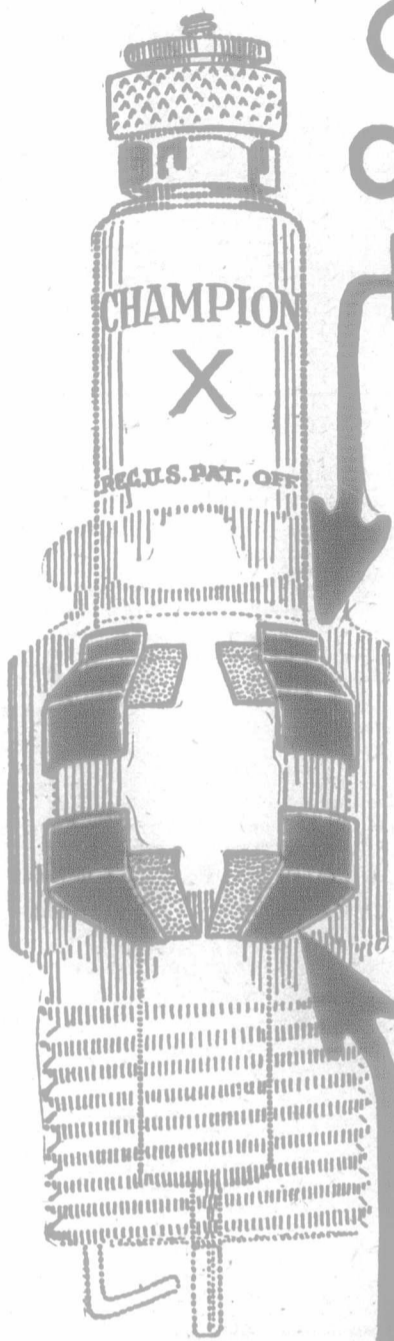
H. A. FREEMAN,
Tobacco Inspector.

Questions and Answers.
Miscellaneous.

Lime Kiln.

I have a lime kiln 14 feet high and 8 feet in diameter, which does not burn well at the door. How should a lime kiln be built to give good satisfaction? What kind of wood is best? How long should a kiln be burned? How big a fireplace should I have? Should I have a door on the kiln when burning? W. E. C.

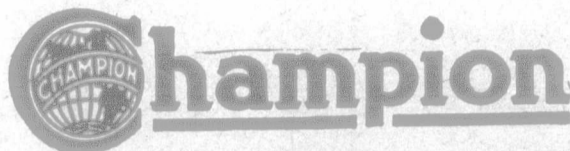
Ans.—There are different types of lime kilns but usually they are built of stone, and when the stone for burning is being put in place they are laid so as to form an arch at the bottom, which serves as a fireplace. The lime-stone lends itself to building this arch quite easily. The length of time for burning depends to a certain extent on the porosity of the stone and on the size of the fire. Almost any kind of good wood will do. We notice around many lime kilns that some of the soft woods, cut in cord-wood lengths are used. By having a door on the kiln you would be able to control the fire much better than without one, and this might give good results in the saving of fuel.



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Champion Asbestos Lined Copper Gaskets Mean Dependability

They are an exclusive patented feature of all Champions that insure dependable service under any condition of driving. They take



Dependable Spark Plugs

out of the ordinary class and make them super-service plugs. They prevent any part of the porcelain from coming in contact with the hard steel shell.

The asbestos lining in the soft copper gasket rings form a cushion on each shoulder of the porcelain that absorbs the continuous, invisible blows of gas explosions in the motor cylinder and at the same time takes up the expansion caused by excessive heat.

There is a Champion for every make of engine, and the name "CHAMPION" on the porcelain guarantees "Absolute satisfaction to the user or free repairs or replacement will be made."

Ask any dealer for the Champion that will maintain maximum efficiency in your car.

Champion Spark Plug Co.
of Canada, Limited
Windsor, Ont.

Stop at the next Auto Supply Store and get a Champion "Minute" Spark Plug Cleaner. Cleans a set of plugs in a few minutes without even getting your hands dirty. Sell for \$1.00.



Milking Shorthorns

The herd is composed of individuals with high milk records and of splendid beef conformation. Several bulls of breeding age, sired by Dominator 10829, one of the best bred bulls for milk in Canada, are now being offered. They are out of cows with records ranging from 8,000 to 11,000 pounds of milk in one lactation. Prices right.

Weldwood Farm, Farmer's Advocate, London, Ontario

SHORTHORNS LANDED HOME

My new importation of 60 head will be at home to visitors June 20th, and includes representatives of the most popular families of the breed. There are 12 yearling bulls, 7 cows with calves at foot, 24 heifers in calf, of such noted strains as Princess Royal, Golden Drop, Broadhooks, Augusta, Miss Ramsden, Wimple, etc. Make your selection early. Geo. Isaac, (All Railroads, Bell Phone) Cobourg, Ont.

Here at Present—TEN IMPORTED BULLS

Sired by Beau Gaston, grandson of old Beau Brummel. These are all herd headers and good enough to head any herd. Write or phone. L. O. CLIFFORD, OSHAWA, ONTARIO.

SHORTHORN BULLS Will. A. Dryden
Brooklin, Ontario Co.
of my own breeding, around a year old; best families and Myrtle, C.P.R., Brooklin, G.T.R. Brooklin, C.N.R.
good colors, are for sale. Also a few young, imported bulls.

SALEM SHORTHORNS

Herd headed by Gainford Marquis (Imp.), undefeated in England and Canada. Sire of the winning group at Canadian National, 1914, 1915, 1916. Can supply cattle, both sexes, at all times. J. A. WATT, ELORA, ONTARIO

Shorthorns Herd headed by Pride of Escana, a great son of Right Sort. Several bulls and a few females with calves at foot for sale. Herd of over seventy head.

