

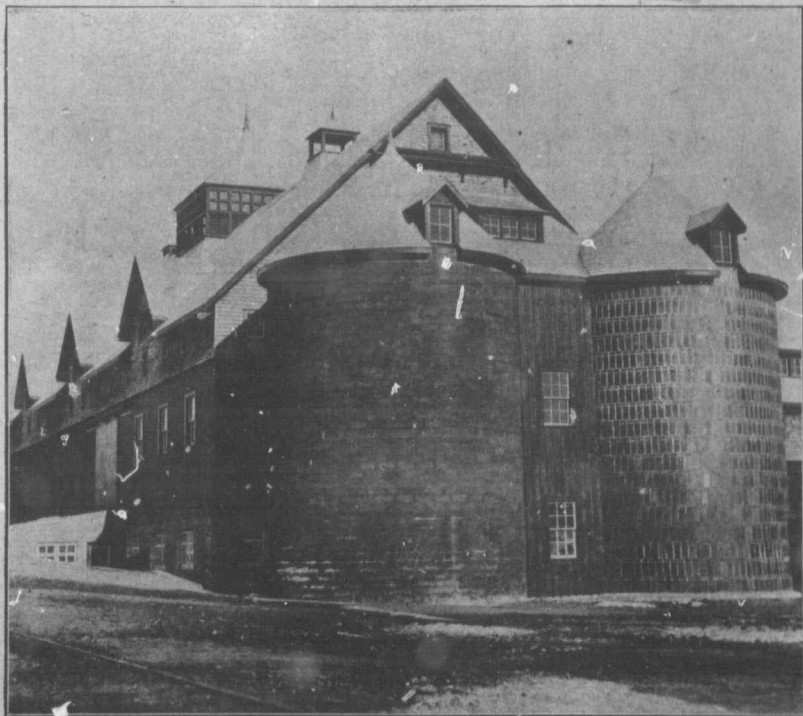
FARM AND DAIRY

AND
&
RURAL HOME



Toronto, Ont., December 13, 1917

Comm. of Conservation
Asst. Chairman Jan 19



SILOS MAKE LARGE STOCK POSSIBLE AT THE CENTRAL EXPERIMENTAL FARM.

Dairying of the Future

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The Winter Fair at Guelph

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The Ontario Provincial Winter Fair at Guelph

With Strong Exhibits and a Good Attendance the Third War Time Fair at Guelph was a Marked Success

THE third war-time fair was concluded at Guelph last week. In number of entries, in quality of exhibits and in attendance, the fair of 1917 must be recorded as one of the most successful in the history of the institution. War has but served to impress on people generally the importance of agriculture as the mainstay of the nation and it was fitting, therefore, that last week's fair should have been the success that it was. In spite of the shortage of labor and the high price of feed, conditions which are the by-products of war, the stock was brought out in splendid fit. A few well known faces were missing, but most of the old exhibitors were back in their places. And to replace the missing ones there were new men exhibiting in almost every class—some of the best proofs of the vitality of the live stock breeding industry.

As usual, the horses were the centre of attraction in the judging arena. The classes were not so large or better, as many as a score of big Clydes being out in a single class. Dairy cattle were a little behind in point of numbers and Sunbeam's record production this year was duplicated this year. Probably, however, the general average production was higher and in the type and conformation of the dairy cattle there was a decided improvement. The one exhibit was as large as the space would accommodate. Sheep were a record in number of entries and there were no "clean sweeps" for any exhibitor as has often been the case in certain sections of this department in the past. Beef cattle were short in numbers due to the elimination of grade breeding classes, but competition was keener because, and poultry was a record. Entries, one exhibitor declared, were equal in numbers to the Boston and New York shows combined. Altogether, 6,300 birds represented several scores of breeds, makes and varieties. And everywhere there was a crowd. The stalls and pens were crowded to make room for entries. The passage ways were blocked with people. The galleries around the arena could not hold the people who desired to see the judging. The general impression left with the thoughtful visitor to this year's fair was that the hand writing is already on the wall—Guelph must provide greater accommodation for both exhibits and spectators or eventually she will lose the fair.

The Horses.

Light horses were not up to the mark in point of numbers, but their popularity in the ring was at great a fever. In heavy horses, however, the classes were never so well filled, and probably this year's fair brought out more new exhibitors than any previous winter exhibition; a great proportion of the prize money was distributed widely among men with only a few entries. The Canadian bred classes were particularly good.

Clydesdales predominated and the contest for championship honors was a battle royal. Royal Favor, exhibited by Smith & Richardson, Columbus, Ont., was finally declared grand champion stallion, being first exhibited in a class of 20 mature stallions and not a weed in the bunch. The like of this line-up was never before seen in Canada. Colonel Dowers, exhibited by Thos. McMichael & Son, was the champion Canadian-bred stallion. In mares, Miss Hazel, owned by Boag & Son, was grand champion, and Ivory Margaret, owned by Smith & Richardson, was champion Canadian-bred mare. In the section for Clyde mares and two of her progeny W. W. Hogg, Thamesford, was first with Royalette and her offspring and in the same

section for Canadian bred, Robt. Tack & Sons, Eden Mills, won with Queen Maude. Awards for three got of sire went to Boag and McMichael, respectively.

There were no less than 16 entries in the class for mature Percheron stallions. The first in this class, and later grand champion, was Jassit, exhibited by Harold & Gats, Tavistock, Ind. I. S. D. Elliott, Bolton, and third, Irado, also owned by Elliott. This latter horse has twice been grand champion at Guelph, but this year he could not do better than third. The grand champion Percheron mare was Leste, exhibited by Titus S. Shantz, Kitchener. Morden of Oakville, had the first three-year-old mare, N. Vermilyea & Sons, Belleville, secured the red on three get, and the first of the offspring of Kilinis, and Morden won with mare and two of her progeny. On the whole the Percheron classes were much on a par with other years. In the grand champion class were shown. There was no competition.

Beef Cattle.

"Aren't the cattle a little on the short side?" The query came from a Wellington County visitor, who has followed the fat stock and show from the time it was held in the old skating rink at Guelph. They were. Perhaps the exceptional demand for beef cattle of the best breeding from across the line may account in part for the shortage. Perhaps scarcity of help had something to do with it. The greatest single factor, however, was the elimination from the prize lists of classes for grade heifers. The usual breeds were well represented by the usual exhibitors with a few new faces in the ring, and two, the Short-horn and Angus, divided grand championship honors. This was made possible by the awarding of separate championships, one for best beef heifer, any breed, and another for best beef steer. The champion heifer was Rose Hope, senior yearling, bred by W. A. Dryden and exhibited by J. J. Elliott, Guelph. This was Mr. Elliott's first year as an exhibitor. And Jas. Leask of Sengrove, again had the championship, adding another 'n' to the long list of similar ones that he has made at Guelph and Chicago. His winning entry this year was Black George, a grade Angus, and a good one "in the line".

The Shorthorn breeding classes were exceptionally full. A few of the principal exhibitors were Kyle Bros. Drumbo; Geo. Amos & Sons, Moffat; J. J. Elliott; Jno. Guanoone Sons, Weston; Geo. W. B. Elford, Morden & Son, Oakville; Geo. B. Armstrong, Tecumseh, and W. R. Elliott & Sons, Guelph.

In Hereford, the championship went to the sterling heifer, Donald's Dolly, exhibited by O'Neil Bros., Denfield. These breeders, comparatively new men in the field, almost won first on get of sire and junior heifer class. Fags, Waltham, won first on breeder's herd and W. Roadhead, Milton, was first with heifer, 2 years old, and senior bull calf. Other exhibitors were W. H. E. & J. B. Hunter, Orangeville, and C. E. Reynolds, Elora. The Angus heifer, Elm Park Keep-sake, owned by Jas. Bowman, was champion of her breed and reserve champion in beef heifers. Competition was keen and good, and that of John Lowe of Elora, and all firsts were divided between the two. Other exhibitors were J. W. Burt & Son, Hillsburg; J. D. Mustland, Elora, and Robt. McEwen, Elora.

Grades and crosses were numerous and well divided among the different breeds.

(Continued on page 20.)



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FARM AND DAIRY & RURAL HOME



The Recognized Exponent of Dairying in Canada

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

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TORONTO, ONT., DECEMBER 13, 1917

No. 50

Why Dairying Will Be the Farming of the Future Conditions Will Demand a Large Quantity of Human Food From a Given Quantity of Roughage

THE permanent agriculture of America will be composed very largely of intelligent dairy farming. Those of our people who see the handwriting and prepare early with any one of the recognized dairy breeds will be the ones to do the most good and reap the first harvest."

This is the conclusion arrived at by the National Dairy Show Association in conjunction with the National Dairy Council of the United States. After devoting considerable attention to the study of food prospects, these associations have come to the conclusion that within the space of a very few years we will be faced with knotty problems in the feeding of the world. Although as yet these problems have not become very serious in America on account of the unoccupied lands which were always available for extra production as the production increased, yet the time is not far distant when these unoccupied lands will be used up, when the dry lands capable of irrigation will be cultivated, and when the large areas of swamp lands will be drained and put to agricultural use. These efforts toward the increased production of food must be along the lines of increasing the yields per acre, and making the greatest use of the food which may be grown. And it is because they believe the dairy cow capable of making the most economical use of foods, in themselves unsuitable for human consumption, that the dairymen present at the recent Dairy Show believe that America's future type of farming will be dairying.

Utilization of Refuse.

In the production of our field crops, there is produced a considerable quantity of material, valueless as human food direct, yet which can be made thoroughly useful if fed to stock. Of all these plants, corn is the most conspicuous. After a careful study of the facts available, the National Dairy Council have found that while land growing corn is producing 100 lbs. of digestible human food, it is producing as an unavoidable incident, 68 lbs. of digestible stock food. Although at present the corn stover is made but little use of in the large corn growing States, the time for such wasteful methods is soon to be a thing of the past.

What has been said of corn and its production of feed will apply with varying figures to wheat, oats, barley, in fact all cereals. True also of sweet corn, the stalks and husks and cobs making admirable feed while a small percentage only of the dry matter produced on the acre ever reaches the packer's can.

Other vegetable foods, such as beans and peas, produce a vine worthless as a food for man direct, but which provides considerable material for stock. In the production of our vegetables there are imperfect specimens of cabbage, potatoes, carrots, and pumpkins, which are excellent food for

some sort of stock. About 60 per cent. of the energy value of American crops is without value to man direct.

There is a considerable and an increasing quantity of by-product refuse, such, for instance, as the bran of wheat or rye, gluten meal, cotton seed meal, linseed-oil meal, and at present, though may be not for long, brewers' and distillers' grains and malt sprouts, all of which may be converted into excellent human food by first being fed to a food-producing animal.

Meadows and Hillside.

When practically all of the available acres have been put to work, it will be found that there are still remaining many hillside which should be kept in grass continually, or nearly so. It will be found, too, that there are natural meadows which cannot be drained because of their low level. There are immense meadows next to the ocean where large quantities of hay grow, which may be gathered between tides. How is such material to be utilized as human food? It can only be done through the medium of some other animal.

To What Animal?

Naturally we would desire to feed this natural and by-product refuse to that animal which will yield the greatest amount of human food in return. According to Lawes and Gilbert, 100 lbs. of dry matter in the food will produce in the ox 6.2 lbs. dry matter, in the sheep 3 lbs., and in the pig 17.5 lbs., or, in other words, for the production of one pound of beef there will be required 16.19 lbs. of dry matter in food, for one pound of mut-

ton 12.50 lbs. and for one pound of pork 5.68 lbs., the pig being most economical producer of the three.

It is not possible, however, to feed any considerable quantity of the refuse material mentioned to swine, because of their inability to handle large quantities of roughage. The pig, however, because of his great economy in the food that he can handle, will remain an indefinitely long time with us as a sort of scavenger, as a mill by means of which refuse from tables may be reconverted into food for man. The sheep, though able to handle roughage to fairly good advantage, has many natural limitations, making it unfeasible to expect this animal to consume the large quantities of corn stover, hay and pasture grass, which our country will continually yield. This forces us to a consideration of cattle as the only practical method of converting this sort of material.

Flesh or Milk? Which?

The roughage material mentioned may be handled by either beef or dairy stock. Let us study into the nature of these two methods of food-making and determine to which machine we shall feed this material.

The gain per day of steers while fattening is indicated by the following table:

	Number of Animals.	—Age—	Average Daily Gain.
		Yrs. Mos.	Daily
Standard Cattle Co.	49,584	4 6	1.20 lbs.
Experiment in Middle West	2,000,000	2-3	"2.25 "
Smithfield, England, Fat Stock Show	294	3 10	"1.74 "
Young Beef	1-3		"2.5 "

*Approximate.

The difference in the economy of the gross gain is due to the fact that the young animals make considerable growth, which means lean meat, and lean meat contains much water, while fatty tissue itself is comparatively dry. The tendency, however, is for feeders to push the animals while yet they are young, and to market them between 1½ and 2 years of age. With such a method it is entirely feasible to obtain a gain of from 2 lbs. to 2½ lbs. per day, but wait—what is the composition of such young animals?

Careful experimentation has shown that although young animals make a more rapid and economical gross gain than older and more mature ones, the increase is so largely made up of bone and water that per unit of actual edible flesh formed there has been a greater usage of feed stuffs.

Only 25 per cent to 30 per cent. of the live animal becomes edible dry matter. A 1200-lb. steer ready for market contains only about 260 lbs. of actual food. Neither can it be argued that time will develop a materially better grade of meat.

(Continued on page 24.)

The True Cooperator

THE true co-operator has the principle of fraternity in him. If he understands his principles he has exchanged indignation for compassion towards the malevolent and the opinionative. The French adopted the formula "Liberty, equality, fraternity," but fraternity is the greatest, and should stand first. Without it liberty may be aggressive, and equality offensive. Fraternity of mind is therefore a sign of a co-operator. Not a foolish fraternity which patronizes inferiority and encourages inferiority, but a self-respecting fraternity, which seeks to promote the good and the energy of improvement in others. Co-operation implies the daily habit of considering the good of others, and therefore courtesy, deference, consideration for the interest, convenience and pleasure of others, will be more or less attributes by which he may be or ought to be known.—George Jacob Holtyoske.

Large Stock on Small Acreage at Central Experimental Farm

Five Facts Make Such a System Possible—Five Silos—S. R. N. Hodgins, Associate Editor, Farm and Dairy

"THE silo is the secret," remarked Geo. W. Muir, assistant Animal Husbandman, as he made a tour of inspection of the live stock and buildings at the Central Experimental Farm recently. This remark of Mr. Muir's was in reply to my request to know how they managed to keep such a large stock for the size of the farm. For at the Central Experimental Farm, they keep approximately 180 head of cat-

"Do you find the freezing of ensilage to be an important factor in feeding?" I asked.

"The freezing of ensilage is not serious in the winter if mild spells come frequently," was the reply. "The ensilage should thaw often enough so that we can keep it fed if we are to get the best results from it. If cold weather keeps up for long at a time and then mild weather comes and a great deal of ensilage thaws and falls down at once, it is impossible to get it all fed before it spoils. We find that in the stave silos ensilage freezes to a distance of about one foot in this district, and in our experience there is nothing will put a cow off her milk more quickly than frozen silage."

Cellar Storage for Summer Feeding.
One of the best features of the two main silos at the Experimental Farm is the five-foot concrete base which is practically all under ground. In this base the ensilage is kept under cool, summer conditions. It has been found that ensilage keeps in a great deal better condition in such storage than in the ordinary silo, particularly for summer feeding. This five-foot base also adds to the capacity of the silo without adding to the filling height, and it has not been found a hardship to throw the silage out of the base. One thing must be kept in mind, if placing a stave silo on a concrete base. That is that the staves must be flush with the inside of the base, so that the corn will settle.

The temporary silo which stands by the sheep barn, was erected in 1915 to care for the big corn crop of that year. The ensilage from the silo has never been used and is still in fairly good condition. There is some mold on it, enough to make it undesirable for feeding to ewes, but they are planning to bring in a number of steers this winter and feed this ensilage to them. This is the only silo on the farm that is not roofed over.

Forty-three acres of corn was grown this year at the Experimental Farm to supply these silos. Ensilage is fed all the year round, and there is always some left over from the previous year when the new crop comes in. No difficulty has

been experienced in keeping the ensilage. Last winter some two-year-old ensilage was fed and was found to be satisfactory.

Methods of Feeding Followed.

While it is true that over 700 head of live stock are carried on 225 acres at the farm, this statement must be qualified by saying that considerable of the grain used in feeding the stock is bought. This is particularly true of the grain feeds for swine. The outstanding feature of the stock feeding method is the limited pasturage included in their feeding systems. During the past summer the dairy cattle had a run of seven acres of pasturage—sufficient to keep them about one month. The sheep were kept on the lanes and on other odds and ends of ground where they might be utilized to clean out the grass and weeds. The swine got practically no pasture at all.

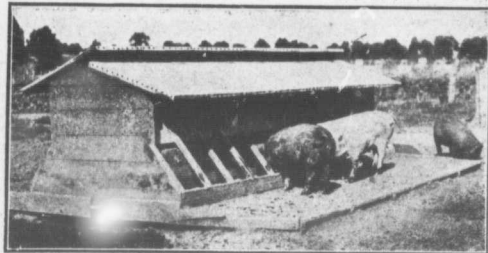
The 43 acres of corn for ensilage included that from experimental plots. In addition to ensilage for summer feeding, 10 acres of soiling crops were grown and fed mostly to the dairy cattle, but some fed went to the sheep. As a general principle, they have found ensilage far superior to soiling crops as summer feeds for our climate. We have an excess of moisture in the spring and a very dry summer. As a consequence of this a mixture of peas and oats, for instance, sown at three different dates, will all come to maturity at the same time, the only difference being that the crop sown in early spring will give a large tonnage per acre, while that sown in summer will be scarcely worth harvesting.

Feeding Dairy Cattle.

Up until 1917 all the dairy cattle stock was carried on the farm by a system of summer feeding. This year, however, 100 acres of bush pasture was rented and 40 head of young growing stock was pastured there. The 40 head of milkers, however, got no pasture this year, except the strip of seven acres already mentioned. None of the milkers went out to pasture before June and during the early part of the season they were put out in the day time and brought in at night. During the hot spell, this practice was reversed and the cows were kept in the stables in the day time and put out at night. The milkers were taken off the pasture in the latter part of September.

Besides the little bit of pasture which the cattle got this summer, they were fed ensilage from the silos. The heaviest summer feeding ran up to 25 lbs. of ensilage per head. They also got soiling crops in their seasons from part of the 10 acres which were under soiling crops in connection with rotation experiments. Clover

(Continued on page 11.)



Hogs Using a Self-feeder at Ottawa.

"The self-feeder is admirably suited to hog raising where pasture is available," states the man in charge of swine at the Central Experimental Farm.

tle, 30 horses, 150 sheep and 350 swine—a total of over 700 head of live stock on 225 acres.

"We feed a large stock on a small acreage because we can't get a larger acreage," went on Mr. Muir. "We summer feed our stock, not because we think it the most profitable way to produce milk or meat, but because we cannot get pasturage for them. The fact that we must supply ensilage and soiling crops for our cattle in the summer, makes our milk cost us more than if we were able to supply our stock with pasture. More labor is involved. But our position is that we cannot secure the pasturage. We therefore turn to the silo, and it doesn't fail us. Without the silo, such a stock could not be carried on our farm."

The Silos.

To get a good grasp of the feeding methods carried on at the Experimental Farm, one must first find out something of the silos—the foundations upon which these methods are built. The Central Experimental Farm has a battery of five silos. The two main silos in connection with the large dairy barn are of fire-proof construction. Each has an inside diameter of 22 feet and is 35 feet high, including the five foot concrete base under ground. In connection with the model dairy barn is a stave silo, with a concrete base of five or six feet mostly under ground. This silo has a diameter of 15 feet and a height of 30 feet above the base. The other two silos are connected with the sheep barn. One of these is a permanent stave silo 12 x 30 feet with a cement base, the other is a temporary stave silo 14 x 30 feet, which was erected to accommodate the exceptionally large crop of corn in 1915.

There is not much to choose between the two main silos. One of these is constructed of hollow cement blocks, made by the workmen on the ground. The other one is of vitrified hollow clay tile. The difference in cost was not much either way. The tile silo was constructed quicker and is better reinforced, special arrangements being made for the reinforcing iron. For anyone who can afford to build such a silo, either of these is satisfactory. The ensilage keeps in excellent condition.



Sheep Pay Profits at Experimental Farm.

Sheep are used at Ottawa to keep down grass and weeds in lanes and forest belt. Illustration shows them in the meadow.

Ice Storage on the Dairy Farm

The Cost Will Be Small and Benefit Great

THE dairy farmer should store plenty of ice for use next summer. If he will go about it in the right way now when there is plenty of ice available, his efforts will be amply repaid by greater comfort in the keeping of his milk during the hot weather. Patrons of cheese factories or creameries who wish to keep Saturday evening's milk or even Sunday morning's milk until Monday morning during hot-summer weather, will find a supply of ice indispensable, and it must be remembered that it is in the interests of the patrons of creameries or cheese factories to supply their milk to the factory in the best possible condition. Outside of the loss which results to the individual when a can of his milk is too ripe to be accepted, there is a tremendous annual loss to all the patrons of the cheese factory where any considerable proportion of the milk is sent in over-ripe. There is one way in which such loss may be avoided—by the greater use of ice on the dairy farm.

It is not necessary to incur large expenses in the storing of ice. While it is better to erect a permanent storage, the initial cost of which may be an item, yet it is better to store some ice in the corner of a shed than to do without it. Ice harvesting comes at a time of year when the majority of farmers have a little spare time. Next summer when the hot days come, farmers who have laid in a supply of ice and who are able to send sweet milk to the creamery, to have nice firm butter on their tables and to enjoy iced drinks after a hot day's work, will feel repaid for whatever effort they may make this winter in putting away the ice supply.

