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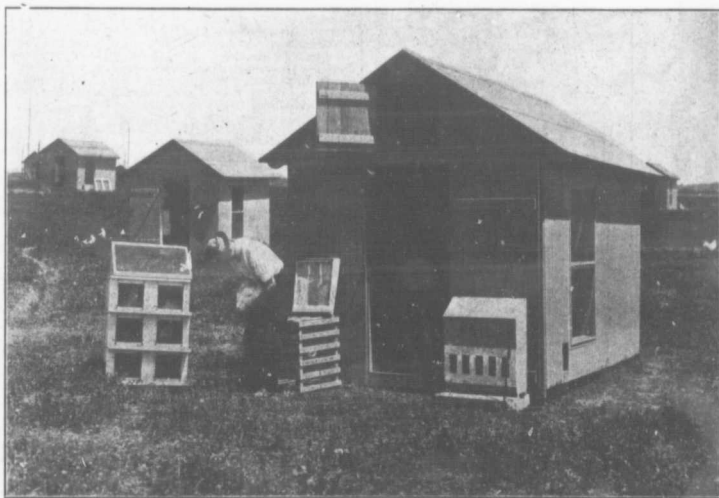
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AN EXPERIMENT IN POULTRY HOUSES AT MACDONALD COLLEGE

The illustration represents some of the colony laying houses in the poultry department of Macdonald College. In front of the house in the foreground may be seen the furnishings of one house—set of six trap nests, (attendant taking the number of the hen), grit and shell hopper on top of swing coop for brooding hens, also bran hopper. See article, "A Good Poultry House," on page 9, of this issue.

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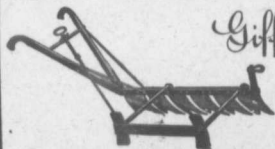
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Extravagant and Misleading Statements

Editor, The Dairyman and Farming World.—Percheron's letter in your issue of August 19, may or may not be intended as a "red rag" to Clydesdale men, but I think it deserves a reply.

It is evident that our western friend is not well informed as to the merits of the different draft breeds, and more particularly so in regard to the Clydesdale, else he would not make such sweeping and extravagant statements which are not substantiated by facts. He says that the Percheron is destined to become the draft horse in Canada as it has in the United States. I fear the western climate is not conducive to the development of propleths.

Heroic efforts have repeatedly been made by American importers and dealers to establish the Percheron breed in Canada, with but very poor success. I might mention the case of one of our largest importers of Clydesdales who, not being satisfied with selling from thirty to forty Clydesdales annually, thought he would venture into the Percheron field, with the hope of still further swelling his bank account. The realization was not at all in keeping with his anticipation, as it took him fully two years to dispose of four and then not for cash. Canadians do not take kindly to round bones, narrow hooked ears and curly hocks, which are characteristics of the Percheron.

It would be surprising indeed if the Percherons were not more numerous in the States, than other draft breeds, when we consider the fabulous sums which have been spent by the most astute and enterprising dealers in booming the breed. Besides, the trade in Clydesdales to the United States was largely ruined through the fact that dishonest practices crept in and anything and everything was considered good enough for that country.

This talk about the Percheron being more enduring than the Clyde is all bosh, and does not coincide with the experience of one of Chicago's largest iron founders, who once put in Percheron geldings into his trucks, and 18 months afterwards only one was left fit for work. He replaced them with Clydesdales, every one of which lasted ten years. The great Clydesdale gelding sensation exhibited at the Chicago International in 1901 had worked steadily on the streets of Liverpool for six years.

This waking up which "Percheron" speaks of is surely a slow process. I fear he and I shall have long since passed to our reward ere Canadians become sufficiently awake to substitute Percherons for Clydesdales.

In closing we may say that our experience with Clydesdales dates from the early eighties, and we have yet to find a man, who used sound judgment and aimed at the best, becoming dissatisfied with the Clydesdale breed.—R. D., Durham Co., Ont.