A. G. FARROW (between Toronto and Hamilton), Oakville, Ont.

PLEASANT VALLEY FARMS

Present offering—A number of good young Scotch cows with calves at foot and rebred to (Imp.) Newton Grand Champion; also a number of 2-year-old heifers bred to same sire. Suitable for good herd foundations; priced to move them. Inspection invited. GEO. AMOS & SONS, Farm 11 miles east of Guelph, C.P.R. MOFFAT, ONTARIO

MAPLE HALL SHORTHORNS

Present offering, 7 yearling bulls; One Cruickshank Duchess of Gloster. Five Cruickshank Butterflys. One Shepherd Rosemary. All pure Scotch, and extra good; also a few young cows with calves, and yearling heifers. D. BIRRELL & SON, CLAREMONT, ONTARIO

Dual-Purpose Shorthorns—CROWN JEWEL still heads the herd. Present offering is 5 bulls, from 13 to 18 months. Prices from \$200 to \$250. Also some good breeding females, either bred or with calves at foot. All registered and priced to sell. JNO. ELDER, HENSALL, ONTARIO

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FLINTSTONE FARM

Breeders of—

Milking Shorthorn Cattle
Berkshire Swine
Belgian Draft Horses

Our heifer Lady of Meadowbrook has just completed an official record of 10,916.6 lbs. of milk and 426.352 lbs. of fat. This is the world's record for the breed of a junior 3-year-old.

Another heifer Lady Sale 15th has just completed an official record of 10,178.8 lbs. of milk and 389.257 lbs. of fat, as a two-year-old.

Dalton
Massachusetts

SHORTHORNS

FOR SALE

Good animals of both sexes. Burlington phone and G.T.R. Jct. Radial every hour from Hamilton. C. N. Blanshard, R. R. 2, Freeman, Ont.



Special Prices
on bulls of serviceable ages for next 30 days.

ARTHUR F. O'NEIL & SONS
R. No. 2, DENFIELD, ONT.

Evergreen Hill R.O.P. Shorthorns
Herd headed by the R. O. P. bull, St. Clare. Nothing for sale at present. S. W. Jackson, R. R. No. 4, Woodstock, Ont.

Inspect These Bonds Before You Buy

If you think you would like to buy one or more Victory Bonds, cut out and mail us this advertisement, after first checking off amount of bond, or bonds, you would like to invest in. We will send the bonds to you at your local bank, where you may inspect them before making payment. Then, if you decide to invest you may pay for them through your local bank without extra charge or exchange off cheque.

There's no reason why anybody should keep money for which they have no immediate use drawing no interest, or drawing only 3% interest, when he or she can invest it in Victory Bonds and obtain 5½% to 5¾% interest.

And, remember, Victory Bonds are readily saleable and free of Federal Income Tax.

You can buy Victory Bonds at the following prices:

\$1,000 costs.....	\$995.00
500 costs.....	497.50
100 costs.....	99.50
50 costs.....	49.75

and accrued interest.

Larger amounts \$995 per \$1000. Interest, which is payable every six months at all banks, commences from date of your investment, so write us to-day—or we will hold bonds for you to be delivered the first of the month.

Graham, Sanson & Co.
INVESTMENT BANKERS

Toronto General Trusts Building,
Toronto

MAGIC! HAVE IT ON THE DRESSER

Corns stop hurting then lift off with fingers.

Just drop a little Freezone on that touchy corn, instantly it stops aching, then you lift that corn right off. No pain at all! Costs only a few cents.



Get a tiny bottle of Freezone for a few cents from any drug store. Keep it always handy to remove hard corns, soft corns, or corns between the toes, and the calluses, without soreness or irritation. You just try it! Freezone is the sensational discovery of a Cincinnati genius.

For Sale

Three Registered Holstein Heifers
2 years old.

ADDRESS:—
Arthur Watson, Mandaumin, Ontario
Phone 382, Ring 1-4 Sarnia

HOLSTEINS

1 bull, 2 years old; 1 bull, 18 mos. old, from a 23¼-lb. 3-year-old dam. One bull, 13 mos.; others younger.
R. M. HOLTBY, Port Perry, Ont.

Progress in Manitoba Dairying.

More than twice as much butter was exported by Manitoba during the first five months of 1918 as during the first five months of 1917. This year, up to May 31st, 56 carloads were sent out of the Province; last year 25 carloads during the same period and 96 cars in the whole year. This latter figure, again, compares with a total of 58 cars for the whole year in 1916. Thus our exports prior to June 1st, this year, with the grass season only well begun, are only two cars short of the number for the whole twelve months two years ago.

All our butter now is going eastward to Montreal where it is being taken for export for the Allies. All shipments are being made in 56 pound solids, and on the basis of 400 boxes per car. At present prices, each carload is worth close to \$10,000.00. Thus Manitoba's butter exports this year should considerably exceed one million dollars in value.

Cream grading by Manitoba creameries is now fairly general, but, according to Dairy Commissioner Gibson, the creameries are not grading with sufficient strictness. This, of course, is due to the keen competition among the factories for cream. The highest grade of sweet cream, known as "Special" brings 2 cents above No. 1, and this is 3 cents above No. 2 cream. The present tendency is for creameries to accept too much No. 2 cream at No. 1 price, or rather, to grade too easily. The present day market demands a mild, clean-flavored butter, which can be made only from practically sweet cream. It is a common complaint that cream is delivered too ripe, with too much acid, thus resulting in too highly flavored butter which will not hold in storage.

Pasteurization is almost universal at the Manitoba butter factories; over 90 per cent will be pasteurized this year as a large number of up-to-date vats have been installed.

"What is proper pasteurizing, and how does it affect the keeping quality of butter?" To this question Mr. Gibson says that sweet cream pasteurized by heating to 170 degrees and held at that temperature for ten minutes will produce butter that will keep in cold storage with practically no deterioration for 12 months or longer.