Types of Houses.

The type of house that should be built on the farm will depend largely upon the pocket book. If the ice is to be used in a refrigerator in the house for domestic purposes, a storage house may be all that is required. In other cases, particularly with those who look after much milk, the needs will best be satisfied with a house that is refrigerator and ice-house combined. The combination house will cost more money, but it will save a lot of work in getting the ice out, and there is usually room enough in the refrigerator to keep other perishable products besides the milk.

In deciding the size of house, a lot depends on whether the ice is plentiful or scarce. If plentiful a larger supply might be put in, and a cheaper storage would serve. If the ice be scarce it is better to build a well insulated building that will store the amount necessary. As ordinary stored ice takes from 40 to 50 cubic feet of space to accommodate a ton of ice. From three or five tons will be required for household use and a ton per cow where milk is being cooled. Where only cream is being cooled, half this amount per cow will be sufficient.

For the purpose of estimating the weight of ice roughly by the number of blocks, the following table will be found convenient:—

12 blocks	18 x 36 inches,	8 inches thick	= 1 ton
10 "	18 x 36 "	10 "	= 1 "
8 "	18 x 36 "	12 "	= 1 "
7 "	18 x 36 "	14 "	= 1 "
6 "	18 x 36 "	16 "	= 1 "
5 "	18 x 36 "	20 "	= 1 "

In building any storage the first essential is insulation. Even the floors should be insulated, whether of dirt or of concrete. If built of dirt the earth should be excavated to a depth of one foot and filled with cinders or gravel. This may be covered with a few inches of straw, which will prevent the saw dust from washing down into the gravel. The floor of sawdust should be at least 12 inches thick. If the floors are made of concrete the gravel should be used and the concrete floor six

inches thick placed on top. A drain will be required to carry water from the melting ice.

In building an ice-house, whether for storage alone or for a combination of ice and refrigeration it is essential to keep down the cost of the building. Complete blue prints showing in detail the construction of various types of ice storage and combination houses, may be obtained free from the Dairy and Cold Storage Commissioner, Ottawa. These will give the amount of material needed for each type of house.

In general the walls and ceiling of an ice-house may be made cold proof by placing two

(Continued on page 21.)

One Farmer and His Tractor

It Is Used in Seed Time and Harvest

THE Ontario Department of Agriculture now has fully one hundred tractors available for the use of Ontario farmers. Perhaps it is conservative to say that by next spring there will be two or three privately owned tractors operating in Ontario for every one operated by the Department. A goodly number of farmers made their tractor purchases last spring, among these being Porter Bros., down on the lake front in Halton County. An editor of Farm and Dairy happened to be present when Mr. Chas. Porter first started his tractor last spring. Recently in Hamilton, we ran across Mr. Porter and asked him how he was getting on with the tractor.



Dr. Chas. H. Higgins.

For many years Dr. Higgins has been the Chief Pathologist of the Dominion Department of Agriculture, has resigned to become the Canadian Representative of the Lederle Antitoxin Laboratories of New York. Dr. Higgins became identified with the Dominion Department of Agriculture in 1892. In 1902 he established and organized the Biological Laboratory at Ottawa, and has since been identified with the technical features connected with the control of contagious diseases of animals under the Veterinary Director General. Of particular interest to live stock men is his work in connection with the protective vaccination of cattle against black-leg.

"First class," was the prompt response. "We have had our troubles, but none of them have been so serious that I couldn't get out of them myself. We have learned a lot about the tractor in the past six months. For instance, we have learned that we cannot work a tractor when the soil is wet. It is not good policy and it is not good for the soil. We used it most successfully for plowing, cultivating and disking.

"We also use it during the harvest. We arranged our seven-foot binder with a short pole and made the operation of both the tractor and the binder a one-man affair. We used the shed carrier only at the corners to clear the way for the tractor. We ran the binder at the same

(Continued on page 20.)

Care of Roots in Storage

Temperature and Rot Must Be Controlled

A GREAT many tons of mangels, turnips and carrots are lost annually by neglect after being placed in storage. Everything may be done to insure a full crop and to harvest it at the proper time in good condition, yet, if not properly looked after during the winter months, a high percentage of this crop may become a total loss. Such loss can be prevented only by prompt attention to the details of storage requirements.

If a cellar is to be used for storage it should be thoroughly cleaned, the ventilators put into good working order, and thorough drainage and protection from frost assured some time before it is filled. Usually in filling cellars it is customary to dump the roots down through a trap door in the floor above, or roll them in over a shoot from windows at the ground level. No matter how much care is exercised in the performance of either of these operations, there is bound to be accumulations of broken and bruised roots and earth at the ends of the shoots, or beneath the trap doors. Unless frozen, the broken and badly bruised roots, in such a mixture, will invariably rot and by so doing generate heat that will help to spread the infection to the surrounding sound roots. It is therefore obvious that accumulations of this nature should be thoroughly cleaned out as soon as possible after the harvest has been completed, and the damaged roots fed before they have had a chance to decay.

Take Out Rotten Roots.

Frequently, during the winter months, rotting will start among apparently sound roots, usually as the result of an unsound root becoming buried among the others. Infection spreads rapidly among roots in storage, and all such infected areas should be thoroughly cleaned out, whenever detected.

All classes of roots lose a certain amount of moisture soon after harvest, by evaporation or, as it is commonly called, sweating. If an adequate circulation of air among the roots has not been provided for, this moisture will condense and wet places will be formed which will favor the growth of moulds, and other plant life, which may directly, or indirectly, cause rotting. It is, therefore, imperative that during the first few weeks of storage, and in fact, whenever the outside weather permits, thorough ventilation be maintained.

The Correct Temperature.

The temperature in the cellar should be such that the roots will neither grow to any appreciable extent, nor yet freeze. From freezing to 10 degrees F. may be considered as the extreme range. It is an excellent plan to hang a thermometer in a convenient place in the cellar and consult it daily. If the temperature is above say 38 degrees F. the ventilators should be opened and, when it drops sufficiently, closed. When the warmer weather of spring and early summer has set in it is advisable to keep the ventilators closed during the day and open during the night, so as to admit only cool air, thus keeping the cellar cool as long as possible.

If roots are to be pitched outside it is essential that thorough drainage is assured, either by choosing a location on sloping or sandy land, or by providing artificial drainage.

After the roots have been piled and the ventilators inserted the pile should be covered only with straw to a depth of about eight inches. Later in the season, when cooler weather has set in, about 4 inches of earth should be placed over the straw. Still later, when this earth has become frozen to a depth of about two inches, another covering of straw and earth should be made. When cold weather has finally set in the ventilators should be plugged with straw.

The Real Middlemen---The Men Who Get the Money

Who They Are: Where They Are: How They Get It: And How to Catch Them

H. Bronson Cowan, Editor-in-Chief, Farm and Dairy, Peterboro, Ont.

THE cry against the middleman is becoming insistent, even menacing. For twenty years it has been growing. Now it demands to be heard. It is being raised both by farmers and by city consumers. Recently the Dominion Government has been stirred to action. Hon. T. A. Crear, Dominion Minister of Agriculture, has declared that it is the intention of the Government to see that steps are taken immediately to reduce the spread between the price the farmer receives and the price the consumer pays for the products of the farm.

This raises the issue: Who are the real middlemen? On this point conflicting views are being expressed. While many are claimed to be the guilty parties, most people find it difficult to produce proof that the middlemen whom they suspect are guilty. Even Hon. Mr. Crear is likely to discover, before he gets through, that his Department has tackled the biggest contract it has ever faced and that he is utterly powerless to secure any substantial improvement in existing conditions until the whole policy of our system of government is changed.

The chief difficulty in the way of securing a settlement of this problem is that the roots of the evil--for there are great evils--lie deeper than is commonly supposed. Because of this condition people are, in many cases, blaming the wrong parties and are advocating remedies which are inadequate and in some cases even dangerous. The possibility is that it may take us so long to find the real causes and the real parties that the dangerous conditions in society will develop before the situation is adequately dealt with.

The Ordinary Middlemen.

Before I can show who are the real middlemen, it is necessary that I shall demonstrate that some at least of the middlemen who are commonly blamed for existing conditions are largely, if

* This article is the substance of an address delivered Nov. 20, before the members of the Marlinton, Ont., Farmers' Club, Gleanery County.

Not All Are Innocent

In order that there may be no misunderstanding I would like to state that the illustrations are as innocent as the accompanying article might lead some to suppose. Occasionally a big name is possible for a few dealers in one line or another to corner and manipulate prices. On the whole, however, this has been done but seldom. The common monopolies in lines of retail trade is so keen that it forces prices down to what are under the circumstances reasonable values.

Monopolies are possible for any considerable length of time, but where men are able to absolutely control the source of supply or where, in the case of industrial concerns, those who are engaged in them--their numbers being limited--are able to unite their forces and to control and regulate the supply and the prices they charge.

The thousands of small middlemen who later made of time, only have little opportunity to unite among themselves. Instead they are forced to see these articles at prices but little above those that pay the manufacturer and to bear their own costs of doing business had been provided for. This explains why it is that in the case of records of these firms are examined it is seldom found that the percentage of profit on their turnover is unduly large. In fact, it is generally found to be surprisingly small. It is the big monopolies in the background to which public attention needs to be directed.--H. Bronson Cowan.



Two "Middlemen" of whom the World Has Heard Much.

The two multi-millionaires here shown, J. D. Rockefeller and Andrew Carnegie have taken, and the interests they represent are still taking, through their control of oil and steel mines, their full share of the profit for and what the city consumer pays for them. The accompanying article describes how it is done. Mr. Rockefeller's wealth is now estimated at as high as \$2,000,000,000. Mr. Andrew Carnegie has already given away several hundred million dollars. The people of the continent and almost all of the world have been forced to contribute to the building up of these enormous fortunes.

not entirely, innocent of the charges the wholesalers who, because of their that are being brought against them. cold storage facilities, and their ability As long as we believe that certain innocent parties are guilty so long will we continue to believe that the guilty parties are innocent. Most people believe that it is the men who handle the farmers' goods between the time these goods leave the farm and the time they are sold to the consumers who constitute the real middlemen. We are told that there are far too many people handling goods between the consumers and the producers, that these people extort huge profits and that both producers and consumers are being exploited by them. Many thorough investigations have been conducted in an effort to substantiate these charges, yet I have never found any of these charges to be finally proven. Let us examine a few examples.

The Cost of Eggs.

Some years ago the farmers in Peterboro county, living in the vicinity of the city of Peterboro, were told as thousands of farmers have been told elsewhere, that there were too many middlemen handling their eggs between the time these eggs left the farm and the time they were sold to the consumer in such cities as Montreal and Toronto. Our local farmers were urged to co-operate and save money by handling their eggs themselves and reducing the number of these middlemen. We did so, but what was the result? The first thing we found was that we needed a man who would go around and collect the eggs and bring them to the shipping station in Peterboro. Then we found that we needed a warehouse and someone who would candle, grade and pack the eggs properly. Next we discovered that if we were to establish a permanent city outlet for our eggs it would be necessary for us to be able to supply our customers with eggs of good quality all the year round. Other charges he had to meet, that we were going to be forced to sell our eggs to the wholesalers in the large cities instead of direct to the consumer. The reason the consumers fruit were not ready to deal with us was to realize a large or unfair profit unless we could guarantee a uniform supply throughout the year. Recently the Fruit and Vegetable they preferred to deal with firms like

troller Hanna had the wholesale fruit dealers of several eastern cities submit their business books for their examination. After several weeks' investigation it was discovered that these firms were doing business on a very narrow margin of profit, so small, in fact, that one such firm at that had had a turn over of \$1,000,000 during the year had had profits of only \$1,500. A leading official of the Dominion Department of Agriculture informed me that although he had always supposed that this firm was doing a profitable business, after seeing his books he decided that he would not take the business as a gift.

The Milk Dealers.

Farmers who produce milk for city consumption often complain vehemently that the city dealers are charging consumers unduly high prices for milk in view of the fact that the milk remains in their possession during only a few hours. Nevertheless, frequent investigations have shown that very few milk dealers have much money, while on the other hand many fail. Investigations conducted recently in the city of Vancouver by a committee of the City Council, and in Ottawa by the still Committee appointed by Food Controller Hanna, disclosed the fact that the dealers were not making unduly high profits because their expenses of operation were extremely high. In fact, the only suggestions both committees should be made was that some system should be devised which would reduce the number of dealers delivering milk to customers on the same streets. This, it was thought, would prevent overlapping and make possible a considerable saving.

Even such a desirable reform as this, however, is open to very serious objection in that it would tend to give monopoly of the milk trade of the city to one or two firms with the result that consumers who became dissatisfied with the milk delivered to their homes would not be able to change milkmen, as they now can in cases where milk of poor quality is sold. They would have still less control than ever, also, over future advances in the price of milk as there would be only one source of supply. Again, it is a case where high city rentals, high wages combined with bad collections, breakages of bottles, milk souring and other methods make it difficult for most city milkmen to make a profit from their labors and investment. There are some exceptions to this rule, where a firm has been able to establish a big turnover and thereby to somewhat reduce expenses. They are not numerous.

The Coal Dealers.

Take another illustration. A year ago the people of the city of Peterboro, as well as of other cities, were faced with a coal shortage. Loud cries were raised that the coal dealers of the city were the cause of the trouble. It was believed by many that they were getting rich at the expense of the poor people of the city. A clamor was raised that the city should deal with the situation. Finally the city obtained permission from the legislature to engage the coal business. This year the city has bought considerable quantities of coal. But it has not been able to reduce the price of coal even for all its services. In fact, the public has received an education in the costs of the ordinary middlemen, in doing business such as import duties, freight, loading, screening, cartage charges and other expenses which, as far as can be seen, are unavoidable. Today we are not hearing anything in the city about the coal dealers being grateful or exploiters of the public. Yet there continues to be a coal shortage of coal.

The Wm. Davies Co.

Let us examine even the case of the Wm. Davies Co. True it is that this company made enormous profits last year, nearly \$2,000,000. In this it was

Recently the Fruit and Vegetable Commission appointed by Food Con-

a great exception. But did you notice that it was revealed by the investigation that these profits were not made by paying the farmers too little for their hogs and charging the consumers too much for their pork and bacon? Instead, the complaint was made during the investigation by one of the lawyers that the competing packers had forced the price too high for the welfare of city consumers by competing against one another for their supply of hogs. The somewhat astounding fact was also shown that the Wm. Davies Company, in 1916, made a profit of only 3-5 of a cent a pound, and in 1917 of only 2-5 of a cent a pound for the hogs they handled. The profits of the Mathews-Blackwell Company did not exceed these figures. Thus if the substantial profits these companies made had been redistributed to the producers and the consumers it would not have increased the price to the producer or lowered the price to the consumer last year by more than 1-5 of a cent a pound. Their great profits were made possible only by the fact that they did an enormous business on a very small margin of profit, so small that most small butchers and packing plants could not compete against them. Had their margins of profit been unduly high, it would have been easy for any small butcher to buy and handle his hogs and thus break up their combination, yet most small butchers found it impossible to do this and therefore they had to buy most of their supplies from these firms. No suggestion was made as to how the cost of handling the products of the company could be reduced.

While the Wm. Davies Company made a profit of only 2-5 of a cent a pound last year, it cost them in their retail stores 19 to 21 cents a pound to handle the goods they sold. It would seem, therefore, that even if the profits per pound were not large, the cost of operation was unduly high. This was the case. It is right here where lies the secret of the whole difficulty. The cost of operation in the lines of business mentioned, as well as in many others, is too high. It has caused the ruin of hundreds of firms having only a small turnover. Until we find what causes this condition and take steps to reduce the cost of doing business we will never be able to solve the problem of why the farmer receives so little for his produce and the consumer pays so much.

Evolution of the Situation.

Existing conditions have evolved largely during the last half century. Fifty years ago, when our cities were

small, it was possible for city residents to obtain most of their supplies from farmers living nearby. The farmers used to drive in with their vegetables, meat, butter and eggs and sell them direct to the consumers. Thus, there were few middlemen to come between the consumer and the producer. During the last fifty years our cities have grown rapidly. Farm produce now has to be shipped long distances. This has made it necessary to enlist the services of other parties to transfer this produce from the producer to the consumer. Because it has been easy for people to see the growing number of the middlemen who handle their food, it has been natural for them to conclude that they are the parties who are guilty of creating existing conditions. The cry of protest against the increasing cost of living has, therefore, been directed largely at them. The public appears to fail to recognize the fact that all other influences have been at work during the past fifty years which constitute the main cause of their difficulties, rather than the much abused middlemen. It is because these other factors in the situation are not so readily apparent that the public has not appreciated their importance. Let us examine some of them.

The Real Middlemen.

The real middlemen who are exploiting the public may, for the most part, be placed in three classes.

First, there are those men who have gained a monopoly of the natural resources of the country, such as coal, steel and oil mines, water powers, timber limits and other similar necessities of the common people.

Second, there are those men who are growing wealthy through the continent-wide monopoly of land. These men are the worst offenders of all. They are closely allied to those mentioned in class one.

Third, there are those men who have been able to form trusts and combines behind our tariff walls, and by squeezing out other small competitors, reducing the supply and increasing the price, have thus been enabled to exploit the public to the extent of millions upon millions of dollars a year.

Closely allied with the three classes specified might be mentioned another class of men who are to be found associated with all the foregoing groups. These are the men who, because of the monopolies they enjoy, including in some cases railway rights of way, have been able to water the stock of the companies in which they are interested to the extent of hundreds of millions of dollars and then to force



The Small Piece of Land on which This Building Stands is Worth About \$1,000,000.

High land values impose an enormous burden on the people of Canada. The owners of this piece of land, which is worth about \$1,000,000, have leased it to the C.P.R. for 99 years. They draw an enormous rental but have to give no labor or services in return. The tenants in the building pay this rental in their rentals and charge it up to the public in the cost of their services. The public pays it in the end. This is an extreme case but only one out of tens of thousands. The accompanying article explains how this condition affects the prosperity of the common people.

the people to pay them prices which enable them to declare dividends on this watered stock or to resell it at prices far above par. Let us examine very briefly how these monopolies place the public under tribute to them.

The Monopoly of Natural Resources.

All the great coal mines of the continent were seized years ago by small groups of men who are able to regulate the supply of coal for all the rest of the people. Government reports show that there is an abundance of coal to supply the needs of the public for several centuries to come. The same principle applies to all of the coal barons has been to produce only enough coal to enable them to charge the highest possible price for it, thus netting themselves the greatest possible returns at the least expense. Many enormous fortunes have been made by these monopolists. The public pays for these charges in a hundred different ways. Every man pays part of these charges when he buys coal for his own use. What he does not realize, however, is that he pays another part when he buys almost every article his needs necessitate. For instance, the manufacturer of a stove-keeper includes the cost of the coal he buys in the selling price of the article he sells. Therefore, when a person buys a suit of clothes, a piece of furniture or a meal in the restaurant

the cost of the coal used in their manufacture or preparation is added to the price charged for them. Thus if we take a restaurant keeper or a butcher as our example, we find that part of the extra prices they are forced to charge for the articles they handle represents unfair prices they are required to pay—even although they may not realize it—to the coal barons for the coal they buy. Still another of the charges is concealed in the wages that they pay their help, as they must pay their employees large enough wages to enable them to buy coal at the prices set by the coal monopolists. The same principle applies to all of the other necessities. J. D. Rockefeller is an example of a man who has made hundreds of millions of dollars through this netting themselves the greatest possible returns at the least expense. Very nearly every person who buys oil is forced to pay tribute to the Standard Oil Trust. Thus to the extent that the restaurant keeper or the butcher uses oil, either in running an automobile, oil stove, or in any other capacity, these charges must be added to the cost of the meat, but-ter, eggs and other articles which they sell. In such a case, who is the manufacturer or grafter? Andrew Carnegie is a man who made his millions through the monopoly of great steel mines. In a hundred persons buy a suit of clothes, a piece of furniture or a meal in the restaurant

(Continued on page 22.)

This Automobile Illustrates How the Tariff Taxes the Common People.

People who favor high tariffs often fail to realize the important effect the tariff has on the high cost of living. The illustration shows a Ford automobile. They cost this year in Canada \$1947. In the United States they cost \$860. The tariff accounts for the difference in price of \$1187. It is understood that about 20,000 of these automobiles were sold in Canada this year. Multiply \$1187 by 20,000 and we find reason to believe that the tariff cost the owners of Ford automobiles alone in Canada this year \$23,740,000. This money was not received by the Canadian Government. It went into the treasury of the Ford Motor Co. of Canada. The charge was largely passed on to the Canadian people in the ways described in the accompanying article. Multiply this example by hundreds of other protected articles and we begin to see what our tariff laws cost the people of Canada. Henry Ford is said to be a believer in free trade as it would greatly reduce the cost of his raw material.

Close Competition in the Winter Fair Dairy Test

The Results Afford Several Surprises. Splendid Showing Made by Gracda. An Ayrshire the Best Pure Bred.

THE Dairy Test in connection with the Ontario Provincial Winter Fair at Guelph last week afforded many surprises. The greatest surprise of all was the sweepstakes cow, a grade Holstein, exhibit 3, by Earl Grier, of Woodville. Although the test the competition was supposed to be closest between an Ayrshire cow, Lady Jane, owned by A. S. Turner & Barones. Lady Jane is one of the greatest cows of her breed. She has already annexed the championship honors for her breed in Record of Performance by producing 19,405 lbs. of milk and 786 lbs. of butter. She was in splendid condition at Guelph and produced more milk than any other cow there, giving 85 lbs. a day. Mr. Haley's cow, on the other hand, milked to within five pounds of milk a day of her Ayrshire rival and has always been a very high test-er—one of the greatest everyday cows of the breed in Canada. But when that result were out neither cow secured the coveted award, it going to Mr. Grier's cow as already mentioned. Lady Jane, however, was highest pure-bred and greatest milk producer. Unfortunately for her owners, she tested lower than she had ever done in her life before, 2.45 as compared with a previous low test of 2.7.