The application of the Storch test, which has now for some time been carried on by the Dairy Branch, has been very satisfactory. By this test the Dairy officials determine whether pasteurizing has been properly done. At rural points the travelling inspector tests the cream in the factories he visits; in the laboratory of the Department of Agriculture the test is applied to representative samples of butter. The test works perfectly, and Mr. Gibson claims that when the Department now tests and grades a carload of butter it can, to all practical purposes, tell just how much cold storage it will stand before deterioration. All carloads of butter are graded by representatives of the Department.

At time of writing, the creameries in Manitoba are receiving 43 cents at point of shipment for "special" grade butter; 42 cents for No. 1, and 40 cents for No. 2.

Not only is the butter trade good, but a new milestone has been passed in the cheese industry. No longer ago than the year 1916 between 50 and 55 carloads of cheese came into Manitoba for local consumption. This was greatly reduced in 1917, and to-day, for the first time, a carload of Manitoba cheese is on its way to consumption elsewhere. A few days ago the first carload left for Montreal to be graded and shipped overseas. This cheese netted 21 cents per pound at the factory.

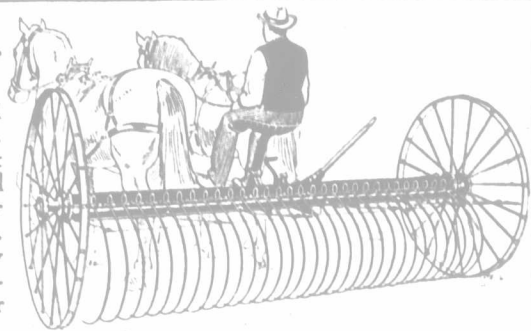
Diseased Mangel Plants.

In thinning mangels I came across some with a purplish tinge which do not look as though they would amount to much. Lamb's quarters growing in the rows also has a purplish tinge. Would spraying do any good? G. P.

Ans.—Some varieties of mangels have more or less of a purplish tinge, but it is possible that the plants are affected with some bacterial disease. We cannot say what it would be without seeing a specimen.

Save All The Hay

you cut by using a PETER HAMILTON No. 4 RAKE. This machine has great capacity and will rake up all your hay, whether light or heavy, leaving a clean stubble. The teeth will pass smoothly over the ground without digging into it, and lift well over the windrow.



The automatic dump is very efficient and the extra guard teeth are provided to keep the hay from rolling or winding into the wheels.

No worry, no trouble, no loss of time when working with this efficient rake. Write us to-day.

The Peter Hamilton Company, Limited
Peterborough, Ontario (2)

HET LOO PIETERTJE

THE \$12,750 HEIFER

Sold at the great Milwaukee Sale, was only one of the many daughters we have of our senior sire, Pontiac Korndyke of Het Loo. We also have sons—brothers to this world's champion heifer; and for the next few weeks, these, along with several other young bulls of serviceable age, are priced exceptionally low. Let us hear from you if interested—at once.

W. L. Shaw, Roycroft Farm Farm on Yonge St., Toronto & York Radial, 1½ hours from Toronto. New Market, Ont.

Manor Farm Holstein-Friesians

If it's a herd sire you want, write me. I have sons of both my senior and junior sires, King Segis Pontiac Posch and King Korndyke Sadie Keyes. All are from good record dams.

Choice bull calves at present to offer—average for two nearest dams, up to 34.71 lbs. butter in seven days. Correspondence solicited, visitors welcome.

Gordon S. Gooderham Stations: Clarkson and Oakville
Farm on Toronto and Hamilton Highway Clarkson, Ont.

CHOICE BULLS—Ready for Service

No. 1—By a son of MAY ECHO SYLVIA His two nearest dams (both Canadian champions) average 35.62 lbs. butter in seven days. Price \$1,000.

No. 2—By a son of MAY ECHO SYLVIA. His two nearest dams (one a four-year-old) average 34.17 lbs. butter in seven days. Price \$600.

Some extra choice young bull calves, from \$200 to \$1,000. We have sold 37 bulls this winter.

HIGHLAND LAKE FARMS

R. W. E. Burnaby - Farm at Stop 55, Yonge St. Radial - Jefferson, Ont.

Hospital for Insane, Hamilton

We offer bulls only for sale, but they are from some of the choicest cows to be seen in any herd, and bulls equal to the best.

—Apply to Superintendent

SUMMERHILL HOLSTEINS

Present offering:—Two bulls fit for service, both show animals, with excellent breeding, will be sold cheap if taken at once.

D. C. FLATT & SON Long-distance 'phone R.R. 2, HAMILTON, ONT.

Cloverlea Farm Holstein-Friesians

Offers for sale a choice young bull three months old, out of a 20.3-lb. dam. For price and extended pedigree write to

GRIESBACH BROS., COLLINGWOOD, ONTARIO

DUMFRIES FARM HOLSTEINS

Cows for sale, bred to Plus Evergreen, son of Evergreen March,

S. G. & ERLE KITCHEN Bell 'phone. ST. GEORGE, ONTARIO

SILVER STREAM HOLSTEINS

Present Offering—six extra well bred bull calves, sired by bulls with 34-lb. backing, and from tested dams, individually as good as their breeding. For fuller particulars and prices, write, or better come and see them.

J. MOGK & SON, R. R. 1, TAVISTOCK, ONTARIO

PIONEER FARM HOLSTEIN HERD

—the herd that produces champions—offers a very handsome, ready-for-service son of Canary Hartog. His dam a high-testing sister of Calamity Snow Mechthilde 2nd, the new Canadian champion three-year-old in R.O.P. Also bull calves from champions, and from dams' sisters and daughters of champions. Don't take time to write—come at once and see them for yourself.

WALBURN RIVERS & SONS, R. R. 5, Ingersoll, Ont. Phone 343L, Ingersoll Independent Line.

EVERGREEN STOCK FARM... Registered Holsteins

Just now we are offering one choice yearling bull, ready for heavy service. The records of his five nearest dams average over 31 lbs. butter in 7 days, and over 100 lbs. milk in 1 day. We have also some high-record bull calves, including one whose dam and sire's dam have records that average 37.66 lbs. butter in 7 days and 127 lbs. of milk in 1 day. A. E. HULET, Norwich, Ont. Bell Phone 48-3

Riverside Holsteins

We still have some good bullson hand, including two half-brothers of Toitilla of Riverside, former Canadian R.O.P. Champion. Write or phone your wants to—J. W. Richardson, Caledonia, Ont.

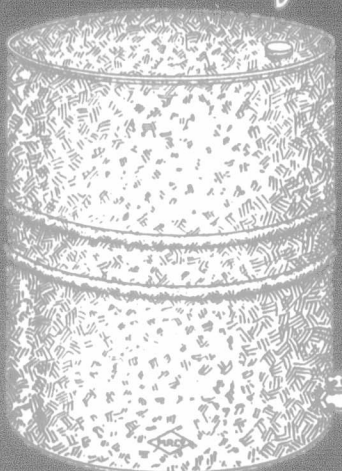
I Will Sell My Herd Sire "SIR GELSCHÉ WALKER"

whose dam's sire is "King Segis" and sire's dam is by King Segis. His 7 nearest dams average 30 lbs. butter 7 days, age 3 years; quiet and sure; 70% of his calves are females. Price \$400.

Thos. L. Leslie, Alluvialdale Farm, Norval Station, Ontario

When writing please mention this paper

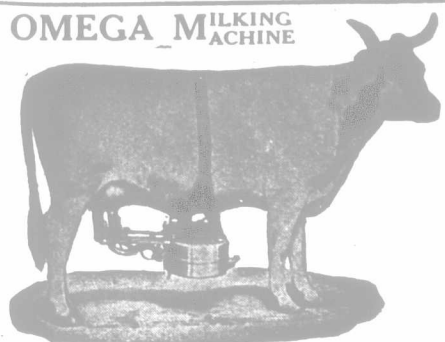
Keep a supply of "Gas" handy!



EASTLAKE GASOLINE. COAL OIL, ETC. TANK.

Don't be caught without Gasoline, Coal Oil, etc.—keep a good supply ready in an "Eastlake"—the "tank that never wears out".

Metallic Roofing Co. Manufacturers Limited King & Dufferin Sts. Toronto.



OMEGA MILKING MACHINE. Milks fast and clean, has no rubber connections for the milk to pass through.

CITY VIEW AYRSHIRES. White-Legged Kirsty—11,782 lbs. milk in 304 days in her 12th year.

Choice Offering in Ayrshires AT SPECIAL PRICES. Several young bulls of serviceable ages.

Glencairn Ayrshires. Herd established 40 years. Producing ability from 8,600 to 11,022 lbs.

Twenty-five Years Breeding REGISTERED JERSEYS and BERKSHIRES. We have bred over one half the world's Jersey champions for large yearly production at the pail.

For Sale—At a bargain, for quick purchase; five-year-old registered Jersey cow Effie's Violet—4818—sire, Leda's Golden King—1925—dam, Effie's Rose of Don—362—; fresh, calved June 18th.

Questions and Answers.

Miscellaneous

Cutting Noxious Weeds.

Can I compel my neighbor to keep ox-eye daisies, which are growing in his crops, from going to seed? A. M.

Ans.—In most municipalities there is a weed inspector appointed by the township council, whose duty it is to see that noxious weeds are prevented from becoming a public nuisance.

Hydro Powers.

The Hydro are running a line on the road allowance or highway along my farm. In so doing they will interfere with some of my shade trees which they claim they can trim or cut down—anything within ten feet of their wire.

Ans.—No.

Building a Line Fence.

A and B own lots side by side. A lives on his lot, B's lot is bush and is kept for a wood lot. A wants to fence his lot for pasture. B says he has no interest in fencing his lot and will allow A's horses and cattle to pasture in his bush.

Ans.—A man is supposed to put up his share of the line fence and keep it in repair. In most townships there are men appointed as fence viewers, whose duty it is to decide whether or not a fence is in repair and as to the need of a fence.

Do Beef Rings Mean Waste of Meat?

Is it advisable for farmers to have beef rings at the present time, when the country is so short of meat? The patrons of beef rings receive from twenty to thirty pounds of meat each week, depending on the size of the animal killed.

Ans.—A farmer can belong to a beef ring and yet conserve meat as well as if he were purchasing it from the butcher. Because he and his family have a supply of fresh beef of choice quality on hand, is no reason to believe that meat is being wasted.

Councillors as Delegates.

1. The Township Council appointed two of the members as delegates to go to Ottawa to get the farmers sons exempted from the M. S. A.

2. Can any ratepayer legally object to them using the township money for that purpose?

3. What proceedings would it be necessary to take to make them return it back to the treasurer of the township? W. B.

Ans.—1 and 2. The council may pay for or towards the reception and entertainment of persons of distinction or the celebration of events of national interest or importance, or for or towards travelling or other expenses incurred in respect to matters pertaining to or affecting the interests of the corporation, a sum not exceeding in any year \$500.

3. If, having regard to the foregoing, it is a case where there ought to be a refund, it could be had by suit.

J. H. Patrick & Son, of Ilderton, report an important sale of Shorthorns comprising 20 heifers to R. W. Gardner & Co., of Lethbridge, Alta. Several of the heifers were bred to their Rosewood bull.



LIPTON'S TEA

That's what you get when you buy Lipton's Tea.