Grade cows had an exceptionally good showing. Of the first four placings three were grade cows. Mr. Grier, who made his first appearance at Guelph this year, was particularly fortunate. On the three grade cows that he exhibited, he secured first, fourth and sixth in general standing. "It looks bad for the breed," remarked a visitor. But the visitor was wrong. All of the winning grades were animals with many crosses of pure Holstein blood, and in fact they owed their productiveness to the sweepstakes cow, too, a great big animal, with all kinds of capacity, is a grade in name only. Her ancestors had been registered and records papers had been neglected and records lost track of. Mr. Grier is a young chap in his twenties, and if the cows at Guelph are a fair sample of the cows he has at home it should be heard from as a dairy farmer.

The Ayrshires. In all there were 23 Ayrshires entered in the test. The exhibitors were: A. S. Turner & Sons, Ryckman's Corners; Jno. McKee & Son, Norwich; H. C. Hamill, Markham; F. H. Harris, Mt. Elgin; N. Dymont & Sons, Brantford; James McPherson, Copetown; Wm. Stewart & Sons, Campbellford, and Alex. Hume & Co., Campbellford. Lady Jane, of course, was the outstanding animal of the breed. Jno. McKee, proprietor of York Armour, proved that they still have producers in his Brookside herd by winning first in both two-year and three-year-old classes. H. C. Hamill also stood well in the two classes. Several of the old time exhibitors were missing this year and the absence of the Quebec breeders was particularly regretted by the Ontario men who feel that they can never get up a stronger argument in a dairy test than in the show ring. It was notable, however, that practically all of the Ayrshires were splendid trypan animals and many of them winners in the ring.

The Holstein Exhibit.

There were 29 Holsteins competing. Here, too, the cows were as good individually as they proved themselves to be as producers. The list of exhibitors was a long one: H. C. Hammer, A. E. Hulet, and J. B. Hamner, of Norwich; M. H. Haley and M. L. Ha-

ley, of Springford; Chas. N. Hilliker and E. D. Hilliker, Burgessville; Henry W. Weston; J. Simon, Sons, Lynden; W. McQueen, Tillsonburg; Wilber C. Porouse, Tillsonburg; and Hiram Dymont, Dundas, Oxford County, as is evident from the above list, was strongly represented, eight of the 12 exhibitors being from that county.

Competition in the mature class was close. First money went to Rolo Mercens DeKol, owned by H. C. Hammer, with 218.1 lbs. of milk and 3.5 test. Queen Butter Barones, second place, tested only 3.4 per cent, a very unusual thing for her, and lost because of it. In the three-year-old class Mr. Hulet was first with Duchess of Norfolk, 195.7 lbs. of 3.55 milk, and in the two-year-olds Hiram Dymont's heifer, Patricia Deans, produced 172.7 lbs. of 3.6 milk and won the red ribbon.

Jerseys.

Last year old Sunbeam of Edgely, champion Jersey of the British Empire, won the sweepstakes for Jno. Boggs & Sons. The same breeders had six very nice animals along this year, but none of them were capable of competing with the stable of Edgely. However, was ninth in general standing with 167.4 lbs. of 4.8 milk, a production of almost 53 lbs. of

milk a day. Boggs won first in both of the other classes. Also E. E. Craddock and H. J. Gee, of Hagersville, exhibited a few.

Grade cows, all Holstein, numbered six. The test was computed by the presence of three dairy months. These latter were judged on a score of 50 per cent for production and 50 per cent on conformation. The classes for bull calves of the dairy breeds were continued this year with a nice lot of future herd headers on exhibit. Turner's won both classes in Ayrshires and Boggs were equally successful with Jerseys. In Holsteins, M. H. Haley won the senior class with a calf that was first at both Toronto and London. Chas. N. Hilliker won the junior class with a nice, smooth, deep bodied calf. Awards in full follow:

Awards.

Ayrshire senior bull calves—1, Hector of Springbank, A. E. Turner & Sons; 2, Hillhouse Sunrise, F. H. Harris; 3, Genouille, Wm. Stewart & Sons; 4, H. C. Hamill. Ayrshire junior bull calves—1, Springbank, M. H. Haley; 2, H. C. Hamill; 3, Sprightly Boy of Menie, Wm. Stewart & Sons; 4, Snow King's Ideal, M. D. Hilliker; 5, Rose of Fernbrook, Collier, Beesville.

Holstein senior bull calves—1, King Evelyne Alcatraz, M. H. Haley; 2, Pontiac Paul, J. J. Fox; Guelph, 3, Lady Champion, Sir Sylvia, J. B. Hamill; 4, Pontiac Rue DeKol, A. E. McPhail; 5, Holstein junior bull calves—1, Lowland's Prince Sars, Chas. N. Hilliker; 2, Comet Paul C. Posch, A. E. Hulet; 3, Major Joseph, M. H. Haley; 4, King Aaggie Valdessa, Wilber C. Prouse.

Dairy Quarters Not Good. Conditions at Guelph have never been ideal for the conducting of dairy

test and they are not improving. "I never saw so many cows off feed in the test before," remarked one old-time exhibitor. This tendency to get off feed must be attributed largely to the system of ventilation, which generally fails to ventilate at all. Parts of the stable, however, are well ventilated than others, and some parts are quieter than others. This does not give all exhibitors an equal chance, a change in the ventilation system and a rearrangement of the litter tracks so that every load would not be pushed along the end of the stable, disturbing the cows quartered there, would not cost much and would be a great improvement.

Let Us Keep Accounts

EDITOR, Farm and Dairy.—This seems to be a time of complaint and distrust on the part of our city and general consuming population regarding the high cost of living. It is a very regrettable fact that the farmers, against whom these unwarranted attacks are made, are not doing much to successfully defend themselves on the question.

This condition is due chiefly to the fact that farmers as a class are not business men. If they were, they would long be before the public on another question. They realize that they are not realizing the net income which city dwellers claim they are, in fact not getting their share of days, and they cannot lay their finger on the location of the trouble, nor complain to fault-finders in general just what they are realizing from their farming operations. This is not a new question. There are many of our more business-like farmers who can hold of this subject and explain the question to the satisfaction of any dairy city dweller.

The average farmer, however, when questioned by such cannot explain his position with any degree of satisfaction to himself or to the other party in the conversation. For instance, what the proportion of farmers can hold of is what it costs them to produce 100 lbs. of milk, what it costs to grow an acre of oats, to raise a dairy heifer to producing age, what it has cost them to fill their silo from planting time to filling, what the depreciation on their equipment amounted to in the last year, or even what has been the net profit or loss, during the same period, on their farming operations.

There are numerous little items which might come up in a farmer's conversation with a city business man in which the average farmer would be completely bewildered, by the argument of the city dweller. It is not a reasonable account of his business affairs.

Especially at this time, in view of the agitation for price control of food stuffs, when our city people are demanding an investigation into the farmers' profits, more particularly regarding the city milk trade, it would be wise for our farmers to look into their affairs and see just where the trouble lies.

We all know that we are not receiving the returns for our time which city people claim we are, but how many of us can lay our finger upon the levers and say just what his estimates of our profits are as a family.

If we, as a class, were better able through business methods to talk in a business-like manner with men of other lines of business, we could clear away a lot of misunderstanding which now exists, and thus encourage co-operation between producer and consumer which might be beneficial to both sides of the deal.

These remarks apply equally well to uneducated city people who take delight in slandering the farmer every turn.—C. F. McK., Glangarry Co., Ont.

The Dairy Test at The Ontario Provincial Winter Fair

SHORTHORNS.

48 Mos. and Over.
1. Royal Myrtle, Jno. Brown, Galt..... 123.8
2. Fancy Rose, S. W. Jackson, Woodstock..... 123.8

AYRSHIRES.

Heifer, Under 36 Mos.
1. Butterfly Beauty, S. W. Jackson..... 87.5
2. Queen of Springbank, H. C. Hamill, Markham..... 175.6
3. Pearl of Balguld, James McPherson, Copetown..... 172.4
4. Gracielola Niss, H. C. Hamill..... 150.3
5. Humeshaugh Lassie, Alex. Hume & Co., Menie..... 150.3
6. Scotties Kenzie 2nd, Jno. McKee & Sons, Norwich..... 135.2
7. Blessom of Hickory Hill, N. Dymont & Sons, Brantford..... 135.4
8. Dropow of Menie, Wm. Stewart & Sons, Menie..... 147.1
9. Brookside Lady, Jno. McKee & Son..... 146.3
10. Leah of Springbank, A. E. Turner & Sons..... 145.2
11. Beauty's First of Hillside, F. H. Harris, Mt. Elgin..... 139.4
12. Brookside Jennie, Jno. McKee & Son..... 139.4
13. Lewis of Hickory Hill, N. Dymont & Sons..... 139.4
14. Phyllis of Gracielola, H. C. Hamill..... 140.3

HEIFER, 36 Mos. and Under 48 Mos.

1. Brookside Lady, Jno. McKee & Son..... 139.2
2. Rose of Montrose, H. C. Hamill..... 139.4
3. Rose of Craigdale, H. C. Hamill..... 104.1

HOLSTEINS.

Cow, Over 48 Mos.
1. Rolo Mercens DeKol, H. C. Hammer, Norwich..... 218.1
2. Queen Jane, M. H. Haley, Springbank..... 217.7
3. Dixie Rose, T. W. McQueen, Tillsonburg..... 217.3
4. Grace Colantha Posch, M. H. Haley..... 197.5
5. Rose Turke Albert, E. D. Hilliker, Burgessville..... 195.4
6. Roberta Stambour Marino, Henry Welsh, Weston..... 184.5
7. Duchess of Norfolk, E. Hulet, Norwich..... 197.5
8. Durance Kordayke Jewel, Chas. N. Hilliker..... 182.3
9. Marjorie Pottinger, Henry Welsh, Weston..... 180.7
10. Pontiac Abbeokere Beira, Hiram Dymont, Dundas..... 172.7
11. Lady Jane, M. H. Haley, Springbank..... 172.3
12. Pauline Posch Mercens, E. D. Hilliker..... 172.3
13. Pontiac Posch, Hiram Dymont..... 147.8
14. Belle of Hillside, M. H. Haley..... 145.4
15. Ada Medina Harrow, T. W. McQueen, Tillsonburg..... 142.3
16. E. Edgely of Hillside, M. H. Haley..... 137.1
17. Belle Harlow Colantha, T. W. McQueen..... 124.1

JERSEYS.

Cow, 48 Mos. and Over.
1. Lady Jane, Edgely, M. H. Haley, Hagersville..... 158.4
2. Topsy May, Jas. Boggs & Sons..... 150.6
3. Fairy Queen, E. E. Craddock, Hagersville..... 132.1
4. Queen Greta, Jas. Boggs & Sons..... 132.1
5. Peter's Royal, E. E. Craddock..... 132.1
6. Edgely Queen II, Alfred Boggs, Edgely..... 109.7
7. Lady Jane, Edgely, M. H. Haley, Hagersville..... 102.5
8. Edgely Daisy Queen, Jas. Bover & Sons..... 85.3
9. Edgely Rosemont, E. E. Craddock..... 84.3
10. Edgely Queen, Alfred Boggs..... 85.5

GRADES.

Cow, 48 Mos. and Over.
1. Lily, E. E. Craddock..... 210.1
2. Patsy, Chas. N. Hilliker, Burgessville..... 203.3
3. Freddie, Earl Grier..... 211.7
4. Blossom, E. E. Craddock..... 172.8
5. Queen, J. B. Hamner, Norwich..... 181.8

Class	Grade	Milk	Test	Total
Senior Bull Calves	1st	123.8	4.35	170.65
	2nd	123.8	4.35	170.65
Junior Bull Calves	1st	109.687	5.75	158.23
	2nd	258.6	2.85	257.75
Holstein Senior Bull Calves	1st	171.7	4.35	232.58
	2nd	175.6	4.1	229.79
Holstein Junior Bull Calves	1st	172.4	4.1	217.18
	2nd	150.3	4.85	202.66
Jersey Senior Bull Calves	1st	135.2	3.9	202.705
	2nd	135.4	4.6	184.43
Jersey Junior Bull Calves	1st	147.1	4.65	204.077
	2nd	146.3	3.9	182.734
Grade Senior Bull Calves	1st	145.2	4.2	189.31
	2nd	139.4	4.2	179.82

Equal Honor Equal Representation Under Unionist Government

"I have absolute confidence that the pledge of the Prime Minister will be carried out, and that the Government will be fifty-fifty. Already the War Council is constituted on a fifty-fifty basis."

HON. N. W. ROWELL, President of the Council.

Our real political leaders of both parties have joined together for the winning of the war. Since Laurier prefers to cast in his lot with Bourassa, the result is upon his own head. Just as in the trenches Conservative and Liberal fight shoulder to shoulder against the common enemy, so in this election Union Government states its program and asks your endorsement on the ballot paper.

If you believe Canada should throw her whole weight into the war, and that it will take the very best men she can muster to achieve this,

Support Union Government

Union Government, being composed of the representative men of both political parties, should be an evidence to the electorate that the present is a crisis in which all past party allegiance should be discarded and all patriots should join in endorsing the Union Government by no uncertain vote, stimulating these men still further to carry out the great work for which the Union was formed, to reinforce our soldiers at the front and prosecute Canada's participation in the war.

Don't allow yourself to be fooled with arguments about the sins of the old Conservative Government which is dead

The Union Government is a new deal on a fifty-fifty Liberal and Conservative basis. To talk about the misdeeds of the old Conservative Government is like threshing dead straw.

You can't quarrel with a dead man.

Don't get away from the real issue, which is whether Canada shall fight or run away. Whether it shall follow the miserable and unpatriotic French-Canadian lead, or whether it shall be true to British traditions.

Unionist Party Publicity Committee

Is a United Quebec to Rule All Canada ?

This, the most tremendous question in Canada's history, is to be answered within ten days.

Our answer involves Canada's honour, her freedom and her future. Old-time party questions are being advanced to obscure the gravest issue ever placed before a nation. Canada is in real danger. The clouds that obscure her vision must be brushed aside so that the great issue stands forth clear and distinct.

"Is a United Quebec to Rule All Canada?"

To-day, in our national crisis, Quebec alone among all the provinces stands more united than ever before. She knows what she wants:

- (1) Withdrawal from the war.
- (2) Bilingual schools everywhere.
- (3) Weakening of the ties of British connection.
- (4) Political control of Canada.

From the Ottawa River to Labrador and the Gulf, a common purpose actuates Quebec in her determination to profit by the factional divisions of Canada and to impose her will upon all the people of Canada.

Within the last few weeks, Quebec has mobilized all her forces to dominate Canada under the unified leadership of Bourassa and Laurier. Canada knows that these two men in their earlier days were personal friends and political associates. Canada knows how in recent times they gradually drew apart—until in 1911 Bourassa opposed Laurier and helped to bring about his defeat, at the polls. Canada knows that from that time forward, until a few weeks ago, the breach between them steadily widened until envy and hatred each toward the other became the possession of both. Bourassa and his followers were anathema to Laurier.

Should not the people of Canada ask themselves, before it is too late, why these two men have suddenly agreed to bury the past, why this sudden embrace each of the other? If we will but let the scales drop from our eyes the answer is obvious. The all-compelling influences of Quebec have combined to force the union of Laurier and Bourassa in the common purpose of French-Canadian domination.

We concede the right of French-Canadians to make common cause of anything they think it is in their interests so to do. This is a free country. But as the French-Canadians have already combined to assert their views, it is the duty of the hour that we English-speaking Canadians get together and present to Quebec a united front in the defence of our rights. This is imperative.

With sixty solid seats Quebec is about to accomplish her designs. Bourassa, the real master and idol of Quebec, is in sight of his goal.

To attain her purpose, Quebec has not scrupled to ignore British traditions and to suppress freedom of speech. So thoroughly organized is her campaign to prevent even the discussion

of the war that Unionist candidates are prevented from holding public meetings throughout that Province. The Unionist minority in Quebec are the victims of organized obstruction.

To be successful in her determination to rule all Canada, Quebec has but to secure a few seats in each of the other Provinces. Quebec leaders now seek to divide the rest of Canada into factions by insidiously bringing into political discussion old-time party questions, to divert the public mind from Quebec, her purpose and her ambitions.

United in her determination to quit the war, Quebec would compel a divided Canada to do likewise. By union only can the English-speaking people prevent this calamity.

However well-meaning Laurier candidates in Ontario may be, they will be helpless against a united Quebec.

Apart from the splendid work of the small English-speaking population, Quebec has failed the Red Cross, has failed the Patriotic Fund, has failed in recruiting and has failed in the Victory Loan. Dare we trust our soldiers, their wives, their children, their pensions and their allowances to Quebec, that will neither give, enlist nor invest, and which will resist taxation for the support of our men and their dependents?

Canada must decide whether she will become a deserter and quit with Russia, or fight to the end for liberty with Belgium. This decision must not be dictated by the only Province which has shirked its obligations throughout the war.

All Canada knows that Germany has been working through agents, spies and bribes in every country in the world. The latest evidences are the revelations recently made to the world by President Wilson. Do we Canadians think the Kaiser has overlooked Canada? If we do, what a fool's paradise!

Germany benefits by division among her enemies. Upon whom would she look in Canada as furthering her designs? Not Sir Robert Borden, Mr. Rowell and their colleagues in the Union Government. That is certain. But can the same be said with respect to the leaders in the Province of Quebec whose attitude in this war is against Canada's continuation in the war. We regret to be compelled to say these things, but we must not shut our eyes to facts.

The Citizens' Union Committee, anxious for the maintenance of British ideals and traditions, views with alarm the menace of French-Canadian domination with its inevitable influence upon the home, the school and the state.

We, therefore, call upon all English-speaking men and women to realize that—Canada, divided by political factions and old-time party questions, is at the mercy of a united Quebec. Union Government alone can save Canada from the menace of French-Canadian domination.

The Citizens' Union Committee

A Non-Partisan War-Time Organization to Support Union Government

J. W. LYON, Guelph, Chairman

NORMAN SOMMERVILLE, Toronto, Vice-Chairman

G. A. WARBURTON
Chairman Executive Committee

ALBERT H. ABBOTT, Secretary

Telephone Main 5824

Headquarters: Canada Life Bldg., Toronto

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 Send Farm and Dairy to your friend. It is
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AND

Rural Home

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Chicago Office—People's Gas Building.
New York Office—Tribune Building.

CIRCULATION STATEMENT.

The paid subscriptions to Farm and Dairy approximate 25,000. The actual circulation of each issue, including copies of the paper sent to subscribers who are but slightly in arrears, and sample copies, varies from 20,000 to 25,000 copies. No subscriptions are accepted at less than the full subscription rates. Shown detailed statements of circulation of the paper, showing its distribution by counties and provinces, will be mailed free on request.

OUR GUARANTEE.

We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of Farm and Dairy are as carefully edited as the reading columns, and because to protect our readers, we turn away all unscrupulous advertisers. Should any advertiser herein deal dishonestly with you as one of our paid-in-advance subscribers, we will make good the amount of your loss, provided such transaction takes place within the month of date of this issue, that it is reported to us within a week of its occurrence, and that we find the facts to be as stated. It is a condition of this contract that in writing to advertisers you state: "I saw your advertisement in Farm and Dairy."

Refuses shall not ply their trade at the expense of our subscribers, who are our friends, through the medium of this journal. But we shall not attempt to adjust trifling disputes between subscribers and honorable business men who advertise, nor pay the debts of honest bankrupts.

The Rural Publishing Company, Ltd.

PETERBORO AND TORONTO

Should not be contradicted and to confuse, nor to believe and take for granted, but to weigh and consider.—Bacon

Classification of Land

THE Ontario Department of Agriculture is making a survey of the waste lands of Old and New Ontario for the purpose of obtaining information regarding their possibilities for cattle and sheep ranching. This survey will reveal some interesting facts and it is good work so far as it goes. It is only a start, however, on the real problem, in which the Dominion Government should take the initiative. Our Federal authorities would not be going too far did they require that a thorough soil survey be made of all new districts before they are opened up for settlement. Canada owes it to the settler to ascertain for him the quality of the soil and its agricultural worth before he is permitted to take over a homestead.

In this we have a grand opportunity to learn from the past. In every province of Canada people have settled on land that is unsuitable for agriculture. In the Trent watershed Ontario settlers have expended the energy of years on land that will never be anything more than patches of gravel and sand. In some sections of New Brunswick are farms that should never have been deforested, and even in the Prairie Provinces of the West are large areas, partially settled, which will never yield a decent living in return for the hardest of work.

Blunders such as these were excusable in the past. Their recurrence will be inexcusable. To permit settlement on land of questionable worth is little less than a national crime against the men whom we invite to our shores and against

our own citizens who migrate from the older settled parts of the country to the newer. A Dominion wide soil survey is in order. It is not necessary or desirable that all the land of Canada be surveyed at once, but, as land is opened for settlement its soils should be classified. This would involve but little annual outlay and the almost irreparable blunders of the past would be avoided.