Two teaspoonfuls are sufficient to make five delicious cups, and there are about 120 teaspoonfuls to a pound.

But what you will be MOST interested in is the QUALITY of Lipton's.

This quality is guaranteed because we grow it, blend it, pack it, and sell it ourselves. No other Canadian firm can give this guarantee.

Don't be put off with substitutes. Insist that your Grocer sells you

LIPTON'S TEA PLANTER, CEYLON THE UNIVERSAL TEA

300 CUPS TO THE POUND SOLD EVERYWHERE



GLENHURST AYRSHIRES—ESTABLISHED 50 YEARS

For a half-century Glenhurst Ayrshires have been noted for their depth and size, good teats and smoothness of conformation. Our famous Flos family has produced dozens of 60 and 65-lb.-a-day cows, many on twice-a-day milkings.

RAVENSDALE AYRSHIRES

A few splendid 12-months-old bulls, out of R.O.P. and imp. high-testing dams. January test averaged 4.06%; also younger bulls and heifers. I have three registered Clydesdales for sale, eight months old.

JERSEYS

"The Lord might have made a better butter cow than the Jersey, but he didn't."—[Ex. Pres. Green According to the R.O.P. records, a four-year-old and a mature Jersey cow have each produced more butter in one year than any other cow, of any breed, in Canada.

CANADIAN JERSEY CATTLE CLUB B. A. BULL, Secretary, Brampton, Ontario

BRAMPTON JERSEYS

We bred and owned the dam, and imported the sire of the champion R.O.P. butter cow of Canada. We own the champion four-year-old R.O.P. butter cow of Canada. To make room for 1918 importation, expected to arrive in May, we are making special offerings of females and bulls, all ages.

B. H. BULL & SON BRAMPTON, ONTARIO

THE EDGELEY CHAMPION HERD OF JERSEYS

Write us about your next herd sire. We now have sons of our present herd sire, Edgeley's Bright Prince, who is a son of Canada's champion butter cow, Sunbeam of Edgeley. Pay us a visit. Sunbeam of Edgeley is not the only high-record cow we have. We are pleased to show our herd at all times

I HAVE FOR SALE JERSEY COWS and BULLS. Six cows at \$200.00 each; bulls from \$50.00 to \$100 each. T. HETHERINGTON, c.o. 481 Aylmer Street, PETERBORO, ONT.

THE WOODVIEW FARM JERSEYS LONDON, ONTARIO Jno. Pringle, Prop.

CANADA'S MOST BEAUTIFUL JERSEY HERD Imported Champion Rower at its head. This bull, with his get, won first prize on the island of Jersey, 1914, second in 1916, and again first in 1917. Present offering—A few yearling heifers in calf to our great young bull, Woodview Bright Prince, (7788), and bred from imported sires and dams.

RECORD OF PERFORMANCE JERSEYS

CHOICE BULLS AND FEMALES. We have six young bulls of serviceable age, all from R.O.P. dams. Three are by our senior sire, Brampton Dairy Farmer, and three are by our junior sire, Brampton Bright Togo. Write for records. We also have females.

R. & A. H. BAIRD (G.T.R. Stations—New Hamburg, Bright.) NEW HAMBURG, ONT.

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Farmers who ship their wool direct to us get better prices than farmers who sell to the general store.

ASK ANY FARMER! who has sold his wool both ways, and note what he says—or, better still, write us for our prices; they will show you how much you lose by selling to the General Store.

We pay the highest prices of any firm in the country and are the largest wool dealers in Canada. Payment is remitted the same day wool is received. Ship us your wool to-day—you will be more than pleased if you do, and are assured of a square deal from us.

H. V. ANDREWS
13 CHURCH ST., TORONTO

Cream Wanted

We supply cans. We pay express charges. We remit daily and guarantee highest market prices. For prompt service ship your cream to us.

Mutual Dairy & Creamery
743 King St. W., Toronto, Ont.

Shropshires and Clydesdales

Besides my regular offering of ram and ewe shearlings, I have the three-year Clydesdale stallion, Cairnbroig Heir 18299. Write quick, don't wait.
W. H. PUGH, Myrtle Station, R. R., Ontario

Cloverdale Shropshires and Berkshires—40 shearing rams, 70 shearing ewes; an exceptionally choice lot, true to type and well grown, nearly all sired by the show ram, Nock 16 Imp. In Berkshires, the usual strong offering, including sows just bred.
C. J. LANG, BURKETON, ONT.

Newcastle Herd of Tamworths and Shorthorns Boars ready for service. Some bred and ready to breed; 3 splendid sows carrying their 2nd and 3rd litters. Boars and sows not akin ready to wean. Mostly descendants of Colwill's Choice, 3-year champion at Toronto Industrial, and Imp. Cholder-ton Golden Secret. A few nice Shorthorn heifers in calf, deep-milking strain. Young cows with calves at foot. Long-distance phone.
A. A. COLWILL, Proprietor, R.R. No. 2, Newcastle, Ont

BIG TYPE CHESTER WHITES

Three importations in 1918. From the leading prize-winning herds in the U.S. Over 100 April and May pigs, by imported sires.

JOHN G. ANNESSER, Tilbury, Ont.

TAMWORTHS

Young sows bred for Sept. farrow and a nice lot of young boars for sale. Write:
John W. Todd, R. R. No. 1, Corinth, Ontario

Lakeview Yorkshires

If you want a brood sow or a stock boar of the greatest strain of the breed, (Cinderella), bred from prizewinners for generations back, write me.
John Duck, Port Credit, Ont.

PROSPECT HILL BERKSHIRES

Young stock, either sex, for sale, from our imported sows and boars; also some from our show herd, headed by our stock boar, Ringleader. Terms and prices right.
John Weir & Son, Paris, Ont., R.R. 1

DUROC JERSEYS

Our herd won all champion prizes at Toronto and London, 1916 and 1917. Pairs not akin. Young stock, all ages for sale. Visitors welcome. For further particulars write:
CULBERT MALOTT, No. 3, Wheatley, Ont.