The Public School

IF you would know the real worth of a community, take a look at its public schools. If the schools are neglected, if the teachers are underpaid and the equipment necessary to efficient teaching is lacking, we are fairly safe in deciding that there is also something lacking in the spirit of the community itself. Or, if, on the other hand, the interest of the ratepayers is evident in the character of their schools, the people may be labelled progressive, be the soil ever so poor and labor incomes at a minimum. The Country Gentleman puts the problem and its importance before rural citizens in the following words:

"In this age, when brains, training and well-directed effort are the great prerequisites for human success, it is the part of criminal neglect to let boys emerge from ragged schools with ragged minds to face a world that exacts action and training. It is just as hard to stand an empty bag on end as it is to make an empty-headed boy a success. Institutions alone can create a nation, and the public school is America's greatest institution. Make America greater by making its public schools better."

Of course it will take money. But well educated boys and girls are a greater asset to any community than are well improved farms and large bank accounts.

A National Asset

THE financing of the rural school is on a wrong basis. Perhaps this accounts in large measure for its admitted inefficiency. The rural taxpayer is paying more as an individual and as a percentage on his investment to the support of his district schools than is the city taxpayer whose children have the best of educational facilities from the primer class to the end of their high school career. As a rule, the farmer pays several times as much in school taxes as the city cousin—and gets less for his money.

Several factors contribute to this situation. In the cities there are more children in a given area. This, however, is a less important factor than it is usually considered. The two really important factors are these—the wealth of the country is concentrated in the cities and in proportion to population the number of children to be instructed is small.

It is a fact, admitted by all students of economics that city land and values are due in large measure to the farm business conducted through the cities. If you doubt this, consider what happens to city land values when crops are a failure and farm business decreases. The annual rentals on these land values are an indirect charge against the farmers' business and are paid for from the farmers' pockets in cold cash. These values, concentrated in cities, are taxed for the support of city schools, but contribute nothing to the upkeep of country schools. In a very real sense, a part of the farmer's income is contributed to support city schools with no compensating benefits.

A not inconsiderable percentage of every city's population is educated in the rural schools. In the past the brightest and best of the country's children have left their rural homes for urban callings. In many rural school sections as much as 50 per cent of the children educated at the expense of the rural taxpayer, have gone, when

schooling days were over, to enrich the city and contribute to the support of their schools. Children educated in the city, on the other hand, in all but exceptional cases, stay in the city.

Our system of school financing is in need of re-organization. We must recognize that education is not a community asset, but a national one and, therefore, the support of our schools should not be so much a community obligation as a national obligation. The best suggestion that we have heard of equitably distributing the financial burden of education, is to impose a tax on provincial land values and pay practically all of the schools' expenses out of this provincial fund. In no other way can the city be made to contribute to rural education in proportion as it benefits from the expenditures of the rural taxpayer.

Cold Storage Eggs

THE Dominion Government, principally through its Food Controller, has been taking such a lively interest in many enterprises, previously considered as private business, that the holders of cold storage eggs are now along with a suggestion of their own. They would like to invoke a little government activity on their behalf. They desire that an advertising campaign should be conducted at Government expense to get people to substitute eggs for meat. Back of their suggestion is the fact that in the cold storages of Canada are an immense supply of eggs that are moving but slowly.

So far as we can see there is no reason why the Government should advertise the surplus stores of the cold storage man, than of the dry-goods merchant who is similarly over stocked. The cold storages, we presume, were filled with eggs in the expectation of a very strong demand. If the packers have miscalculated the market and stand to lose on their egg transactions, they should be as willing to meet the loss as they would be to pocket the profits had the market been up to expectations. Even as it is, however, no proof is offered that cold storage men stand to lose. It is more likely that expected profits are not going to be realized unless the home consumer can be induced to greatly increase his demands for eggs. At the present time, however, storage eggs are selling at what seems a reasonable advance in price over what the eggs cost the packers earlier in the season, and we would suggest that a reduction in price of a few cents a dozen, would be a very efficient method of increasing the home demand for storage eggs.

As a means of increasing the milk flow, the United States Food Administrator is urging warm drinking water for dairy stock. Warm water will save feed and benefit the milk flow. It saves feed because it does not draw on the vitality of the cow as does cold water. It helps the milk flow because a cow will not reach her maximum production unless she drinks water abundantly. She will not drink as much as she should if the water is ice cold.

???

66 THE man who can correctly answer the question, "What is a fair price at which to place the cost of producing one hundred pounds of milk?" says Prof. E. H. Farrington, of the University of Wisconsin, should also be able to supply specific answers to two more interesting questions, namely: "What does it cost to buy a suit of clothes?" and "How much does a woman spend in a department store?" The professor could hardly have drawn a simile better fitted to bring out the absurdity of attempting to base milk prices on cost of production. As well base your wife's allowance on an answer to the last question.

In Union There is Strength

A Six Figure Business on a Four Figure Capital

To do a business of \$1,000,000 a year on a paid up capital of only \$6,458 is an excellent piece of business organization and a feat that any company might justly be proud of. Such is the accomplishment of the United Farmers' Cooperative Company as shown by the figures in their financial statement for the ten months ending October 31st, and published herewith. The report loses nothing of its interest when it is borne in mind that the company has only been in business three and a half years and that almost since its inception, unparallelled difficulties in obtaining supplies and the making of shipments, due to the war and the general dislocation of business, have had to be met and overcome.

As will be seen from the report the sales for the ten months ending October 31st were \$918,197, which will approximate \$1,000,000 a year, while the paid up capital to date is but \$6,458. This is altogether too small a working capital and the wonderful progress of the company in the past year, will, it is hoped, induce farmers to subscribe for the stock of the company, which is now being offered for sale, thus increasing its working capital and enabling the company to extend its operations.

STATEMENT OF THE UNITED FARMERS' CO-OPERATIVE COMPANY LIMITED, TORONTO, CANADA.

REVENUE AND EXPENDITURE For Ten Months ending October 31st, 1917.

Cr.	
By Sundry Earnings	\$13,546.02
Less Adjustments	1,533.55
	\$12,012.47
Dr.	
To Salaries, Advertising, 'Phone, Telegraph, Stationery and Office Expenses	\$ 1,09.91
Postage	49.65
Rent	400.38
Directors' Travelling Expenses	373.93
Interest and Exchange	1,716.68
Balance to Profit and Loss	1,213.50
	\$12,312.47

PROFIT AND LOSS ACCOUNT.

Cr.	
By Balance January 1st, 1917	\$ 4,015.77
Sundry Collections	11.80
Balance from Revenue Account	1,213.80
	\$ 5,241.37
Dr.	
To Allowance on Trading Account	\$ 10.00
Bad Debts Written Off	140.71
Dividend 1918	247.81
Reserve for Dividend 1917	483.96
Written off Furniture 10 per cent	97.81
Written off Preliminary Expenses, 10 per cent	173.15
Written off Business Extension Act, 10 per cent	467.29
Balance to Reserve Account	1,584.53
	\$ 3,557.04
	\$ 5,241.37

Total Sales for 10 months

(Signed) A. J. REYNOLDS, Auditor.

BALANCE SHEET—OCTOBER 31st, 1917.

LIABILITIES.	
Accounts Payable	\$ 3,704.47
Cash Deposits on Orders	250.00
Unpaid Dividends	12.30
	\$ 3,966.67
Capital Stock Subscribed	\$9,725.00
Less Unpaid	3,267.00
	\$ 6,458.00
Reserved for Dividend	452.06
Reserve Account	3,657.04
	\$ 4,109.10
	\$14,533.77
ASSETS.	
Cash	\$ 2,973.83

Accounts Receivable	3,905.70
Stock in Warehouse	1,245.90
Furniture and Supplies	880.30
	\$ 8,805.73

Preliminary Expenses \$1,612.35	
Mailing Lists and Business Extension Act, 4,115.69	
	\$ 5,728.04
	\$14,533.77

Having audited the accounts of the Company to above date, I certify the above Balance Sheet truly sets out the affairs of the Company as shown by the books. The stock on hand has been certified to me to be correct as to quantities and values, 10% depreciation has been provided for in Furniture, Preliminary Expenses and Business Extension Accounts.

(Signed) A. J. REYNOLDS, Auditor.

FINANCIAL STATEMENT OF THE UNITED FARMERS OF ONTARIO, October 31st, 1917. PROFIT AND LOSS.

Earnings—	
Balance on Hand, 1916	\$ 858.94
Finance Trading Account	382.43
United Farmers' Cooperative Co. Rebate Travelling Expenses, Canadian Capital Agriculture	690.00
Membership Dues	89.85
	2,456.82
Expenses—	\$ 4,283.03
Bank Exchange	\$ 9.35
General Expense (including travelling expenses of delegations)	64.69
Office Expense (including stationery, stamps, salaries, etc.)	692.13
District Conventions	219.10
Organizing Account	47.23
Directors' Expenses	325.47
Annual Meeting (including delegates' fares, etc.)	797.02
	\$ 3,265.04
Balance	\$ 2,022.59

ASSETS.	
Cash on Hand	\$ 91.10
Bank Balance	656.88
Accounts Receivable	
Unpaid Dues	3293.50
United Farmers' Co. Merchandise	1,023.19
Merchandise as per Inventory	251.82
	\$ 3,025.59
Liabilities—none	
Surplus	2,022.59
Audited and found correct. (Signed) WM. McCRAE.	

Prepare for Hard Times

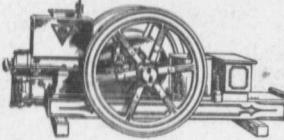
Hon. T. A. Crerar, President United Grain Growers', Ltd., Winnipeg.

CANADA is enjoying a boom because of conditions brought about by the war. We all know the disastrous results which followed the boom in Western Canada and which ended in 1913-1914. I am afraid that it is the result of the present boom after the war is over, will be like the bursting of another bubble and that we will have to pass through difficult times. Our national debt is likely to be two billion dollars at least, which will require an annual income of three hundred million dollars. This revenue will have to be raised in taxes, whereas before the war our national revenue was only \$133,000,000.

Purchasing the Civil War in the United States great combinations of capital sprang up that imposed heavy burdens on the common people. We will have to be alert to see that similar conditions are not created in Canada. After this war the welfare of the Dominion is likely to be profoundly affected by the thought and attitude of the farmers of western Canada. We western farmers must see, therefore, that our aims are not selfish and that our desire is to promote the welfare of all the people by ensuring for them full opportunity to develop unimpeded and untrammelled by the conditions that are created by unjust laws. I recommend this as a policy for our western farmers.

"MACHINES MUST TAKE THE PLACE OF MEN"

Let the "Alpha" do your work



Grind Feed
Saw Wood
Pump Water
Run Separator,
Churn or Washing Machine.

AN ALPHA Engine is almost indispensable on the farm these days when labor is so hard to get. It's so reliable, too. Always on the job. Never quits. Never gets laid up. You can always depend on an "ALPHA."

Thousands of Canadian engine-owners swear by the ALPHA because they have found that it is reliable at all times and under all conditions. It is sturdy built. It is simple in construction. It is powerful. It runs on either gasoline or kerosene and develops its full published horse power on a minimum amount of either. If you want an engine that you will be thoroughly satisfied with, put your money into an ALPHA.

Ask for catalogue, prices and complete information. Made in eleven sizes, 8 to 28 H.P. Each furnished in stationary, semi-portable or portable style, and with hopper or tank cooled cylinder.

THE DE LAVAL COMPANY, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos, Alpha Gas Engines, Alpha Churns and Buttermills. Catalogues of any of our lines mailed upon request. MONTREAL, QUEBEC, WINNIPEG, VANCOUVER, 50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER



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Reduced fares, good going December 15-21

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Get our prices on COTTON SEED MEAL, MILL FEEDS, GASOLINE ENGINES, CUTTERS, SLEIGHS, CREAM SEPARATORS, GROCERIES, etc.

Buy Co-operatively

The United Farmers' Co-operative Co. Limited

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Toronto, Ontario



KEEP your fears to yourself, but share your courage with others.
—Robert Louis Stevenson.

The Heart of the Desert

(Continued from last week)

THE mellow, haunting melody caught Rhoda's fancy at once, as Cartwell knew it would. She turned to the stoney figure at the piano. DeWitt was wholesome and strong, but this young Indian seemed vitally itself.

"Nina, if I should die and o'er ocean's foam

Softly at dusk a fair dove should come,
Open thy window, Nina, for it would be
My faithful soul come back to thee—"

Something in Cartwell's voice stirred Rhoda as had his eyes. For the first time in months Rhoda felt poignantly that it would be hard to be cut down with all her life un-lived. The mellow voice ceased and Cartwell, raising, lighted a fresh cigarette.

"I am going to get up with the rabbits to-morrow," he said, "so I'll try to bed now."

DeWitt, impelled by that curious sense of liking for the young Indian that fought down his aversion, said, "The music was bully, Cartwell!" but Cartwell only smiled as if at the stilt of patronage in the voice and stroled to his own room.

Rhoda slept late the following morning. She had not, in her three nights in the desert country, become accustomed to the silence that is not the least of the desert's splendors. It seemed to her that the nameless unknown Mystery toward which her life was drifting was embodied in this infinite silence. So sleep would not come to her until dawn. Then the stir of the wind in the trees, the bleat of sheep, the trill of mockers/birds lulled her to sleep.

As the brilliancy of the light in her room increased there drifted across her uneasy dreams the lifting notes of a whistled call. Pure and liquidly sweet they persisted until there came to Rhoda that faint stir of hope and longing that she had experienced the day before. She opened her eyes and finally, as the call continued, she crept languidly from her bed and peered from behind the window-shade. Cartwell, in his khaki suit, his handsome head bared to the hot sun, leaned against a post—free while he watched Rhoda's window.

"I wonder what he wakened me for?" she thought half resentfully. "I can't go to sleep again, so I may as well dress and have breakfast." Hardly had she seated herself at her solitary meal when Cartwell appeared. "Dear me!" he exclaimed. "The birds and Mr. DeWitt have been up this long time."

"What is John doing?" asked Rhoda curiously.

"He's gone up on the first mesa for the wildcats I spoke of last night. I thought perhaps you might care to take a drive before it got too hot. You didn't sleep well last night, did you?" Rhoda answered whimsically.

"It's the silence. It thunders at me so! I will get used to it soon. Perhaps

I ought to drive. I suppose I ought to try everything."

Not at all discouraged, apparently, by this lack of enthusiasm, Cartwell said:

"I won't let you overdo. I'll have the top-buggy for you and we'll go slowly and carefully."

"No," said Rhoda, suddenly recalling that, after all, Cartwell was an Indian. "I don't think I will go. Katherine will have all sorts of objections."

The Indian smiled sardonically. "I already have Mrs. Jack's permission. Billy Porter will be in, in a moment. If you would rather have a



Pictureque Scenery in the Vale-Car District of B. C.

The illustration herewith was taken at the time of a Victoria Day celebration. As will be noted, one of the main features of the building is a baseball game. The buildings shown are the Salmon Hatchery building, Salmon Arm, B. C. at the foot of Mount Ida, which may be seen in the distance.

white man than an Indian as escort, I'm quite willing to retreat."

Rhoda flushed delicately. "Your frankness is almost—almost impertinent, Mr. Cartwell!"

"I don't mean it that way at all!" protested the Indian. "It's just that I saw so plainly what was going on in your mind and it piqued me. If it will be one bit pleasanter for you with Billy, I'll go right out and hunt him up for you now."

The young man's naivete completely disarmed Rhoda. "Don't be silly!" she said. "Go get your famous top-buggy and I'll be ready in a minute."

In a short time Rhoda and Cartwell, followed by many injunctions from Katherine, started off toward the irrigating ditch. At a slow pace they drove through the peach orchard into the desert. As they reached the open trail, thrush and to-bee fluttered from the cholla. Chipmunk and cottontail scurried before them. Overhead a hawk dipped in its reeling flight. Cartwell watched the girl keenly. Her pale face was very lovely in the brilliant morning light, though the somberness of her wide, gray eyes was deepened. That same earnestness and patience in her bewilderment which he touched other men touched Cartwell, but he only said:

"There never was anything bigger and finer than this open desert, was there?"

Rhoda turned from staring at the distant mesa and eyed the young Indian wonderingly.

"Why," she exclaimed, "I hate it! You know that sick fear that gets you when you try to picture eternity to yourself? That's the way this barrenness and awful distance affects me. I hate it!"

"But you won't hate it!" cried Cartwell. "You must let me show you its benignity. It's as healing as the hand of God."

Rhoda shuddered. "Don't talk about it, please! I'll try to think of something else."

They drove in silence for some moments. Rhoda, her thin hands clasped in her lap, resolutely stared at the young Indian's profile. In the unreal world in which she drifted, she needed some thought of strength, some hope beyond her own, to which to cling. She was lonely—lonely as some outcast watching with sick eyes the joy of the world to which he is denied. As she stared at the stern young profile beside her, fate her heart crept the now familiar thrill.

Suddenly Cartwell turned and looked at her quizzically.

"Well, what are your conclusions?"

Rhoda shook her head. "I don't know, except that it's hard to realize that you are an Indian."

Cartwell's voice was ironical. "The only good Indian is a dead Indian, you know. I'm liable to break loose any time, believe me!"

Rhoda's eyes were on the far lavender line where the mesa melted into the mountains.

fight all sham; perhaps it was that Rhoda merely had reached the limit of her heroic self-containment and that had DeWitt as a Newmanna in with her, she would have given way in the same manner; perhaps it was that the young Indian's presence had in it a quality that roused new life in her. Whatever the cause, she felt melancholy suddenly left Rhoda's eyes and they were wild and black with fear.

"I can't die!" she panted. "I can't leave my life un-lived! I can't crawl on much longer like stick animal without a soul. I want to live! To live!"

"Look at me!" said Cartwell. "Look at me, not at the desert!" Then as she turned to him, "Listen, Rhoda! You shall not die! I will make you well! You shall not die!"

For a long minute the two gazed deep into each other's eyes, and the sense of quaking blood throbbed Rhoda's heart. Then they both woke to the sound of hoof-beats behind them and John DeWitt, with a wildcat thrown across his saddle, rode up to them.

"Hello! I've shouted one lung out! I thought you people were petrified!" He looked curiously from Rhoda's white face to Cartwell's inscrutable one. "Do you think you have attempted this trip, Rhoda?" he asked gently.

"Oh, we've taken it very slowly," answered the Indian. "And we are going to turn back now."

"I don't think I've overdone," said Rhoda. "But perhaps we have had enough."

"All right," said Cartwell. "If Mr. DeWitt will change places with me, I'll ride on to the ditch and he can drive you back."

DeWitt assented eagerly and, the change made, Cartwell lifted his hat and was gone. Rhoda and John returned in a silence that lasted until DeWitt lifted Rhoda from the buggy to the veranda. Then he said:

"Rhoda, I don't like to have you go off alone with Cartwell. I wish you wouldn't."

Rhoda smiled. "John, don't be silly! He goes about with Katherine all the time."

John only shook his head and changed the subject. That afternoon, however, Billy Porter buttonholed DeWitt in the corral where the New Yorker was watching the Arizona saddle his fractions horse.

"John was ready at the post. Look here, DeWitt," said Billy, an embarrassed look in his honest brown eyes. "I don't want you to think I'm cutting in, but some one ought to watch that young Injun. Anybody with one eye can see he's crazy about Miss Rhoda."

John was too started to be resentful.

"What do you mean?" he exclaimed. "Cartwell is a great friend of the Newmanns."

"That's why I came to you. They're plumb locoed about the fellow, like the rest of the Easterners around here."

"Do you know anything against him?" insisted DeWitt.

"Why, man, he's an Injun, and half Apache at that! That's enough to know against him!"

"What makes you think he's interested in Miss Tuttle?" asked John. Porter flushed through his sin.

"Well," he said sheepishly, "I seen him come down the hall at dawn this morning. Us Westerners are all ears, you know, and when he reached Miss Tuttle's door, he pulled a little slipper out of his pocket and kised it and put it in front of the sill."

DeWitt scowled, then he laughed.

"He's no worse than the rest of us that way! I'll warn you, an' an' ears, he's it's only your prejudice against Indians and not really a matter to worry signed helplessly.

(Continued on page 18.)

THE UPWARD LOOK

The Ever-Present Father

I AM with thee to deliver thee. Jer. 1: 8.
A little girl was accustomed to meet her father on his homeward coming. One night he was so late that it was quite dark, when he telephoned to get her ready. As he came down the street, he saw her, in the bright light on the corner, start several times and then turn back. Just then a neighbor happened to pass, offered her her hand, which the little one quickly and gladly took. When she got within seeing distance of her father, she rushed into his arms crying out: "Why father, father, were you there in the dark all the time? If I had only known that, I would not have been a tiny bit afraid."

How often we elder people are like that little child! Because we can not see our Heavenly Father in the great unknown, our souls cry out with fear; because we can not realize His invisible presence in the dark places, and in the dark hours, we dare not venture forth even though we know definitely that it is His will that we should; because we cannot feel His soothing touch on our brow at the time of greatest anguish, our souls refuse to be comforted. Yet He is there all the time, in the dark, as well as in the bright sunny paths, and is possible a little nearer.

He is in the centre of the black world, darkening over our whole world. He is in the midst of the home, lonely now, without one beloved presence. He is very close with those lying suffering in pain and anguish. He is holding out loving tender arms to all those who are coming to Him in the darkness of anxiety, cares, suffering or agony.—J. H. N.

The Poet of the Prairies

A Glimpse into "Kitchener and Other Poems."

OUT West" in Calgary, dwells a poet. He does not wear his hair long, nor does he wander sad-eyed in lonely places. He is far too busy for that, for he is an Empire builder. And because he has helped in the building up of the Great Canadian West and is in close touch with both the business and farm life of that country, he is able to weave into his poems the hopes and aspirations of ordinary every day Western Canadians, and is able to impart to his poems the atmosphere of the prairie. Robert J. C. Stead is well known throughout the British Empire for his patriotic poems. Mr. Stead's poem on the death of Lord Kitchener, written a few hours after the announcement of the great war hero's death, has had an exceptionally wide circulation. It is probably the only Canadian poem that was ever incorporated complete into a telegraphic news service. It appeared not only in the leading Canadian papers, but in the English papers, and subsequently in the press of nearly all English-speaking countries throughout the world.

In his book "Kitchener and other Poems," which has just been published by the Musson Book Company, of Toronto, is to be found a collection of verse on subjects referring to the war, and on subjects referring to his beloved prairie. His poems are stately in their measures and refined in their phraseology. He never allows his fervor to run away with his sense of proportion, and even in dealing with the glorious achievements of Canada's sons overseas, he is not extravagant in his eulogies. The best example of this, perhaps may be found in "The Gull" in which he reviews the doings of Canada's men in these words:

And thou mine own, for whom my soul had feared,
That in that day thy heart should shrink and crawl;
Lest pain and getting, o'er endeared,
Should leave thee fat and vicious withal;
In peace thy vainer side was uppermost.

And suited with ends and aims of little worth;
In war, thy sons from coast to coast have made thy name a glory through the earth.

This volume in its title continues the strain of patriotism which has characterized so many of Mr. Stead's works. It testifies to the love and admiration of their author for our mother across the seas and her faithful allies and children who are standing by her in her hour of trial. The poem "Kitchener" will be of interest, not from the fact that it has been reprinted in every English-speaking country throughout the world, but rather because of the restrained passion which is to be found in it. We quote it here with:

Weep, waves of England! Nobler clay Was ne'er to nobler grave consigned;
The wild waves weep with us to-day Who mourn a nation's master-mind.

We hoped an honored age for him And ashes laid with England's great;
And rapturous music, and the drum, Deep hush that veils our Tomb of State.

But this is better. Let him sleep Where sleep the men who made us free,
For England's heart is in the deep, And England's glory is the sea.

One only vow above his bier, One only oath beside his bed;
We swear our flag shall shield him here Until the sea gives up its dead!

Leap, waves of England! Boastful be, And Ring defiance in the blast,
For earth is cynical of the Sea, Which shelters England's dead at last.

Articles Crowded Out

WING to lack of space and such a quantity of other material on hand, two of the articles in connection with our contest—"I Were Food Controller," have, up to the present been crowded out. "Better late than never," however, so they are appearing in this issue.

Castles in Spain

"Dreamer," Brant Co., Ont.
I F I were Food Controller! What a scope for the imagination! The scope certainly allows a person ample opportunity to build "Castles in Spain."

As soon as the honor of the position of Food Controller was conferred upon me, I should realize the vast responsibility which had been placed upon my shoulders, and I should determine to perform all the duties which had thereby devolved upon me just as efficiently as my ability would permit. At the same time I should firmly resolve to consider my country's welfare and endeavor to do my utmost to maintain and maintain it, constantly remaining firm in my convictions of right and wrong, of justice, and refusing to be biased by public opinion. Then, whether I gained the post will and praise of all of the people or not, I should enjoy peace of mind and conscience, being able to realize that I had done my best.

Having made these resolutions, I should carefully consider the matters which required my attention. These would be so numerous that it would be impossible for me to cope successfully with all of them simultaneously. I would ponder and weigh their importance and conclude that *www* Apt.

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ter which required most immediate
attention and which were fundamen-
tally affected the welfare of the coun-
try, was the manufacture of alcoholic
liquors.

On account of the war economy is
necessary, should advocate the ob-
servance of strict economical manage-
ment by all, both by the wealthy and
by those of more moderate financial
means. I should merely advocate this
measure, but I should set the exam-
ple by being a faithful ad-
herent of the principle myself. I
should consider the welfare, both
mental and physical of the poorer
class. Their bodies must be provided
with proper nourishment or not only
will their health be impaired but their
mental ability cannot attain or retain
the highest possible degree of
efficiency. Their limited financial
means will not allow them to provide
the proper amount of nourishing food
for themselves and their families are
allowed to demand exorbitant prices,
using as their pretext, the existing war
conditions. Then, in order to protect
the poorer classes and fit them best
to be desirable, efficient and intelli-
gent citizens, I would regulate the
price of articles of food which are
essential to furnish a proper nourish-
ing diet.

Nor should I be content to enjoy
my exorbitant salary, well-earned
though it might be, and live in luxury
while so many worthy causes demand
financial assistance. I should
strive to use a portion of my salary
for the benefit of suffering humanity.

Enough has now been written to
give my readers some idea of the
dreams which I should strive to make
realities, if I were Food Controller.
When that honor is conferred upon
me, I shall reveal, in more minute
details, the plan which I should for-
mulate and strive to effectively fulfil.

Use Larger Variety of Foods

Mrs. Elsie A. Wiggins, Parry Sound
Ont., Ont.

WE believe, over there was a
time, when food should be
controlled, it is now, I believe
Food Controller Hanna to be a man
of large heart, and believe I could not
do better than endorse his plan. If
I were Food Controller, it certainly
would be my aim to secure for each
man, woman and child in Canada,
a sufficient supply of nourishing food,
with a minimum of waste, in order
that the surplus for export be as large
as possible.

I would advise housewives to use
a larger variety of foods than is com-
monly used. For instance, beans
could be used occasionally, as a sub-
stitute for meat, for though they are
high in price, they are very nourish-
ing. Then there are so many recipes
for making cheaper bread, and cakes,
such as brown bread, corn cake,
muffins and gems, and many others,
which the cook can use. If cooks were
study out their bill at far more than
might be saved and accomplished.—
E.W.

Distributing Christmas Gifts

BEST of all ways—I think, the old
fashioned idea of hanging up our
stockings for old Santa to fill.
The little ones enjoy nothing better.
When a Christmas tree is not to be
thought of, why not make the little
ones happy by heaping in front of an
empty fireplace, or by the stove, all the
 presents. Tumble them down and
give them the pleasure of pulling them
has been hastily dumped. On the top have,
a note of apology from old Santa, stat-
ing that he was busy and could not
leave his sleigh. The novelty will deli-
ght the children.

Christmas Post Office.
A "Christmas Post Office" is a good
invention.

plan, either for distributing the Christ-
mas gifts or for a jolly Christmas
party. Arrange the post office at the
end of a room. It will provide good
work for the boy of the house. When
all is ready a sign, "Mail Open," may
be hung on the door, and the guests
may then enter the post-office room.
This should be dimly lighted, while a
bright light shines behind the boxes.
The postmaster is seen making about
sorting the mail and placing the pack-
ages in the boxes. As a package is
placed it may be claimed at once by
the "box-holder having the same num-
bered check." There may be a wait
for several minutes with all the boxes
empty, and packages may then be
placed in several boxes at once. The
postmaster may provide inexpensive lit-
tle gifts, or each guest may be re-
quested to bring a five-cent or 10 cent
gift, to be sent our soldier boys.

For a little girl's Christmas party,
it is a pretty plan to make a new
adaptation to the old "cobweb" idea,
and on one end of a red string tie a
paper doll, and on the other end,
which she finds after much following
of the turnings of the string, the doll's
outfit, to be cut out. These sets may
be bought for about 10 cents at Christ-
mas time.

The Game of Tip.

This old English game requires the
use of enough assorted Christmas
candles, nuts, raisins, and other
dainties, to make a small pile upon a
table; also a pair of sugar tongs. One
of the party is chosen who must retire
to another room while the remaining
players decide upon one of the dainties
in the pile to be known as "Tip." The
chosen person is then recalled, and
with the tongs removes a morsel from
the pile, trying to avoid the piece nam-
ed "Tip," of which, however, he does
not know the location. All pieces re-
moved belong to him, unless he re-
moves "Tip" when all must be returned
to the pile, and in turn passes to the
next player, who retires to the other
room while another "Tip" is named. A
player may pass his turn when, after
drawing several pieces, he wants to
avoid the possibility of losing them
through drawing "Tip." The game
should continue until the pile has dis-
appeared.

New Way of Changing Partners.

Young people have a way of pairing
off and remaining with their escorts
the entire evening, and as this is just
what a wise hostess wishes to avoid,
new devices for changing partners
during the evening are always in de-
mand. This can be done in a novel
and entertaining way with little
trouble. Take a circle of green card-
board and divide it into as many seg-
ments as you have girls present.
Write a girl's name in each division.
Now cut out a large red paste-board
star, with a white arrow pointing
outward from one of the points, and fasten this star
to the center of the cardboard circle
by means of a large pin.

Each boy in turn comes up and spins
the star, and the maiden whose name
is indicated when the white arrow
comes to rest, is accorded him as part-
ner. Of course if a girl's name has
already been chosen the boy must
spin again. The spinning star re-
sult in much innocent mirth for the
young people.

Sharing the Christmas Spirit.

In one small town there was a un-
usually number of those who especially
suffered sympathy—two blind, two ab-
solutely helpless and several aged and
chronic invalids. For the church
Christmas celebration the one in
charge prepared a very pretty Christ-
mas exercise of singing and dramatiza-
tion for children only, then asked about a
dozen of them to go to each home of
the shut-ins the afternoon before
Christmas and sing and recite a few
of the pieces. Although the exercise
was below zero all were on time.
Two of the lads marched ahead carry-

ing scarlet and white banners with
Christmas greetings, others carried
evergreen wreaths. All those whom
they visited seemed pleased with the
exercise and touched that the children
were willing to sacrifice their own con-
venience for other's pleasure. One
lady, who was as helpless as an infant,
said that as long as she lived she
would remember the occasion as the
most Christlike she had ever experi-
enced, a gift of loving thought and ser-
vice.

New Year's Eve.

On the last evening of the holiday
week, a freight supper around the
open fire, turning it into a New Year's
party if you wish, is one of the coziest,
hottest kinds of parties. After the
supper there could be introduced a
 quaint Armenian custom, by placing a
row of small candles on the hearth,
one candle for each guest. Each per-
son will in turn light a candle, and
while so burning, each tell a Christmas
legend or story. In fact it would be a
good idea to ask the guests to come
prepared with Christmas legends or,
instead of stories, the guests could
take in turn the part of the good
luck which have befallen them during
1917.

Agriculture in Our Schools

HOW many of our rural teachers
are interested in the subject of
agriculture and teach it in their
schools? Up to the present this sub-
ject, aside from school gardens, has
not received the place on our school
curriculum which its importance
would seem to warrant. The women
and girls attending our rural schools are
growing up on the farm, and it stands
to reason that if they receive a cer-
tain amount of education in the pub-
lic school along the subject of agricul-
ture, they will be benefited from it.
Mr. R. H. Clemens, district repre-
sentative of Wellington Co., Ont., re-
cently gave an address before the
Teachers' Convention on "Agriculture
in the Schools," which was received
by the teachers with considerable
favor. The ideas presented may prove
of value to other teachers interested
in this subject, and we pass them
along as they were received by us
from Mr. Clemens. He writes us as
follows:

I outlined a scheme whereby the
teachers could put on 10 lessons in
agriculture—one lesson a week for
10 weeks. This idea seemed to be
quite new to the teachers, and many
of them expressed a desire to cooper-
ate with me in putting on this little
course in the schools. The first les-
son was to be a lesson in testing seeds,
which I outlined in detail. The second
lesson was to be on soils, using a lamp
glass full of dry sand to demonstrate
capillary action. The third was to be
a lesson in weighing stalks, using
a certain spring scale and a pail in
estimating the difference in the value
of cows. The next lesson was to be
a lesson on churning, whereby each
child was given a tin of cream, and
how to keep cream properly and ar-
range the temperature in such a man-
ner as to ripen the cream. I ex-
plained that if farmers knew how to
take care of their cream as they
should, it would be entirely unneces-
sary to be churning for hours at a
time as many farmers are doing at
this time of year.

"The next lesson was to be a les-
son on the horse's foot, showing the
horse's hoof and describing the parts
of the horse's foot, telling why we ask
for obliquity of pastern, flange, etc., and
the functions of the frog. Another
lesson was to be on manual training.
Another lesson was to be on entomol-
ogy, whereby the children would
gather cocoons and caterpillars, which
were lying on the ground, put them
in a tin box, place them in a warm
room and look at them watch-

(Continued on page 18.)



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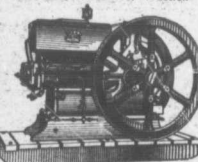
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Agriculture in Our Schools

(Continued from page 16.)

ing the results. These 10 lessons in agriculture would be given to the children in 10 consecutive weeks, each in their proper time.

"At the end of the 10 weeks, and they would have an agriculture night in the school: 10 children would take part. The first boy would explain what happened to the cocoon, and would tell about the life history of the plum curculio in a nutshell. The first girl would give her experience, and the experience of others, in churning butter. The next boy would explain the different parts of a horse's foot, and the functions of the different parts, etc. Some other child would outline the need contest experiment, and so on, all through." Some of the older boys and girls who are not attending school would fill in the social part of the evening with songs and music, etc. The teacher herself would explain the absolute necessity of having a good agriculture library in the school to be used by the people in the section. She would then ask for a silver collection and for contributions towards buying these books, and would endeavor to have an agriculture library in the school.

"I explained this in full to the teachers at the Convention, and it seemed to meet with their hearty approval. I promised to cooperate with them and outline each lesson a week ahead and send it to them."

The Heart of the Desert

(Continued from page 14.)

"All right! All right! Just remember, DeWitt, I warned you!"

He mounted, then held in his horse while the worried look gave place to one so sad, yet so manly, that John never forgot it.

"I hope you appreciate that girl, DeWitt. She—she's a thoroughbred! My God! When you think of a sweet thing like that dying and being squaws living! I hope you'll watch her, DeWitt. If anything happens to her through you not watching her, I'll come back on you for it! I ain't got any rights except the right that any living man has got to take care of any white thing like her. They get me hard when they're dainty like that. And she's the daintiest I ever seen!"

He rode away, shaking his head ominously.

CHAPTER III

Indian and Caucasian.

DeWitt debated with himself for some time as to whether or not he ought to speak to Jack of Porter's warning. Finally he decided that Porter's suspicions would only anger Jack, who was intensely loyal to his friends. He determined to keep silence until he had something more tangible on which to base his complaint than Billy's bitter prejudice against all Indians. He had implicit faith in Rhoda's love for himself. If any vague interest in life could come to her through the white Indian, he felt that he could endure his presence. In the meantime he would guard Rhoda without cessation.

In the days that followed, Rhoda grew perceptibly weaker, and her friends went about with aching hearts under an assumed cheerfulness of manner that deceived Rhoda least of any one. Rhoda herself did not complain and this of itself added a hundredfold to the mischievous situation. Her unflinching sweetness and patience touched the healthy, hardy young people who were so devoted to her more than the most justifiable impatience on her part.

Time and again Katherine saw DeWitt and Jack leave the girl's side with tears in their eyes. "But Cartwell

watched the girl with inscrutable gaze. Rhoda still hated the desert. The very unchanging loveliness of the days wearied her. Morning succeeded morning and noon followed noon, with always the same soft breeze stirring the orchard, always the unvarying monotony of bleating sheep and lowing herds and at evening the hoot of owls. The brooding tenderness of the sky she did not see. The throbbing of the great, quiet southern stars stirred her only with a sense of helpless loneliness that was all but unendurable. And still, from who knows what source, she found strength to meet the days and her friends with that unflinching sweetness that was as poignant as the clinging fingers of a sick child.

Jack, Katherine, DeWitt, Cartwell, all were unwearied in their effort to amuse her. And yet for some reason Cartwell alone was able to rouse her listless eyes to interest. Even DeWitt found himself eagerly watching the young Indian, less to guard Rhoda than to discover what in the Apache so piqued his curiosity. He had to admit, however reluctantly, that Kutle, as he and Rhoda now called him with the others, was a charming companion.

Neither DeWitt nor Rhoda ever before had known an Indian. Most of their ideas of the race were founded on childhood reading of Cooper. Kutle was quite as cultured, quite as well-mannered and quite as intelligent as any of their Eastern friends. But in many other qualities he differed from them. He possessed a frank pride in himself and his blood that might have belonged to some medieval prince who would not take the trouble outwardly to underestimate himself. Closely allied to this was his habit of truthfulness. This was not a bluntness that irritated the hearer but a habit of valuing persons and things at their intrinsic worth, a habit of mental honesty as bizarre to Rhoda and John as was the young Indian's frank pride.

His attitude toward Rhoda piqued her while it amused her. Since her childhood, men had treated her with deference, had paid almost abject tribute to her loveliness—a tribute of charm. Cartwell was delightfully considerate of her. He was uniformly courteous to her. But it was the courtesy of noblest oblige, without a trace of deference in it.

One afternoon Kutle sat alone on the veranda with Rhoda.

"Do you know," he said, rumpling his black hair, "that I think DeWitt has decided that I will beat watching?"

"Well," answered Rhoda idly, "and won't you?"

"Kutle chuckled.

"Would you prefer that I show the lurking savans beneath this false shell of good manners?"

Rhoda smiled back at him.

"Of course you are an Indian, after all. It's rather too bad of you not to live up to any of our ideals. Your manners are as nice as John DeWitt's. I'd be quite frantic about you if you would drop them and go on the war-path."

Kutle threw back his head and laughed.

"Oh, you ignorant young thing! It's lucky for you—and for me—that you have come West to grow up and complete your education! But DeWitt needn't worry. I don't need watching yet! First, I'm going to make you well. I know how and he doesn't. After that is done, he'd better watch!"

Rhoda's eyebrows began to go up. Kutle never had recalled by her look her outburst in the desert the morning of their first ride together, though they had taken several since. Rhoda's sudden mention of her illness now and her friends' respected her feeling. But now Kutle smiled at her disapproving brows.

(Continued next week.)

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A CALL TO ACTION

is sounded in this issue of Farm and Dairy. See page 11.

The Annual Dairy Meeting at Guelph

Are Cream Stations a Nuisance? Pasteurization Temperatures. Use of Rennet Substitutes

THE annual dairy meeting at Guelph during winter fair week seems to have a vitality all its own. Interest never flags, although there are no set speeches and no attractions outside of a good h. h. t. to heart discussion of dairy problems. At this year's meeting there were 200 makers of butter and cheese present from all parts of Western Ontario. A few of the subjects that came up for discussion were a rearrangement of prize lists at Ontario fairs to encourage exhibitors from Ontario makers, cream-buying stations, use of rennet substitutes, butter grading and pasteurizing for "specials."

During the past few years makers from Quebec and Western Canada have been securing an increasing proportion of the prize money at Ontario exhibitions. This may have a tendency in time to discourage Ontario exhibitors and a committee composed of Professor Dean, Frank Herna, A. H. Scott, Mac Robertson and R. T. Stillman, were appointed to draft some scheme to increase the prize going to Ontario makers at Ottawa, Toronto and London Fairs.

Cream-Shipping Stations.

In the establishment of cream-shipping stations Ontario is developing a brand new dairy problem. A few years ago there were no shipping stations; last year there were 76; this year there are 100. Regulations require that these stations be registered and that the cream taster secure a permit from the Minister of Agriculture. Neither regulation has been enforced pending an expression of opinion from the creamery men themselves. The most notable contribution to the discussion at Guelph was that of D. M. Wilson, of Buffalo, one dairy commissioner in the State of Kansas, where cream stations abound. The cream stations there have given Kansas butter a black eye. They have increased competition to a point where dishonesty and fraud are indulged in as a matter of business necessity. Good cream is dumped in with bad and there is no direct connection between the creamery man and his patron. "I would advise my Canadian friends to stay away from the cream-buying station," said Mr. Wilson. "Our creameries in Kansas are now trying to deal directly with the farmer."

J. A. McFetters viewed the buying station as just another middleman between producer and consumer and economically an unsound proposition. Mr. Player said that in their experience the cream from these stations was no worse than that from direct shippers, but that he would not have cream stations could he get direct shipments. Mr. Lund, who has had experience with cream stations in the West, expressed the opinion that they are "more trouble than they are worth." Mr. Davis, of the Ontario Creameries, suggested that stations would make the introduction of cream grading more difficult. Instructor McMullan's report was to the effect that most of the stations he had visited were conducted in a satisfactory manner. Instructor Smith, who has 10 stations in his territory, finds that he cannot recommend eight of them. Three of the stations were using cold water in testing, and in one case, his test of cream was 5 per cent. lower than that of the operator. Instructor Frank Herna, who along with R. W. Stratton, President of the W. O. D. A., conducted the meeting, closed this discussion with the suggestion that the creamerymen take it up in their own association and decide whether or

not they want legislation governing buying stations.

Rennet Substitutes.

Last season only 19 cheese factories in Western Ontario used rennet exclusively. The substitute, therefore, is due to play a very important part in the continuance of the cheese industry. Instructor Boyes stated that some makers have not been getting as good results from substitutes late in the season as they did in the early months of the year. This developed the fact that substitutes, most of them at least, do not hold their strength as does rennet and it is a mistake to lay in a season's supply ahead. When the substitute loses strength, more should be used—enough, Mr. Boyes said, to produce a normal curd in 50 minutes. The result of delay is greater loss in the whey. Instructor Tracy has found that in using substitutes the milk might coagulate as quickly as desired but would not work as quickly from then on as with rennet. By ripening milk more, makers are saving pepsin solution, but if the milk becomes too ripe cheese is too rough in texture. If set too sweet, on the other hand, Mr. Boyes finds that coagulation is so slow that there is much fat lost in the whey.

"Next year," remarked the same speaker, "we may have a shortage even of pepsin substitutes. I would urge on both cheesemakers and creamerymen to encourage farmers to save all stomachs of young, milked calves to increase our home supply of rennet." Mr. Herna mentioned that a laboratory for the preparation of rennet had been established in Toronto, to which rennet may be shipped.

Pasteurizing Temperatures.