SPRINGBANK CHESTER WHITES

Several young sows, ready to breed, and boars fit for service; young pigs, both sexes, ready to wean, by Sunny Mike—15917—first at Toronto in 1917. Satisfaction guaranteed, inspection invited.
Wm. Stevenson & Son, Science Hill, Ontario

ROSE ISLE YORKSHIRES

Correct bacon type with easy feeding qualities. Present offering, litter of ten weeks old, by our present stock boar, Weldwood 93. Either sex \$15.00 each. Pedigrees furnished.
Mossie Bunn, R. No. 4, Denfield, Ontario

Morrison Tamworths and Shorthorns

Bred from the prize-winning herds of England. Tamworths, both sexes; boars from 2 to 12 months. Shorthorn bulls, from 5 to 10 months old, reds and roans—dandies.
CHAS. CURRIE, Morrison, Ontario

Featherston's Yorkshires—The Pine Grove Herd

I have the choicest lot of young sows of breeding age that were ever on the farm. A few are already bred. Also have 10 young litters. Prices reasonable.
J. K. FEATHERSTON, STREETSVILLE, ONT.

Meadowbrook Yorkshires

Six large litters of young pigs, about ready to wean; pairs supplied, not akin. Write your wants to
G. W. MINERS, EXETER, ONT., R. R. No. 3.

Questions and Answers.

Miscellaneous.

Vinegar.

I have a barrel of sweet syrup water which has been outside for a considerable time. What should I add to hasten its turning into vinegar? **J. W. F.**

Ans.—A substance known as "Mother" which is the active agent in the changing of sweet cider or syrup into vinegar, is possibly what is required in your barrel. This may be secured from some vinegar barrel. It is of a more or less slimy nature.

Drying a Cow.

1. At time of freshening one of my cows gave milk from five teats. Her udder was very much inflamed, which induced me to draw milk from this extra teat. Would it be safe to stop milking this teat at the present time? The cow freshened in April and gives about 30 lbs. of milk per day. Would I lose much milk by doing so?

2. Is it natural for a cow to show oestrus every three weeks? **W. T. W.**

Ans.—1. You should have little difficulty in drying up this extra teat, and we do not think you would lose much milk by doing so. It is not natural for a cow to give milk from any more than four quarters.

2. Yes.

Municipal Travelling Expenses.

Has a municipal council a legal right to use the people's money to pay the expenses of a delegation to Ottawa, said delegation consisting of the council and enough of their friends to make up a party of ten or twelve, and nearly everyone of said party having money lying in the bank? If they haven't, what steps should be taken to have the money put back where it was?

Ontario.

SUBSCRIBER.

Ans.—They have a limited right to do so. The substituted section provided by The Municipal Amendment Act, 1914, for sec. 427 of The Municipal Act permits the council of a city, town, village, county or township to pay for or towards the reception and entertainment of persons of distinction, or the celebration of events of national interest or importance, or for or towards travelling or other expenses incurred in respect to matters pertaining to or affecting the interests of the corporation, a sum not exceeding in any year in the case of (a) a city having a population of not less than 100,000, \$20,000; (b) a city or town having a population of not less than 20,000, \$2,500; (c) a city or town having a population of not less than 10,000, \$1,000; (d) a county, \$1,500; (e) other municipalities, \$500.

Removing Warts—Fistula.

1. I have a three-year-old horse with a running sore on the top of his head. This started from any injury received two or three months ago. I have been washing it out every day with a solution of creolin and putting healing liniment into it. What will stop the discharge and heal the sore?

2. I have a horse with several warts on his head and body. I was advised by a veterinarian to tie a strong string tightly around them, or else to apply castor oil. I removed several by means of tying the thread around them, but they have grown again. The castor oil does not seem to do much good. What treatment would you advise for the removal of warts? **G. D.**

Ans.—1. The trouble is known as fistula, which frequently occurs on the withers and sometimes on the head, due to an injury. As the material which you have used has failed to effect a remedy, it is advisable to have a veterinarian examine the wound, as it may be possible that there is a portion of diseased bone which will have to be removed before the discharge is stopped. This trouble is very difficult to treat.

2. The warts may be dissected off and a little disinfectant dropped on the wound, or the raw surfaces may be treated with butter of antimony applied with a feather for three or four days, after which they should be dressed twice daily with one part carbolic acid to twenty parts sweet oil until healed. Small, flat warts can usually be removed by an application of butter of antimony.



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mailed upon request

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This is no time for "cream slacker" separators or wasteful methods of skimming milk.

With butter-fat at present prices and the Food Administration begging every one to stop waste, "cream slacker" methods of skimming milk must go.

Whether you are trying to get along without any cream separator or using an inferior or partly worn-out machine, you are wasting butter-fat and losing money.

Get a De Laval and save ALL your cream

Viewed from every standpoint—clean skimming, ample capacity, ease of operation, freedom from repairs, durability—there is no other cream separator that can compare with the De Laval.

Order your De Laval now and let it begin saving cream for you right away. Remember that a De Laval may be bought for cash or on such liberal terms as to save its own cost. See the local De Laval agent, or, if you don't know him, write to the nearest De Laval office as below.

THE DE LAVAL COMPANY, Ltd.

MONTREAL PETERBORO WINNIPEG VANCOUVER

Southdowns and Shropshires

We have an unusually choice lot of shearing rams of both breeds to offer as flock headers and for show purposes. Inspection and correspondence invited.

LARKIN FARMS (Please mention Farmer's Advocate) QUEENSTON, ONT.

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ONE OF THE OLDEST ESTABLISHED FIRMS IN AMERICA

Although we have sold our farm at Arkell we are still in the sheep business, stronger than ever, having secured other land expressly for sheep.

PRESENT OFFERING:—100 yearling rams and 50 yearling ewes. Orders taken for ram and ewe lambs for later delivery. All bred from our own importations. Prices reasonable. Communicate to—

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My Berkshires for many years have won the leading prizes at Toronto, London and Guelph. Highcleres and Sallys, the best strain of the breed, both sexes, any age.
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We have some promising young stock from imported dam and sire of both sexes for sale. Large Blacks are greatly approved in England and will be a coming popular breed in Canada, and good for crossing. We also offer some young bulls from milking Shorthorns, imported stock.
LYNNORE STOCK FARM. F. WALLACE COCKSHUTT, BRANTFORD, ONT.

ELMHURST LARGE ENGLISH BERKSHIRES

From our recent importation of sows, together with the stock boar, Suddon Torredor, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.
H. M. VANDERLIP, Breeder and Importer, R. R. 1, BRANTFORD, ONTARIO Langford Station on Brantford and Hamilton Radial

Facts About Fall Wheat

ONTARIO Fall wheat growers from many localities claim that fertilizers saved their 1917-18 wheat crop. How did they do it?



Here is the Fertilizer for the Wheat
Here is my Seed Wheat
THE FOREHANDED FARMER

Fertilizers are carriers of available plant food. This soluble food is to the young wheat crop what new milk is to the calf.

Last fall the fertilized wheat made stronger top growth and wider, deeper root growth than the unfertilized wheat.

Last winter the fertilized crop stood the severe weather while much unfertilized wheat was killed.

Last spring the fertilized wheat started growing earlier and stronger than the unfertilized wheat.

That is why fertilized wheat will yield much heavier this summer than unfertilized wheat.

It pays to fertilize Fall wheat. In the diagram below, prepared from results of reliable tests, note the gains (in black) secured by the use of fertilizers:

Gains in Bushels per Acre from Use of Fertilizers on Wheat



New Free Bulletin on Fall Wheat Production Now Ready—Drop a Card for it

Soil and Crop Improvement Bureau

of the Canadian Fertilizer Association
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Increased Prizes for Live Stock, Farm and War Garden Products—Military Features—Government Exhibition of War Trophies—Aerial Feats—Dominion and Provincial Government Exhibits—Auto Show—Dog Show—Poultry Show—Better Baby Show—Pine Food Show—Horse Racing—Better and Bigger Midway—“Big Time” Vaudeville Acts from the New York Hippodrome, in a first-class programme.

Magnificent Mammoth Fireworks Display with Spectacular presentation of the Battle of the Somme, with Tanks in action.

Special old-time Mardi Gras Festival on the closing night, Saturday, Sept. 16th—Countless other attractions.

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Offers you and all the family the outing of your life.

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Modern hotels afford city comforts, but many prefer to live in tent or log cabin—your choice at reasonable cost.

Secure your Parlor or Sleeping car accommodation in advance.

Full information from any Grand Trunk Ticket Agent, or C. E. Horning, District Passenger Agent, Toronto, Ontario.

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Don't be too late. Buy now. Send us your order.

BINDER TWINE
We have a quantity of 550 twice, best grade, for shipment at once at low price.

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Order some now. The fly season is close at hand.

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Write to us for prices.
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We are here to buy for the 20,000 members of the United Farmers of Ontario.

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Fire Loss from Lightning

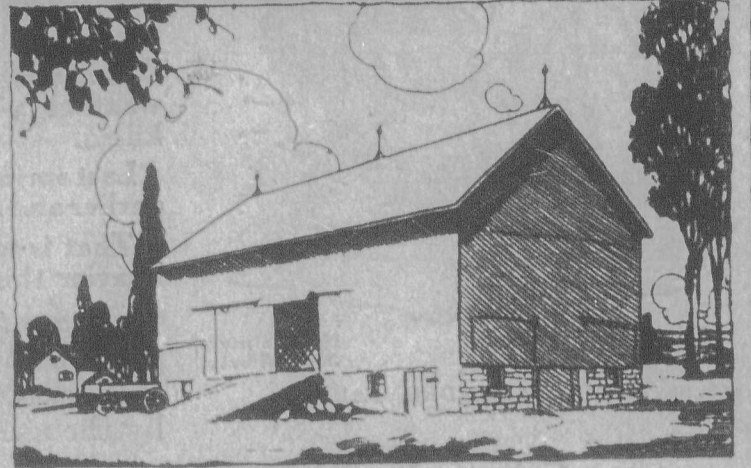
\$400,000 a year could be saved if Ontario's barns were all rodded

As a comprehensive conclusion from Ontario Department of Agriculture investigations, we have found that if all the buildings in rural Ontario were rodded more than 95 per cent. of the annual damage to buildings by lightning would be prevented.

The method by which this conclusion was arrived at was as follows: In 1912 eighteen insurance companies in Ontario kept special records for us; from their reports we learned that out of every 7,000 unrodded buildings insured by them, 37 were struck by lightning, while in every 7,000 rodded ones only 2 were struck by lightning. The rods prevented damage in 35 cases out of an expectancy of 37, showing an efficiency of 94.7%. Since that we have determined the efficiency for the years 1913, 1914 and 1915. The results for the four years are as follows:

Year	Efficiency of Rods
1912	94.7
1913	92.0
1914	99.8
1915	99.9
Average for four years	97.2

To apply these figures: The report of the Superintendent of Insurance shows



Barn protected against lightning.

that in 1912 the insurance paid on losses caused by lightning was \$262,282. No doubt the actual loss exceeded the insurance by perhaps one-third or one-half. If so, the actual loss was \$350,000 or over. 94.7% of this equals \$331,450, which represents the saving that would have been effected that year if all the buildings had been rodded.