Some creamery men are demanding federal legislation to regulate the temperature at which cream shall be pasteurized for butter making. On the markets, butter pasteurized at 110 degrees complex with cream pasteurized at 145 degrees or more. What temperature is most desirable? Mr. Herna quoted a letter from Mr. Marker, of Alberta, showing that the temperature in his province varies from 165 to 180 degrees below for 10 to 20 minutes. Mr. Snyder said that he had had good results pasteurizing at 115 to 120 degrees. Mr. Medd, from Huron county, favored 135 degrees for 20 minutes with comparatively sweet cream. If cream is a little off flavor he would pasteurize at a little higher temperature. Mr. McFetters, too, expressed a preference for the higher temperature. Mr. Taylor, who uses the flash system, pasteurizes above 170 degrees, keeping it up to 185 degrees when doing it himself. Mr. Wilson emphasized the importance of cooling cream quickly after pasteurization.

In discussing use of cultures Mr. Medd stated that he had more uniform butter since quitting their use altogether. "Our butter, in coming from the churn, has a sweet, clean, creamy flavor" said he, but admitted that it might be different did he not get sweet cream. General opinion, however, favored the use of good pure cultures and holding for a time after cooling unless cooling facilities were the best.

Butter Grading.

The discussion of pasteurization was given particular interest through the suggestion of J. H. Scott, provincial butter grader, that all butter scoring 94 points or over be placed in an extra grade called "specials" and that all butter in this grade be pasteurized at a temperature that would ensure its keeping quality. During the good season 28 per cent. of butter graded

When The Factory Closes

In a few weeks scores of the Cheese and Butter Factories over Ontario and Quebec will be closing for the season. At that time hundreds of the patrons of these will desire to form new connections for the shipping of their milk or cream. The following list of firms are in a position to handle large quantities. We suggest that you patronize them.

MR. MILK PRODUCER

If "Pigs is pigs" it don't necessarily follow that cows are just cows. A cow is the product of "calf", plus feed and attention. A calf which gets its nourishment from sucking its comrade's ear will bring poverty, not pride to its owner. The milked calf is the kind from which 10,000 lbs. of milk and many other blessings will flow later on. "Ship the cream and feed the milk" is the up-to-date slogan of the successful dairyman.

Let us look after the cream end of it for you. We pay highest prices for good cream because we have a market for high-grade butter and cream.

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Our Prescott branch will take care of all Eastern shippers. For further information write either Toronto or Prescott.

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There is Good News for You on Page 11 of This Issue.

has tested 94 per cent. or over, 89 per cent. from 82 to 94 and 15 to 19 per cent. were second grade. Mr. Scott explained that at present butter scoring 92 and over is in first grade, while, in many cases, it was evident that it would not be kept in storage; hence, the necessity for a higher class. The meeting expressed their desire that the grading service be continued.

Some experimental work has been done this past season on cream grading. The instructor graded 3,530 samples at the farm and again at the creamery. In 85 per cent. of these the grade was the same in both cases. The butter makers then graded the samples and in 89 per cent. of the cases they agreed with the grading of the instructor. Mr. Hearn expressed the opinion that makers would soon be grading the cream at the creamery for churning, whether they paid for it or not.

The meet closed with a brief consideration of oleomargarine restrictions now in force which were considered the next best thing to total prohibition of imports.

The Ontario Provincial Winter Fair at Guelph

(Continued from Page 2.)

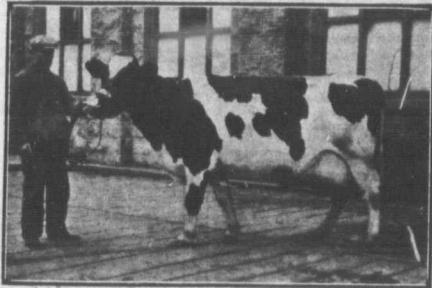
Sheep and Swine.

In the sheep pens were 40 more entries than a year ago, and a record show for Guelph. The entries were exceptionally well fitted; in spite of the high cost of feed and the exhibitors reported that "business is good." The principal award, that for champion wether of the show, was won by E. Brien & Sons, Ridgeway, with a Cotswold. Mr. Brien was excepted by fortunate this year, having the champion Cotswold wether at Chicago International the same week. A few of the other principal awards were as follows:

Champion pen of short wools, Southdowns, exhibited by Hampton Bros., Fergus; champion pen of long wools, E. Brien & Sons, Cotswolds; 1st Southdown ewe, Hampton Bros.; 1st Shropshire ewe, Geo. D. Betzner, Copetown; 1st Dorset ewe, W. E. Wright & Sons, Gleanworth; Oxford ewe, P. Arkell & Sons, Teeswater; Hampshire ewe, Telfer Bros., Paris; Lincoln ewe, J. S. Gonnell & Sons, Highgate; Cotswold ewe, E. Brien & Sons, Leicester ewe, A. and W. Whitelaw, Guelph.

The principal exhibitors in the various breeds were as follows:—Cotswolds, E. Brien & Sons; Jas. A. Campbell, Thedford; G. H. Stark & Son, Paris; Britain & Sons, Dorset; Norval, Lincoln—J. S. Gonnell & Sons; D. A. Campbell, Appin; R. S. Robson & Son, Denfield, and Jos. Lindner, Denfield; D. Besser, Appin; A. W. Whitelaw, David McTavish, Shakespear, and Thos. N. Duff, Chatsworth, Oxford; Peter Arkell & Sons; E. Barbour & Sons, Hillsburg; Johnson Bros., Appin, and Adam Armstrong, Fergus; Shropshires—John R. Kelsey, Woodville; J. Lloyd-Jones, Burford; W. H. Beattie, Wilton Grove; W. E. Wright & Son, Gleanworth; Adam A. Armstrong, Geo. D. Besser, Dope-town; T. M. Blackburn & Son, Kettleby; Jno. D. Larkin, Queenston, and Hampton Bros., Fergus. Southdowns—J. Lloyd-Jones, Burford; Hampton Bros., Holt; McEwan, London; and Jno. D. Larkin, Dorset Horns—W. E. Wright & Sons, and Arthur S. Wilson, Milton, Hampshire and Suffolks—Arthur S. Wilson; Hampton Bros.; Telfer Bros.

Swine exhibits were limited only by the accommodation; or rather the lack of it. Several exhibitors had entries returned to them and the show was well up to the record in point of numbers and quality. In quality, a pleasing feature of the show was the



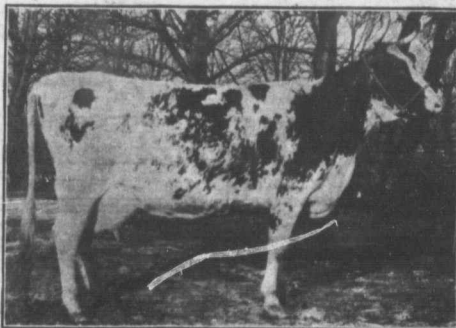
The Grade Cow that won the Sweepstakes of the Dairy Test at Guelph.

She is owned by Earl Grier of Woodstock. In the three days of the test she produced 219.7 lbs. of milk testing 4.2 per cent. fat. It was her high test in both fat and solids which gave her the sweepstakes award.

—Photo by an Editor of Farm and Dairy.

somewhat greater proportion of bacon bred pigs as compared with fat hogs. Competition was limited very much to the old-time competitors. In the class for export bacon hogs, Yorkshires were generally in the prize money. J. E. Brethour & Nephews, Burford, were first; 2nd and 3rd, Jno. Duck, Port Credit; 4th, Oscar Laro, Preston; 5th, Chas. Boynton, Dollar. Mr. Brethour has won this class in 20 of the 21 years he has exhibited. The champion Yorkshire sow was owned by Jno. Duck; Tamworth sow, D. Douglas & Sons, Mitchell; Berkshire sow, Adam Thompson, Stratford; Chester White sow, D. DeCourcy, Mitchell; Hampshire sow, Hastings Bros., Cross Hill. Principal exhibitors were as follows:

Yorkshires—J. E. Brethour & Nephews; Jno. Duck, Port Credit; Jacob Larch, Preston; J. K. Featherston, Streetsville; A. Stevens, Atwood; and Wm. Murdoch, Palmerston. Berkshires—Adam Thompson, Stratford; W. W. Brownridge, Georgetown; and A. Dolson, Cheltenham; Jno. D. Larkin; E. Brien & Sons, Ridgeway; Jas. S. Cowan, Atwood; P. J. McEwan, Wyoming; S. Dolson & Sons, Norval Station; and Wm. Boynton, Dollar. Tamworths—D. Douglas & Sons, Mitchell; A. C. Hallman, Breslau; Chas. Borst, Georgetown. Chester Whites—W. E. Wright & Son; Henry Capes, Wyoming; Dan. DeCourcy, Hastings Bros. Hampshire and Byron sold for \$9.55. Both were O. A. C.



Lady Jane, Highest Pure Bred Animal in the Guelph Test.

In three days she produced 280.6 lbs. of milk testing 7.45 per cent. fat, the lowest the ewe tested, with a normal test she would have been an easy champion. As this she secured more points than any other pure bred sow of any breed in the test.

—Photo by an Editor of Farm and Dairy.

No. 72. The first bag of barley realized \$6.25; fall wheat, \$6.35; peas, \$10.50; corn (one bushel, Plint), \$6; corn (Wis. No. 7), \$8. Alsike sold as high as \$15.50 a bushel; red clover, \$20.50; beans, \$11.50.

Inter-county Judging Competition.

In the inter-county judging competition, which now seems to be a permanent feature of the fair program, there were teams present from eighteen Ontario counties. And York county won again; the second win in succession for a team trained by District Representative Stockley. The successful team scored 2,324 points. The other teams scored as follows:—Oxford, 2,203; Victoria, 2,143; Waterloo, 2,127; Essex, 2,079; Wataaroo, 2,062; Durham, 2,055; Haldimand, 2,021; Brant, 2,005; Wentworth, 1,990; Simcoe, 1,961; Grey, 1,936; Bruce, 1,884; Peel, 1,859; Halton, 1,845; Norfolk, 1,761; Wellington 1,712; and Lambton, 1,702.

Among the competitors Morley Maynes, of Victoria County, stood highest in swine; Nelson Stark, of Halton, on sheep; Norman Hogbin, of Oxford, on horses; Clark Young, of York, on beef cattle and dairy cattle. This competition may now be regarded as one of the really educative features of the fair.

One Farmer and His Tractor

(Continued from page 5.)

speed all the time, the haul was steadier and the wear and tear on the binder less than if we had used horses. We cut even the first swath with the tractor and didn't knock down any more grain than we would have done with horses; I will admit, however, that a fairly even crop is necessary when using a tractor with nobody on the binder.

"Another place where the tractor excels," continued Mr. Porter, "is in drawing the hay load. It takes an extra man to operate the tractor, but it works to perfection—if you have a good hay loader. Perhaps its chief advantage is that you can run the tractor steadily at a slower rate than horses will walk, and it is therefore easier to handle the hay on top and build a good load. For this purpose any mechanical boy will do to run the tractor; in fact, my sister ran the tractor part of the time."

"And how are you making out with the fall plowing?" we queried.

"Very well with our 8-16. Frequently we have plowed 200 acres in a day, was generally when we had other work to do in the daytime. Ordinary buggy lamps, we find, are sufficient head light for plowing. In these buggy lamps we use one-third gasoline and two-thirds coal oil and get a good light. As a belt power we have used our tractor for chopping grain and sawing wood, and it did good work in both cases."

Speaking of some of the lessons he had learned in tractor operation, Mr. Porter emphasized lubrication. "The chief trouble I had at first," said he, "was because the oil prescribed was not heavy enough. I find that we need a heavy oil of the best grade. Another point to watch is that the cooling systems are well supplied with water. Lots of tractors are burnt up in their first month through lack of oil and water."

"How many acres have you plowed in a day?"

"I have plowed 16 acres in three and one-half days, and I was not plowing 22 hours in any one day. In this work we use from 10 to 15 gallons of kerosene a day."

If all Ontario farmers who are using tractors are as well pleased with them as is Mr. Porter, tractor manufacturers will find many boosters cooperating with their sales departments next spring.

A Large Stock on Small Acreage

(Continued from page 4.)

and alfalfa has come to them in their seasons, and roots helped out in the fall.

In early fall it is their practice at the Experimental Farm to bring the dairy cows into the stable and keep them there. They are put on a ration composed of 25 pounds ensilage; six to eight pounds clover hay and one pound of a grain mixture to every three or four pounds of milk. This grain mixture will consist this winter of corn bran, distillers' grains, wheat bran and gluten feed. This ration is continued all winter. Cows entered in the R.O.M. test get 50 to 60 pounds roots in addition. All the roughages fed to dairy cows are grown on the farm, as well as some of the grain.

Sheep Management.

The sheep on the Experimental Farm are mostly ewes. It is frequently contended by farmers that sheep are all right for rough land, but that they will not pay profits on the better bottom lands. When questioned on this subject, Muir replied: "Under proper management there is no reason why sheep cannot pay a good profit on the most expensive land." We reckon that they pay us well for their keep at the farm."

When the grass dries in the summer, the sheep are given some peas and oats from the sowing plots in the experimental rotations. The land which had been sown to fall rye is plowed up and sown with rape. This rape furnishes the lambs with food in the late summer and early fall, when they are getting in shape for market.

In the fall the flock is broken up into a number of breeding flocks, and the ewes are run on the after grass and flushed for breeding. Two breeds of sheep are kept at Ottawa, the Leicester and Shropshire.

The sheep are clothed in the winter and fed on ensilage, roots (preferably turnips), and clover hay. The breeding ewes are given a light grain ration. With the sheep as well as with the dairy cattle, the ensilage plays an important part in feeding.

Swine Mostly Grain Fed.

I have stated that the stock feeding methods carried on at the Experimental Farm are intensive. In no department have these methods been so intensified, however, as in the swine department. Here from 350 to 400 pigs are kept on three to three and one-half acres of ground. They are, of course, practically all grain fed. The only pasturage the swine get is the clover which is on their plot when they go out in the spring. The swine are moved each year to a new plot. They get one-third of a 10-acre three-year rotation experiment—the field which happens to be sown down to clover. This shifting of the ground each year is of great benefit, under such a close system of confinement.

The pigs are kept in winter in portable cabins, four to five sows in each cabin. These are drawn up into a special plot near the buildings. The pigs are trough fed during the winter, on a meal of bran and shorts, and are given all the clover hay and roots they will eat. When the sows were quartered last winter, a large crop of mangels has been grown this year.

A Self Feeder Saves Labor.

An experiment is being carried on with a self feeder for hogs. A two-acre plot of pasture was secured, and from 30 to 60 hogs were kept on this during the summer. Three tons of hay were taken from the pasture before the pigs were put on it. Corn, shorts, oats and tankage are all supplied in different compartments. The

pigs like the corn best, the wheat by-products and tankage come next and oats appear to be the most unpopular. Plenty of water is always within reach of the pigs.

While the exact results of the experiment are not yet available, it has been found that these hogs consume more grain per pound gain than hogs trough fed, but when labor is considered, the self-feeder is probably the most economical. It is admirably suited to hog raising where plenty of pasture is available. If skim milk can be obtained, it will greatly increase the gains in connection with a self feeder.

The swine department at the Experimental Farm is now caring for 350 pigs. They are always selling off breeding stock at six to 10 weeks of age, so the number fluctuates. The pens in their piggery are usually occupied by brood sows with their litters. Seventy brood sows are being kept over this year. They average about eight pigs per sow per year, and would do better with pasture. Some sows average two litters a year, but taking all the brood sows in the department, two litters cannot be counted on.

Ice Storage on Dairy Farms

(Continued from page 5.)

layers of flooring or siding on either side of 2x3-inch studding. A water proof paper should be placed between all double thicknesses of lumber and the space between the studding filled with dry mill shavings. Sawdust is not good for this purpose as it is usually from green wood and will mold, imparting a bad odor to the building. The doors ought to be well fitted, and provided with a clamp so that an air-tight joint will be formed when it is closed. The doors also should be insulated with shavings similar to the walls.

Although it is more difficult to construct and more expensive, a combination house where a little room is built to the ice-house for cold storage purposes is a good investment. The idea is to have openings at the bottom and top of the refrigerator, connecting with the ice compartment. The air on being cooled by the ice passes in through the bottom of the refrigerator while the warm air from the refrigerator passes back through the top opening to be cooled again by the ice. There must be no sawdust around the ice so that the air

may have a free chance to circulate. In constructing such a refrigerator a little ante-room should be left as a vestibule, so that one floor is always closed, even when you are passing in and out. This prevents loss of refrigeration.

A cooling tank may be placed in the cool room to which cold water from the melting ice is conducted through the drain. An overflow is provided, so that at all times there is a tank of water which can be used for cooling milk or cream.

The dairy and cold storage branch of the Department of Agriculture Ottawa, have complete plans for (1) ice-house with milk platform, cooling tank and crane. This is particularly adapted for the use of patrons of cheese factories. No. 2 is an ordinary ice-house with dairy or milk room. No. 3 is an ice house with refrigerator and milk room. Nos. 4 and 5 are combined ice-houses and dairies on a more elaborate scale. It will pay the dairy farmer who does not already have ice storage, to write at once for the plans of the house he considers suited to his needs, and to make arrangements for having in a goodly supply of ice at this season of the year, when it is so cheap.



Here's the Book that "Made Over" a Thousand Farms

"What the Farmer Can Do With Concrete" is a 100-page book—now in the hands of over 100,000 Canadian farmers. Fully a thousand of these have practically "made over" their farms by its help—thousands of others have started to do so by its valuable instructions by making some of their much-needed improvements of

CONCRETE

One of the many useful hints it gives is on the construction of a proper Barn Approach—like that here illustrated. Built this way—of Concrete—the "Approach" provides room for a concrete Root Cellar. This is one of many good things you will

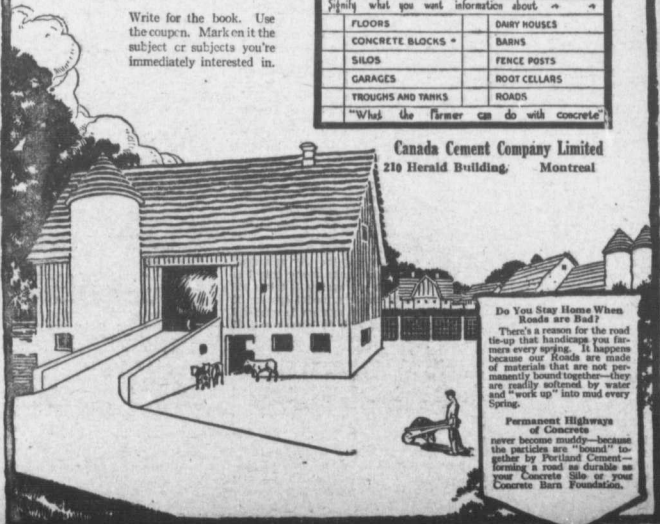
find in this free book—there are hundreds of other suggestions, some perhaps more valuable to you than this one. It shows you how to use Concrete in building a Silo—a Barn Foundation—a Water Tank—a Culvert—a Walk—or a fence post.

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Do You Stay Home When Roads are Bad?
There's a reason for the road tie-up that handicaps you farmers every spring. It happens because our roads are made of loose stones that are not permanently bound together—they readily crumble into mud every Spring.

Permanent Highways of Concrete
never become muddy—because the particles are "held" together by Portland Cement—forming a road so durable as new Concrete Sills or new Concrete Barn Foundations.

Current Comments on the Farming Business

The Shrinkage of Corn

THE heavy crop of coarse grains in Eastern Canada is not going to preclude a fairly strong demand for supplies of United States corn. And now the question is being asked, "Will the feeder lay in his supplies now or buy as necessity dictates?" This in turn brings up the question of shrinkage. Is the shrinkage apt to be such that it will be profitable to pay the extra price in the spring for drier corn? Fortunately there is considerable experimental evidence on the point.

A few years ago the Illinois Experiment Station made trials with dried corn that had been cribbed. In one instance 26,645 lbs. of dry ear corn were weighed into a crib on December 6th. The following September the corn weighed 18,690 lbs., a loss of nine per cent. In another crib the loss was about 9.2 per cent. In still other trials the shrinkage from December to the following September ranged from 12.3 to 19.8 per cent. In an Iowa Experiment corn lost 20.9 per cent. in weight up to June last, and in one experiment in Michigan, with damp and rainy weather at cribbing time, the loss was a little over 30 per cent.

The husking season just past was an unsatisfactory one. Early frost had stopped the growth and United States corn as a whole is full of moisture. We are informed that some of the corn that has arrived in Chicago has a moisture content of 40 per cent. Were such corn as this to get into the hands of the farmer at present prices, he would be almost certain to lose money as compared with buying at a higher price next spring. If corn can be purchased with a guaranteed moisture content, however, it will probably be advisable to lay in a supply this fall, as the course of the market has been steadily upward.

A Sensible Move

AN Order-in-Council has just been passed, the purpose of which is to protect the farmer from too great a loss of farm labor under the Military Service Act. This move on the part of the Government was made necessary through the misinterpretation of the Act by certain of the exemption tribunals. In a number of instances the tribunals refused exemption to men who are absolutely needed on their farms if production of food is not to suffer. Farm and Dairy recently pointed out the great need for cooperation between the Military Service Board and those of the campaigns for food. The present situation has also been brought to the attention of the Minister of Agriculture through petitions from farmers from all parts of the country, with the result that an Order-in-Council has been passed authorizing the Minister of Agriculture to appoint a representative of the Department of Agriculture to safeguard the farmers' interests in any district where the action of the tribunals has been detrimental to the production of foodstuffs. The duties of such representatives will be:

To attend the sittings of the tribunals appointed under the Military Service Act in order to guard the national interest in connection with the production of foodstuffs;

To appeal from the decision of the tribunals in any case where, in his opinion, the tribunal has not given due weight to the urgency of maintaining our food supplies;

To investigate and report upon appeals or applications for exemption where the ground of appeal or application is that the party seeking exemption should in the national interest be retained in food production rather than enrolled in the Expeditionary Force.

The Question of Milk Distribution

THE Food Controller is to proceed with his scheme of reorganizing the city milk business, as outlined in Farm and Dairy some weeks ago. His milk committee has satisfied itself apparently that producers are not getting too much for their milk. Economies must be effected elsewhere and to this end duplication in delivery is to be avoided. The familiar clatter of a dozen milk carts up and down each city street and alley will be heard no longer. Where such conditions exist, and they are found in almost every town and city, an effort is to be made to divide cities into divisions and assign one milkman to each division. Or the same end may be reached by forming one distributing company in which all the present milkmen will take stock. The latter is, we believe, the plan favored by the Controller's committee. The application of the scheme to 17 of the principal cities throughout Canada, it is estimated, would effect a saving of \$1,500,000, or about one cent a quart. The saving in the city of Toronto alone would amount to \$340,000 annually.

Several United States city councils are considering similar action without waiting for Food Controller Hoover to take the initiative. The city council of Chicago has already passed an ordinance effecting a one to two cents a quart, or over \$3, 50,000 a year, by dividing the city up among the present distributors. One of the best investigations along this line has been conducted in Rochester, N.Y. Under the old system it takes 356 men to distribute the city's milk supply, while under a model system 90 men could render equally efficient service. The old system is credited with 330 horses and 305 wagons, the new system with 50 horses and 25 horse-drawn trucks. Under the old system the wagons travel 2,609 miles; under the new system they would travel but 300 miles. The investment in equipment will be reduced from \$76,000 to \$76,000, in horses and wagons from \$105,000 to \$30,750, and daily cost of distribution from \$2,000 to \$600.

On the fact of such reorganization under government auspices appears desirable. We must confess, however, to a strong belief in the power of unrestricted competition among milk companies, to keep distribution charges at a minimum. With the million and a half that the Food Controller expects to save in Canada be sufficient compensation to us for risking a chaotic and unwholesome control over the milk trade by government? Is it not possible, too, that, in time, the saving effected may not be sufficient to pay the running expenses of the government machinery necessary to do the regulating? A very careful investigation should precede radical action.

Real Middlemen-The Men Who Get the Money

(Continued from page 7.)

forced to pay tribute to this monopoly charging too much for their services. When, however, they are accused of making excessive profits it is easy for them, like the fruit retailer, milk dealers and coal merchants already mentioned, to turn over to the grater. Who, then, are the grafters in cases such as these? So far, however, only a small part of the tale has been told.

The Monopoly of Land.

Probably the greatest burden the common people are forced to carry is caused by the world-wide monopoly of land for private purposes. Fifty years ago, when farmers used to drive into the nearby town or city and sell their products direct to the consumers, the land values in these towns and cities were small. They have not become so. Since then land values all over the continent have increased by hundreds of billions of dollars. Nobody has seemed to realize that the body was paying for these enormously increased land values, yet such has been the case. It has been the public.

Water Powers.

The high price of coal is enormously increasing the value of the water powers of the country. Long, however, before the public realized the value of these water powers private parties had succeeded in obtaining rights to them which in many cases had been capitalized and sold at enormous values. A member of Parliament informed me, some time ago, of a water power in central Ontario for which a lease had been secured from the Dominion Government about twenty years ago for 100 years at \$2 a year, representing an expenditure of \$200. This water power was being held out of use in order that the lease might be resold to the public for \$300,000.

Recently the Ontario Government announced the purchase of the water powers in central Ontario for \$14,000,000. Several million dollars of this sum represented money that had been invested in the development of these powers. Several million dollars, however, must have represented the monopoly rights which the owners of these water powers had acquired and capitalized to their own advantage.

Although the public does not realize it, they pay these inflated prices. In the case of the Hydro Electric Commission will charge a price for the power it sells to the manufacturing establishments throughout Central Ontario that will enable them to meet expenses on the basis of the \$14,000,000 paid for these water powers. These manufacturers will charge this inflated price against their costs of operation and include it in the price charged for the articles they sell to the public. The towns and cities which use power generated from these falls for street lighting and the operation of electric railways will include the extra costs in the taxes the public has to pay. These taxes in turn are paid by the butcher and restaurant keeper and are added to the costs of the butter, eggs, meat, milk and other farm products which they sell to the consumers. Are the restaurant keeper and the butcher, to say nothing of the other classes mentioned to blame if, under these conditions, they are forced to charge more for the goods they handle than they otherwise might? It would hardly seem so.

In exactly the same way groups of men have seized the timber limits, silver and copper mines and other natural resources of the country and capitalized them for their own advantage. In every case the public is being forced to pay the piper. Thus we begin to see that all the articles procured from these sources of wealth are costing us more than they should because away in the background are groups of people who control these products at their sources. Although these articles cost more than they should, the ordinary storekeeper and so-called middlemen have to pay them in the course of doing business. They in turn include them in the cost of the goods they sell. This makes it seem as though they were

charging too much for their services. When, however, they are accused of making excessive profits it is easy for them, like the fruit retailer, milk dealers and coal merchants already mentioned, to turn over to the grater. Who, then, are the grafters in cases such as these? So far, however, only a small part of the tale has been told.

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In the city of Toronto alone during the four years from 1912 to 1916 inclusive land values increased \$160,000,000, or by an average of \$40,239,951 a year. So minded are the public in matters of this kind that increasing land values are being met with a sign of incredible prosperity instead of as an infallible sign that the owners of land are being given increased powers to tax the common people.

Let us see once more how this matter works out. There is a restaurant keeper on Yonge St., Toronto, who pays \$25,000 a year rental for his store and the land on which it is situated. Supposing \$5,000 represents the value of the rent of the store and the \$20,000 as the rental of the small piece of land which God created for the use of the people at large, but which individuals have seized for their own profit. The owner of this restaurant must include this \$20,000 from somewhere. He does so by paying the farmers less for the cheese, butter, eggs and milk he purchases from them and by charging the public consumer as much for these articles as he can secure. Thus on the produce of the farm handled by this one restaurant keeper \$25,000 is directly added to their cost by him in order that he may pay his rent. The restaurant keeper has to hustle to make ends meet. The man who owns the land does not need to do anything but collect the \$28,000 rental through his agent and live happily on the proceeds. The public has to pay. We conclude that the real culprit is the middle man, in the form of the restaurant keeper.

But again the tale does not end here. The restaurant keeper must pay wages to his help. He must also endeavor to enable them to pay the high rentals they are charged in their own homes. All the firms from whom he buys his supplies are operating on similar high priced land and are charging the rentals into the cost of their goods. The firms which sell boots, clothing, furniture, and other supplies add their rentals onto the cost of the goods and then employ the public to pay the demand wages from him that will enable them to buy these goods that have these high rental charges included in their costs. Thus the very wages the restaurant keeper and butcher pay include concealed rental charges.

There are thousands of city realtors who pay one-quarter to one-third of all they earn to the land directly in the form of rent. Indirectly they pay 15 per cent. to 25 per cent. more of all they earn to the landlords in the cost of the goods purchased

from them. Multiply the case of the Yonge St. merchant mentioned by all the stores and manufacturing establishments in Toronto and we obtain a glimpse of the enormous burden the public pays to the people who monopolize the land and who make them pay the bills in the form of excessive rentals. Here, then, again, is where much of the difference lies between what the farmer obtains for his goods and what the city consumer pays. From time to time, as we read of land values in our towns and cities having been increased by a few million dollars, we should bear in mind that it means that before long there will be another increase in the cost of doing business as well as of living.

Trusts and Combines.

These are days when we hear much about trusts and combines. Yet it not infrequently happens that those people who are the loudest in denouncing such combinations of capital are unconsciously the staunchest upholders of laws which make these trusts and combines possible. Aside from the monopoly of natural resources the vast majority of the trusts and combines of the country are possible only because of our high tariff walls. So far has this principle been carried that the monopolization of a highly protected industry is almost certain to reveal that anywhere from 50 to 100 per cent. of its products are controlled by one or two groups of men who regulate the production and manipulate the prices in ways that will insure the receiving a maximum profit regardless of the welfare of the public at large. During the past twenty years hundreds of small firms in Canada have been crowded out of business by their larger competitors with the result that the country is now dominated by a few groups of often immensely wealthy firms. So far has this been carried that as long ago as 1911 Mr. J. J. Harpell, in his book, "Canadian National Economy," showed that whereas in 1891 there were 5,301 firms in Canada manufacturing boots and shoes, by 1906 there were only 138; whereas in 1891 there were 557 firms making carpets, by 1906 there were only 5; whereas in 1891 there were 1,567 firms making harness and saddlery, by 1906 there were only 182. Similar figures could be quoted in almost all lines of industry. The cement combine in Canada provides one of the best known examples of how supply has been reduced and the price of the product increased to the limit allowed by the tariff so as to just meet the competition of goods from abroad. Statements made in the House of Commons have shown that millions of dollars of watered stock have been disposed of in connection with this one industry alone.

The restaurant keeper and the butcher have to meet the increased expense of doing business which is caused by these conditions. The cost of the furniture in their stores, the cement and other articles used in their buildings, the clothes their employees have to wear, the taxes they pay are all increased by tariff laws and the trusts and combines they foster. They in turn add their costs to the price of the goods they sell. Here, again, is where the public pays the price. It is because they do not realize how they do it that they are apt to unite in accusing the middlemen of being grafters, although these men often are themselves being squeezed by the very conditions of which the public complains.

Watered Stock Combines.

The powers enjoyed by the financial magnates who control the natural resources and industries of the country, as described in the three classes to which reference has been made, have in many instances, enabled them to declare such enormous profits that they have been led to water their stock

to the extent of millions of dollars. In many cases this has been done for the sole purpose of disguising the size of their profits, while in other cases their object has been to make large profits quickly by selling stocks and bonds representing nothing but paper to innocent private investors. In both cases, however, the burden on the public remains the same. Railway corporations, such as the Canadian Pacific, because of their special rights of way, have not hesitated to adopt this policy on a lavish scale. The public pays the bills in the form of increased freight and passenger fares and the cost of the goods it buys which are hauled over the railways.

The Situation's Difficulties.

Enough has been said, I trust to show how complicated is the situation, as well as into whose pockets much of the money which the public pays for the goods it needs ultimately finds its way. And, finally, also, why it is that Hon. T. A. Crerar, Dominion Minister of Agriculture, with all his good intentions, is likely to find it a most difficult undertaking to do anything really effective—so long as our national laws remain as they are—to carry out his announced intention of reducing the prices charged by the so-called middlemen. As these charges are based on the inflated costs of the hundred and one things they must buy and use in the course of their business, their charges for their services cannot be reduced to any considerable extent until some means is found of reducing the cost to them of their supplies, rentals, the wages they pay their help, as well as of their many other expenditures. That methods of doing this have been discovered, any lasting improvement in existing conditions need not be expected. Even although the government seizes the surplus profits of many of the firms like the Wm. Davies Co., Ltd., the real essence of existing conditions will continue untouched.

What Shall We Do About It?

The purpose of this article is to reveal conditions, not to suggest remedies. Yet it would hardly do not to at least refer to a few simple, much-needed reforms. For the monopolists who operate behind high tariff walls are the only thing to be done is to reduce or remove the tariff. There would be a fearful howl about outside home industries, in which many people who are complaining about the high cost of living would join, but the results would not be nearly so disastrous as those who are profiting from existing conditions would like to lead us to believe.

The best remedy for the conditions that have grown out of the monopoly of the natural resources of the country, such as land and steel mines, water powers and land, is to tax them according to their value. This could be determined in the case of mines by requiring those who control them to set their own values upon them. The Government could reserve the privilege of purchasing them or permitting others to purchase them at a 10 or 15 per cent. advance on the valuation set. Such a tax, if heavy enough, would necessitate the owners of these properties working them to their full advantage. This would increase the available supply of coal oil and other similar necessities and thereby lower prices.

The organized farmers of Canada, through their provincial organizations, and the Canadian Council of Agriculture, are standing squarely on the foregoing platform. In the farmer's movement more than in any other now seeking public support, lies hope for the accomplishment of fundamental reforms that will vitally affect the welfare of every citizen of Canada. Our farmers should rally around their leaders in earnestly contending for these reforms.

DISPERSION SALE

50 HEAD — OF — 50 HEAD
Dual Purpose and
SCOTCH SPOORTHORNS

WILL BE SOLD BY PUBLIC AUCTION AT
CENTRE ROAD FARM

TWO MILES BELOW BRAMPTON, ON

FRIDAY, DECEMBER 21st

AT ONE O'CLOCK.

Catalogues will be mailed on application. Persons coming by train will be conveyed to farm by automobiles.

JAMES R. FALLIS, PROP., BRAMPTON, ONT.

CAPT. T. E. ROBSON, London, W. RUSSELL, Brampton,
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CALDWELLS

Help this Country

Never before was food needed to so great an extent as at the present time. The call of this country is for greater production. In the dairy line we can help you answer this call. Our Dairy Meal will materially increase the flow of milk from your herd. This means more butter and cheese for human food. Give

CALDWELL'S DAIRY MEAL



a thorough trial. You will profit from its use, and this country also will be benefited. We have, now, thousands of customers who are feeding it. They find it increases the milk yield. Caldwell's Dairy Meal is a balanced meal ration. Start feeding it. Sold everywhere by feedmen or direct from our mill.

The Caldwell Feed & Cereal Co.

Limited
DUNDAS ONTARIO
Makers also of Cream Substitute Calf Meal, Hog Feed, Molasses Horse Feed and Poultry Feeds of all kinds.

STANDARD FEEDS

DUTCHLAND COLANTHA SIR MONA

is the sire of Lakeview Dutchland Hengerveld 2nd, the bull that won Senior Champion and Grand Champion at both Toronto and London, 1916-17, and Lakeview Dutchland Artis, the highest producing senior 3-year-old in Canada, 34.66 lbs. butter in 7 days, with an average test of 4.58 per cent. He is also the sire of LAKEVIEW DUTCHLAND YIMM DIDDOS—a banner full young bull, almost fit for service and for SALE CHAMP, whose dam—Emma, Palatine DeKalb is the 26.66-lb. 4-year-old—1917, Toronto and London—ringing ring WINNER.
MAJOR E. F. OSLER, Prop. - BRONTE, ONT. - T. A. DAWSON, Mgr.

— 100 lbs. Milk — in one day on both sides

WE OFFER BULL CALVES, sired by a son of a hundred pound cow, and whose dams are a hundred pound sire.

JAS. A. CASKEY R. R. 2 MADOC, ONT.

CHOICE YORKSHIRE HOGS FOR SALE

at right price. Bours and sows, all ages, from best prize winning strains. Sows bred and ready to breed. Several litters of suckers, the best let us ever raised, good growthy fellows of good type and breeding. Also Toulouse, Embden, African, white and brown Chinese Geese, Mammoth Bronze, White Holland and Rissie Turkeys. See exhibits at Toronto Exhibition, 106 White Leghorn cockerels—Baron's bred-to-day 221-egg strain at \$2 each. Write your wants, we can please you.
T. A. KING MILTON, ONTARIO

Why Dairying Will Be the Farming of the Future

(Continued from page 3.)

making animal. There has been little advancement made in our best beef animals for a generation or more. They seem to have about reached their constitutional limits.

What of the Dairy Cow?

	Holstein.	Jersey.
Milk produced in 300 days	8,900 lbs.	5,000 lbs.
Total solids	13%	14%
Total edible dry matter	960 lbs.	750 lbs.
Dry matter produced per day	3.20 lbs.	2.50 lbs.

The cow that yields 5,000 lbs. of 5.0 per cent. fat milk will have produced in one lactation year 2.50 lbs. clear food per day, which is as much as can be expected in gross gain, bone, blood, offal, water in tissue and all, in the steer.

If comparison be made with one of the modern high-producing Holsteins, such, for instance, as Lady Oak Fobes de Kol, of the Minnesota Station, we find that the 22,063.5 pounds of milk that she yielded in one year contained the food equivalent of five steers weighing 1,100 lbs. each, and that

every three days she yielded food equivalent to a veal calf weighing 175 lbs. If comparison be made with the product of the noted Guernsey cow, May Hilma, we find that the food contained in her milk for her best year equalled that in thirty steers weighing 500 pounds each, or five steers weighing 1,500 lbs. each.

Comparison Summary.

We note that whereas the good flesh-food animal was able to make scarcely 1.25 lbs. of human food per day, the nominally good milk-giving animal was able to make 3.20 lbs., or nearly three times as much. In the making of 1½ to 2½ lbs. gross gain per day, the fattening steer is given from 15 to 25 lbs. grain, and from ¼ to ½ that amount of hay, which is a sufficient amount of grain to feed a good dairy cow two days, or one in medium flow for three days, and with the amount of roughage insufficient for one day. If we take an average case, say 20 lbs. grain and 6 lbs. hay per day, we find that about 18 lbs. of digestible dry matter are required per day, or in other words, 18 lbs. digestible dry matter are required to make 1.25 lbs. of edible matter in product. It requires, then, 14 lbs. of digestible dry matter to produce one pound of edible dry matter in

beef. If we allow the cow all of this amount of feed in one day, which is fairly heavy feeding, she, by yielding 3.20 lbs. solids, makes one pound edible dry matter for only 5.6 lbs. of digestible dry matter—a food it being little more than one-third that required by beef animals.

Although at present prices of grain and beef there is still some profit in the production of young beef, we must remember that for the production of baby beef there is required grain, grain from the first to the last, good, rich, clean, sound grain, grain good enough for human bread. The time is not in great distance when man will refuse to consume his corn in beef form, it being more economical for him to eat the grain itself and feed that to animals which he cannot consume. For this purpose the dairy cow is pre-eminently adapted, being able to convert large quantities of coarse material into the finest quality of human food. The consumer will sooner or later object to the cheaply made beef, for the reason that it contains a much greater per cent. of water; and, after all, why should there be a water standard for butter, cheese, lard, corn meal, wheat flour or oat meal, and not also one for meat foods?

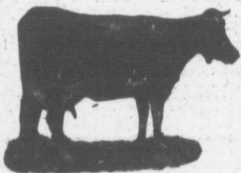
Going back to an acre of corn, we find that 1,500 lbs. digestible dry matter will be produced in the form of stover. This, if fed to beef animals, will furnish material for about 110 lbs. of edible dry matter in human food form, whereas had that same corn stover been fed to a dairy cow there would have been produced about 333 lbs. of edible human food. In other words, in the final analysis of things, the dairy cow is approximately three times as efficient a producer of human food as the beef animal.

From a glance at the history of civilized nations, we learn that the natural food-making machine, the cow, has been forcing the animal which is consumed from its old place among the people; that Europe has long been milking cows; that the eastern half of the American continent is now in the dairy business; and that even the great Southwest is being split up into farms.

Just now we should recognize the fact that throughout much of Europe, even in Denmark, cows of all kinds have been slain for food, which gives us in America a great opportunity not only to supply dairy products to the world, but possibly to sell breeding stock back to Europe after the war.

GRENVILLE COUNTY HOLSTEIN BREEDERS

Will Hold Their First Consignment Sale in
KEMPTVILLE, ONTARIO
THURSDAY, DECEMBER 20th



The offering will consist of Fifty Head of a high standard of excellence, representing bloodlines of high quality production.

We have catalogued cows with official records and others capable of making them. Some splendid Heifers and a few nice young Bulls.

ALL CATTLE TUBERCULIN TESTED BEFORE THE SALE

THE CONTRIBUTORS ARE:—

Jas. Knapp, Merrickville.
J. C. Jakes, Merrickville.
Robt. Maley, Oxford Mills.
G. G. Render, Oxford Station.

**50
HEAD**

J. W. Montgomery, Merrickville.
Andrew Gray, Cardinal.
Wm. Burnie, Spencerville.
R. H. Ferguson, Burritt's Rapids.

The consignment from Jas. Knapp's herd consists of twenty-two head. Among those worthy of special mention in the mature class are:—Juanita Teake (119630), R.O.P., 18424 lbs. milk, and 821 lbs. butter; Bessie De Kol Teake (13879), R.O.P., 19262 lbs. milk, and 850 lbs. butter; Emilia Teake (11139), R.O.P., 14,284 lbs. milk, and 542 lbs. butter. Several others in this consignment are out of tested dams, one two-year-old heifer being a granddaughter of Lulu Keyes, a 36.05 lb. cow. All the females in this consignment have been bred to Mr. Knapp's herd sire Ourvilla Sir Abbecker (15202), who has three 26 lb. sisters, while his sire Dutchland Colanaha Sir Abbecker has 31 tested daughters and 16 proven sons. In addition to the above there will be four yearling heifers, all granddaughters of the great cow Desta, with a R. O. P. record of 27,123 lbs. milk and 1,048 lbs. butter. One of Desta's daughters, Sunshine of March, has in R.O.P. an official record of 19,442 lbs. milk and 742.5 lbs. butter, while another daughter, Desta 2nd, as a three-year-old, has a record of 16,231 lbs. milk, and 671 lbs. butter.

Two bull calves of exceptionally good breeding will be King Desta Mechthilde, calved Sept. 18th, 1917, a grandson of Desta, and sire by Ourvilla Sir Abbecker and Sir Julian Byng, calved Aug. 12, 1917, a son of Susie Wayne, with a record of 14,346 lbs. milk, and 598 lbs. butter.

For stock of real merit, individuality, breeding and records it will pay you to attend this great sale of Holsteins. Write to-day for a copy of our catalogue.