\$400,000 Annual Fire Loss

In 1913 the insurance paid on lightning losses to buildings was \$305,104, which means a total loss of \$400,000 or more. 92% of this shows a saving of \$368,000 if the buildings had been rodded.

Similar computations might be made for the other years if the lightning losses were at hand.

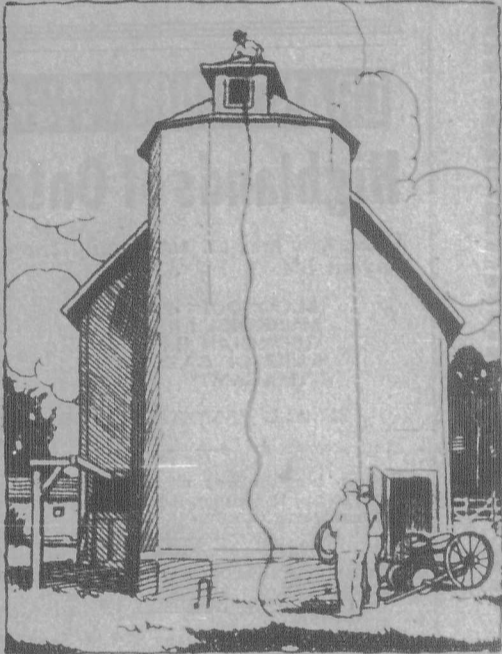
Investigation along similar lines in Iowa has shown an efficiency of 98.7% for rods in that State, based on the report of 55 mutual companies each year for 8 years.

In Michigan the efficiency of lightning rods has been shown to be from 98% to 99%. In this State many companies keep their rodded and unrodded risks in two separate classes, and assess each for its own losses. The reports of eight of these companies for the years 1913, 1914 and 1915 show that in unrodded class the average assessment per \$1,000 risk is \$3.15. In rodded class the average assessment per \$1,000 risk is \$2.28. The only possible cause for the difference is the rods on the buildings.

Rods Even Better Than Insurance

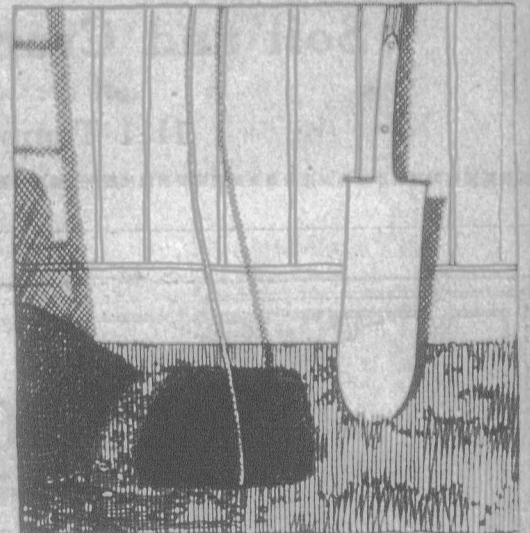
These few facts, which are all matters of record in published reports, establish beyond question the conclusion first given, that if all buildings in rural Ontario were rodded 95% of the annual lightning damage to buildings would be eliminated.

For the individual, lightning rods are a better investment than insurance. When they save a building the farmer's only loss is the interest on the price of his rods. Under insurance in case of fire he loses at least one-third the value of his buildings, together with his premiums.



Rodding a Silo. Note the cable hanging down side.

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Making a grounding. The same cable as hanging down silo, sunk 8 feet in ground by drill. The square hole is only a foot deep, just enough to pour in a pail of water to soften the ground for the drill.

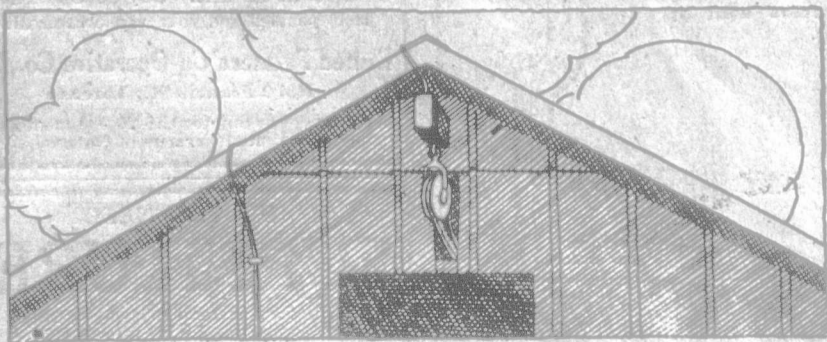
Kind of Rods

Copper rods are the most durable, and therefore the best, although any metal will do the work as long as in proper condition. But iron rusts off at the ground, and aluminum also corrodes under certain conditions. A rod composed of two metals, one wrapped around the other, is especially objectionable.

How to Rod

All rods should be grounded 8 ft. deep. From the ground the cable should run up the corner of the building, over the eave, up the edge of the roof to the peak, along the peak, down to the opposite eave and into the ground at the corner diagonally opposite the first. Points should be placed every 20 or 25 feet along the peak, also on chimneys, dormers, etc. On more complicated buildings more groundings should be made, and all parts of the system connected together. Also metallic parts of the structure should be connected to the rods. Silos should be rodded.

Fuller directions for rodding, also a treatment of the entire subject of Lightning



Hay Fork Track Connected to Main Cable

ning Rods, will be found in Bulletin 220. It will be sent free on application.

If there is any special information you would like to have on the subject of Lightning Rods, or if you have any questions you would like answered, kindly send us full particulars, and we will send you a prompt reply. Address The Office of the Commissioner of Agriculture, Parliament Buildings, Toronto.



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Ontario Department of Agriculture, Parliament Buildings, Toronto

Hon. George S. Henry,
Minister of Agriculture

Dr. G. C. Creelman,
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