J. E. McROSTIE, Sec'y.
KEMPTVILLE, ONT.

THOS. IRVING,
AUCTIONEER.

JAS. KNAPP, Pres.
MERRICKVILLE, ONT.

POSTPONED

Notice to Holstein Breeders of Ontario

Owing to the heavy storm and impassable roads, our breeders have been forced to postpone their big sale of Holsteins at Welland from Tuesday, Dec. 11, to Tuesday, Dec. 18, at 12 o'clock. Same cattle, same auctioneer, same terms as formerly announced. Look up further information about the animals in last week's issue of Farm and Dairy. Don't fail to be with us.

NIAGARA PENINSULA BREEDERS CLUB

W. C. Houck, Secy., Black Creek, Ont.

PEDIGREED HOLSTEINS

Will sell some pedigreed Holstein cows and heifers, freshening from Xmas to the middle of June. WE HAVE SOME FINE YOUNG BULLS born last spring, which we will sell at a very low figure—Dams testing as high as 5%. ALSO heifer calves born last spring. Bulls and heifers have 44-lb. breeding on both sides.

CHAS. E. MOORE,
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DO YOU WANT REGISTERED HOLSTEINS

Write to-day to
J. Alex. Wallace, Secretary,
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100 HEAD—Cows, Heifers, Heifer Calves, Bulls, Bull Calves.
Tell us the class you want—we have them all—100% values.

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I have a few nice pure-bred sows over three months old, which I will sell very reasonable, as I have too many to winter. For price and particulars write to
A. G. KERR, NORTH GORE, QUE.

For MILK, BUTTER, CHEESE, VEAL

Holstein cows stand supreme. If you try just one animal you will never want more. Write the **HOLSTEIN FRIESIAN ASSOCIATION,**
W. A. CLEMENS, Sec.,
St. George, Ontario

PRODUCTION IN SASKATCHEWAN.

HON. W. R. MORTIMER, Minister of Agriculture for Saskatchewan, has made an announcement on behalf of the Government of the plan which will be followed by that Province in the Dominion-wide campaign for greater hog production.

The Government intends to buy young sows of the Winnipeg or other stock yards and ship them to central distributing points in Saskatchewan. They will be sold, bred or unbred, as desired, to the Saskatchewan farmers at cost, for cash. Unbred sows will be shipped as orders are received, and sows to be bred will be kept for four weeks before being shipped.

In the cities, towns and villages the plan is to breed a number of sows to farrow in May, and kept by the Government until their litters can be weaned and sold to householders who apply for them. Urban municipalities will be asked to modify their by-laws if necessary to permit of pigs being kept.

RIVERSIDE NOTES.

DURING the past few months Mr. Richardson, of Riverside Farm, who has disposed of some rather choice animals. One of these was a Junior three-year-old with a record of 17.54 and from the former herd sire, King Johann Pontiac Korndyke. Her dam is Totilla Echo DeKol, who has 25 daughters and granddaughters in R. of M. and R. of P., including Totilla of Riverside.

The buyer of this cow is R. A. Hopkins, Cunnings' Bridge, Ontario, who also bought a choice two-year-old in Jessie Sylvia Ormsby, who traces back to Lady Annie DeKol, champion at Guelph Dairy Show for two years.

Another sale was mature females and a heifer. The former sired by a former herd sire at Riverside, who was twice champion at Calgary and Edmonton fairs. The latter was Riverside Sarcastic Korndyke, whose dam and 10 nearest relatives were in the butter in 7 days.

More recently the following sales were made: Wm. R. Dickout, of Dunnville, purchased for his herd sire, Paladin Beets Korndyke, a full brother to Paladin Beets of Riverside, 25.85. His dam is Paladin DeKol Beets, 25.50, whose sire was never defeated in the show ring of four state fairs. This is the fourth time that Mr. Dickout has secured live stock from the Riverside herd.

Another sale was Sir Francis Sarcastic, whose dam, Korndyke Sarcastic Lass, is sired by King. This young bull is sired by Francis Boneraz Hartog, and has a full sister with a 27.10, 3-year-old record. This bull was sold to S. E. Best, Cayuga. These are but a few of the many sales from the Riverside herd during the past few months.



PREPARE NOW!

FOR THE

DAIRY STANDARDS ACT

Now is the time to get your

AYRSHIRE BULL

or the cows and heifers for your foundation Ayrshire herd

50 HEAD

at the
FIFTH CONSIGNMENT SALE

50 HEAD

Pure bred Ayrshire cattle from the herds of the

Southern Counties Ayrshire Breeders' Club

to be held at

The Dr. Rudd Sale Stables, Woodstock, Ont.

DECEMBER 19, AT 1 P. M.

This is the district from which the great producing Ayrshires are coming. Our offering consists of a richly bred lot of cows fresh in milk or due to freshen soon after the sale, together with heifers of all ages with breeding that appeals production. A FEW CHOICE YOUNG BULLS WILL also be included.

Come and secure some of the good ones for yourself. The club constitution absolutely prohibits all "by-bidding" or "bidding-in".
Terms—CASH, or CREDIT UP TO 6 months on bankable paper—with interest at 6%.

WRITE TO THE SECRETARY FOR CATALOGUE.

W. W. BALLANTYNE, Pres.,
Stratford, Ont.

JOHN MCKEE, Sec.-Treas.,
Norwich, Ont.

T. MERRITT MOORE,
Auctioneer.

INGLEWOOD AYRSHIRES & CHESTER WINE

One young bull fit for service. Three bull calves from cows with large official records. All are sired by a son of the Canadian champion two-year-old milk cow.
WILSON McPHERSON & SONS ST. ANN'S, ONTARIO

PEACH BLOW AYRSHIRES

Young Stock for sale, always on hand (both sexes), from high-testing heavy producers. Good udders and large teat a special feature of my herd. Three fine young Sires ready for service. Get particulars of these if you need a sire. R. T. BROWNLEE, Peach Blow Farm, HEMMINGFORD, Que.

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EVERY FARM SHOULD HAVE AN AYRSHIRE

are profitable cattle. Write for booklet.

W. F. STEPHEN,
Secretary Canadian Ayrshire Breeders' Association

Box 508, Huntingdon, Quebec.

TANGLEWYLD AYRSHIRES

The Leading R. O. P. Herd
Large Cows, Large Testes, Large Records, High Testers. Choice Young Bulls and Bull Calves and a few Cows for sale.
WINDSOR, ONT.

CLEARING SALE
30 head pure-bred Holsteins—Cows, heifers and bulls. ALSO farm of 115 acres, 7th Con., South Dorchester.
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FRED SINDEN, Prop., BELMONT, ONT.

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The Old Original Summer Hill Farm

Where you find the pure bred Oxford. We have for sale 150 head of registered ewes, 75 head of yearling rams, 50 ram lambs and 50 cow lambs, some choice show rams and ewes, all first class individuals and guaranteed pure bred.

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When You Write--Mention Farm & Dairy

EDWARDSBURG 23% PROTEIN GLUTEN FEED GUARANTEED

The Feed for More Milk

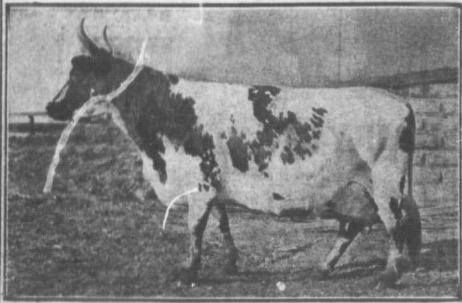
This Gluten Feed enables you to feed the cows a properly balanced ration, containing all the Protein they will eat and digest and turn into milk.

We have a book about it. Write for a copy—and learn how many farmers and dairymen are feeding for more milk—and making it pay.

—Fatten Hogs on Edwardsburg Oil Cake. 066

THE CANADA STARCH CO., LIMITED TORONTO
WORKS AT CARDINAL, BRANTFORD, FORT WILLIAM

CHOICE AYRSHIRES



LASSIE 3rd

Sister to SCOTCH THISTLE, 1497 lbs. milk and 631 lbs. fat in 1 year. Champion 3-yr.-old. This cow will be sold in the

Southern Counties Ayrshire Breeders' Club Sale at Woodstock, December 19th, 1917

Included in my assignment will also be her 1-yr.-old daughter and her son born in August, 1916. Here are a few cows we have sold at former sales.

Scott Thistle	3-year-old record 1497 lbs. milk, 631 fat	Test.
Scott's Snowball	3-year-old .. 11,048 "	451 "
Milkmaid of Mt. Elgin	3-year-old .. 9,267 "	375 "
Amelia 4th	3-year-old .. 7,147 "	275 "
Lady May 2nd	3-year-old .. 3,346 "	341 "
Amelia 2nd	3-year-old .. 10,332 "	415 "

Four of these cows are from the noted R. of F. bull **GRAY SCOT**, and three of his daughters are in the present sale. This offering affords a rare opportunity for breeders to secure the very best Ayrshire blood. Have also a few young bulls for private sale.

John A. Wainman Mt. Elgin, Ont.

Elgin County

Pure Bred **HOLSTEIN** Breeders

2nd Annual Consignment Sale



Registered Holstein Friesian Cattle

55 HEAD 55

Tuesday, December 18th, 1917

at **Durdle's Feed Barn, St. Thomas, Ont.**

This is a rare opportunity for Holstein breeders or new beginners to secure some of the best blood of the breed. The stock are from, or bred to, such bulls as the following—

KING REGIS DEKOL CALAMITY, whose dam as a junior 3-year-old made 95.83 lbs. butter, 523.1 lbs. milk in 7 days.

SARCANTIC WAYNE DEKOL, whose two nearest dams average 25.59 lbs. butter in 7 days.

PAYNE REGIS NORMAN, whose two nearest dams average 27.90 lbs. butter in 7 days.

PINDERNE KING MAY PAYNE a 94-lb. bull.

ROYALTON DEKOL CALAMITY, who is closely related to the \$63,400 bull and Pontiac Korndyke. His dam gave 111.1 lb. milk in 1 day.

OLIMBY HARTOG, whose two nearest dams average 28.68 lbs. butter in 7 days.

SIR COLANTIA WAYNE, sire of six E. O. M. daughters.

KING REGIS PIETERTIE, a 95.61-lb. bull.

PALADIN ORMSBY has 19 E. O. M. daughters.

Many of the females will be fresh or springers with records or from record sires.

CATALOGUES NOW READY.

L. H. Lisset, Manager, Stratfordville, Ont. Lock & McLaughlin, (Auctioneers), St. Thomas, Ont. E. C. Gilbert, (Secretary), R. R. No. 7, St. Thomas, Ont.

MARKET REVIEW AND FORECAST

TORONTO, Dec. 10.—A preliminary estimate of the total value of field crops for the two years 1917 had been issued by the Census and Statistics Office. According to this estimate the value of all field crops for the current year is \$1,089,487,000, as compared with \$88,494,900 in 1915. This is the first time that the value of field crops of Canada has reached one billion dollars. This large figure, however, is due in great measure to the high prices now ruling.

The marketing of field products throughout the country has not yet got well under way. A large amount of the grain is being fed on the farm. Record prices for oats are being quoted on the Toronto market, but supplies are scant. As high as \$2 a bushel has been paid for oats on farms throughout Ontario. Hay continues in good demand at from \$12 to \$14 a ton country points.

WHEAT.—Western wheat is practically the only factor on the large wheat markets. Farmers throughout Ontario have not yet begun to market their wheat in quantity. It is likely that the Board of Grain Supervisors will increase the tax from two and a half to six cents in the near future. It has been found that the present tax is not sufficient to meet costs. Buyers are therefore eager to ship their wheat through before the new tax goes into force. Quotations, Manitoba wheat, in store, Port William, 82c (including 1/4 tax); No. 1 northern, \$2.23 1/2; No. 2 23 1/2; No. 3 23 1/2; northern, \$2.17 1/2; No. 4 wheat, \$2.10 1/4.

COARSE GRAINS.—Manitoba oats have been marketing frequently within the last few weeks in prices paid on the Toronto market. Price No. 1 feed has been quoted as high as 91c delivered, but such prices are not meeting with much demand. Ontario oats have not yet come to market in any considerable quantities, and prices are steady at about 75c for car lots. The good yielding in many parts of the country will likely make for larger quantities of oats. Barley marketing of more freer. Quotations—Manitoba Oats—extra No. 1 foot, 78 1/2c; No. 1 feed, 74 1/2c, in store, Port William. American corn—No. 3 yellow, Canadian Ontario, New era, 82c; No. 2 \$2.22 basis in store Montreal. Oats—No. 2 white, 76c to 77c, nominal; No. 3, 75c to 76c. Barley—Making new \$1.29 to \$1.31, according to freight. Peas \$1.29 to \$1.31, according to freight. Buckwheat—\$1.45 to \$1.59. Hye—No. 3, 47c.

Montreal. Quotations: Corn—American No. 2 yellow, \$2.10 to \$2.20. Oats—Canadian western No. 3 89 1/2c; extra No. 1 feed, 85 1/2c; No. 2 local white, 82c; No. 3 local white, 82c. Bran, \$26 to \$27. Shorts, \$42 to \$42. Middlings, \$48 to \$50. Moulins, \$55 to \$56.

MILL FEEDS.—The market for mill feeds has been showing additional strength, and bids from American sources for our feeds at high prices have resulted in a slackening of the offerings on our markets, although the prices have not actually advanced as yet. Toronto is quoting car lots delivered Montreal as follows: No. 43; bran, 43 1/2; middlings, 34 1/2 to 34 1/2; food feed, 32 1/2. Montreal quotations are: Bran, 43c to 43 1/2; shorts, 44c to 44 1/2; middlings, 34c to 35c; moulins, 55c to 56c.

HAY AND STRAW.—The hay market is holding firm at the high prices which resulted from the large demand from American buyers. Toronto quotations place No. 1 at \$16 to \$17 with mixed hay, \$15 to \$15 1/2; straw, carlots, is quoted at \$9 to \$9.50. Montreal quotes No. 2 hay per ton, carlots, \$15.50.

SEEDS.—Receipts of seed have been heavier the past week than heretofore, but the crop generally has been a poor one this year. The seed yield of October has resulted in but a 40 per cent. yield. Seed dealers in Ontario are buying United States timothy seed rather than that from the Western Provinces as the United States product is quoted considerably cheaper. Wholesalers are paying the following prices for seed at country points: Alsike, No. 1 fancy, bush, \$12.00 to \$12.80; do No. 1, ordinary, " " 11.25 to 11.75; do No. 2, per bushel, " " 11.50 to 11.80; do No. 3, per bushel, " " 8.00 to 9.00.

do, rejected, per bushel, 4.80 to 7.00
Red clover, No. 1, bushel 12.00 to 13.50
do No. 2 per bushel .. 11.00 to 11.75
do No. 3 per bushel .. 10.50 to 11.00
do, rejected, per bushel, 6.25 to 6.75
Timothy, 70c per cwt.
do No. 3 per cwt. 7.75 to 0.00
do No. 2, 3 per cwt. 6.75 to 0.00
do, rejected, per cwt. 7.75
Flax, bushel

POTATOES AND BEANS.—Potatoes show no change in price on the market. They are coming forward but slowly as yet, and Toronto is quoting from \$2 to \$2 1/2 a bushel. The movement of Canadian beans is still limited, dealers not caring to pay the prices asked for them. Cannara are reported to be taking Canadian beans at from \$2 to \$2 1/2 a bushel, although wholesalers quote but \$7.50 to \$8. Japanese beans of fine quality are selling at \$9, and foreign, hand-picked, are bringing \$6.75 to \$7 a bushel.

EGGS AND POULTRY.—Large quantities of Canadian eggs are held in storage throughout Canada. These were intended for export, but owing to the scarcity of tonnage, exporters could not secure ocean space. Receipts of freshly gathered eggs have fallen off rapidly in all parts of the country, and specials are selling at just about the same price as 2 weeks ago. Retail prices have gone as high as 85c in Toronto and Montreal and 90c in Vancouver for special grades. Eggs at country points, where they can be secured at all, are being bought at 45c to 47c, classes returnable. No. storage eggs are quoted 42c to 43c; selected, storage, 45c to 47c, and new laid, 47c to 50c. Live weight. Dressed Chickens, spring, 17c to 19c 3/4c to 25c; Hens, under 4 lbs, 12c to 15c to 16c; Hens, over 4 lbs, 16c to 17c 3/4c to 22c; Roosters, 15c to 16c to 17c to 18c; Duckling, 15c to 16c to 17c to 18c; Turkeys, 20c to 25c 3/4c to 28c; Geese, 25c to 30c 3/4c to 35c.

DAIRY PRODUCE.—A weaker feeling has been prevailing in the Montreal and Toronto markets for butter. Oleomargarine will be sold in the cities on Dec. 11th, and it is believed that it will be offered in Toronto sale jobbing way at from 55c to 58c a pound, depending on quality. The fact that the United States Government has placed an embargo on cottonseed oil may have some effect on the market for oleomargarine in this country. Toronto is quoting for butter, however, at country points, 41 to 42c for creamery solid; creamery points, 42c to 43c; with dairy butter at 39c to 40c.

LIVE STOCK.—Perhaps it was the fact that packers having commenced to stock up for the Christmas trade, prices were ready to strengthen on the live stock market last week, and overruling sold well, though more cattle were on the market than on the previous week. The respective figures were 3,979 and 8,999. The run on hogs was light with prices uncertain. The week opened with a sensational decline in the market, and at the close prices had dropped fully one dollar. \$16.75

Choice export steers	\$11.50 to \$13.00
Butchers' choice handy	10.50 to 11.25
do good	9.75 to 10.25
do medium	8.75 to 9.00
do common	8.00 to 8.50
Butchers' bulls, choice	6.00 to 7.25
do good	7.50 to 8.25
do medium	6.75 to 7.25
Butchers' cows, choice	9.00 to 9.25
do good	8.25 to 8.75
do medium	7.50 to 8.00
Feeders	8.00 to 8.25
Stockers, good	7.25 to 8.00
do medium	6.25 to 6.50
Canners	8.50 to 8.80
Milkers, good to choice	10.40 to 12.00
do cows and heifers	8.00 to 10.00
Calves, veal, choice	15.00 to 18.00
do medium	12.50 to 14.50
do common	6.80 to 7.00
do heavy fat	8.00 to 10.70
Spring lambs, good	11.00 to 12.00
Sheep, ewes, light	8.50 to 14.00
do heavy and bucks	7.50 to 9.00
do cows and heifers	8.00 to 10.50
Hogs, fed and watered	17.75 to 18.00
do off carc	15.25 to 15.75
do L. O. B.	16.75 to 17.00
Less 21c to 25c on live or on stags; less 20c to \$2.50 on empty sows \$4 on hogs; less \$2 to \$1 on hawker.	

WHO WANTS THIS YOUNG BULL ?

Sire—King Segis Walker; Dam—Pietje Pauline Hengerveld, record at 3 yrs., 51.7 lbs. butter; record at 5 yrs., 32.7 lbs. butter; milk testing 4.7% fat. U.S. FAREWELL I OSHAWA.

A. A. FAREWELL

OSHAWA.

Meat is The Best "Fighting" Food

The fighting forces of the Allies are fed heavily on meat.

There is a reason. The nutrients in meat are more readily and completely digested, and give vim and energy to a greater degree, than nutrients in cereal grains.

Cereal grains supply little fat but a great deal of starch, whereas meat, especially bacon, supplies much fat but very little starch, and fat is worth more than twice as much as starch for producing energy.

In other words, no other food is equal to meat as a producer of driving force and stamina

—it is the food with "the punch."

The armies of the Allies must be ensured adequate supplies of this "fighting" food. This means that a great increase in meat production is required by Canada and the United States, because the demand for meat overseas has been so enormous that there are to-day 115,000,000 fewer animals in the herds of Europe than before the war. Great Britain, France and Italy are dependent upon Canadian and American producers to save the day so far as meat is concerned.

There is no time to be lost. The shortage of meat overseas must be relieved as quickly as possible.

Hogs The Solution

The supply of meat can be increased more quickly through hogs than through any other stock animal because hogs are very much more prolific, and they are ready for market at an early age.

The most efficient meat-making machine in existence is the hog:

- (1) It produces more meat from a given amount of food than is produced by any other animal.
- (2) It gives more dressed carcass in proportion to its live weight.
- (3) The carcass of the hog contains more edible meat in proportion to bone than the carcass of any other animal and it is about 50 per cent. fat which is so vitally needed in the rations of our fighting men.

An Urgent Call

Canada has responded nobly to every call that has been made for men, for money and for farm produce. To-day's call for increased hog production is of the utmost urgency.

The Government now controls and restricts the profits of the Packing Houses. The hog producer is assured his fair share of the price paid by the consumer.

The Flour Mills are under a form of license

with restrictions on profits. Bran and shorts will be available at reasonable prices.

The huge new corn crop of the United States, estimated at 600,000,000 bushels greater than last year's, will be available to Canadian producers. This crop is under effective United States Government control to prevent speculation.

One Commission representing the Allies will do all the buying of the meat for export overseas. This will be an influence in stabilizing the market and preventing wide fluctuations in price. This fact, considered in association with the great meat shortage in Europe, justifies confidence in the profitable possibilities of hog raising in 1918.

Save the Young Sows

Young sows which are slaughtered now only produce about 150 lbs. of meat per sow. By breeding them, many times that quantity of meat can be produced ready for market in ten to twelve months. Every pound of pork that it is possible to raise will be needed. It will take an enormous quantity to meet even a fraction of the present European shortage of 32,425,000 hogs, which is ten times the number of hogs there are in Canada to-day.

Dominion of Canada Department of Agriculture

**LIVE STOCK BRANCH
OTTAWA**