Splendid Crops at Macdonald College Farm

This year some splendid crops have been harvested at the Macdonald Agricultural College at St. Anne de Bellevue, Que. While visiting at the farm in August, a representative of The Canadian Dairyman and Farming World was driven through some of the fields by Mr. John Fixter, farm manager. There are 600 acres in the farm, of which 387 acres are under Mr. Fixter's management. Mr. Fixter, who has had charge of the farm only a little over a year, has already made a wonderful improvement in it. He purposes following a four-year rotation, including one year of hoed crops, one year in grain and two years in hay or pasture.

"My object," said Mr. Fixter, "is to grow large crops and to increase the soil fertility. This year we had 75 acres in clover. Before clover is

own, the soil should be thoroughly cultivated. Deep cultivation, either by means of the plough, or the cultivator, is the best."

Mr. Fixter drove us through several acres of a clover as we had ever seen. "This field," said Mr. Fixter, "was cultivated thoroughly in the summer, when the roots and corn were on it. The deeper the land can be ploughed, the better is the chance for the crop the following year. Of course, however, it does not do to bring the cold, raw earth to the surface."

Good Farms Competition

N. J. Kneeman, M.A.C. Winnipeg

A source of interest in Manitoba this past year was the good farms competition which was conducted under the direction of the Agricultural College. The competition was keen between the farmers in the different districts, in which the province was divided. The competition will be the means of making a wonderful improvement in the homes and farms of many of our agriculturists. The competition creates a good natured rivalry among the farmers. There was a very marked improvement in conditions already this year.

Some of the farms visited were of a high order and would be very hard to beat in any other province of the Dominion, where the province will be carried on from year to year and it is hoped to bring every farm to a high state of perfection. When such is realized, farming will be a pleasure. Such may be the means of keeping many a young man or woman at home on the farm.

French Canadian Cattle

The French Canadian cow is now said to be the most profitable cow in Canada, and the Canadian minister of agriculture predicts that she will soon be known as the world's greatest butter producing cow. The minister admits that there are many things in her favor. She possesses most of the good points of the Jersey and in addition is hardy, has a strong constitution and is better adapted to the conditions on ordinary dairy farms than any of the older breeds.

French Canadian cattle are unfortunate, however, in being owned by breeders who are too timid to advertise their good qualities in the agricultural papers.

Some Form of Power Needed

D. J. McClure, Peel County, Ont.

A farmer who has a silo should have some kind of power for cutting his corn. Ten years ago I purchased a tread power for my silo, which toy is in as good condition as when I purchased it. By means of this power I can cut enough corn in 16 minutes to last my cows for two days.

This year I had such an immense crop of corn that it is going to be impossible for me to store it all in my silo. I have found, however, that well stocked corn will keep as well in the field until about the 20th of December as it will in the barn. The silo should not be opened until December as the silage is not in the best of condition until then. It is my intention to feed first the corn that I have to stock and not open my silo until I find it necessary.

On the best soil in Holland the 20 acre farm will carry 20 cows, three to four horses and 60 sheep, with the usual flocks of poultry. This means pasturage and soiling for the animals in the summer, and grains, roots, hay and roughage in the winter. The cows are the gigantic "black and whites," known there as "Friesian" and here as Holstein-Friesian cows, and their average production for the country is over 9,000 lbs. of fine milk per head.

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AGRICULTURE, THE KEYSTONE OF CANADIAN PROSPERITY

VOL. XXVII.

FOR WEEK ENDING SEPTEMBER 30, 1908

No. 37

CHOOSING A FARM POWER

John Evans, Professor of Farm Mechanics, O.A.C., Guelph

If installing a Gasoline Engine get one of sufficient power to properly perform the work to be done. In an economical engine a good mixing, a good compression and a good spark are absolutely essential

In the daily round and common task of the farmer much of the hard routine work now done by manual labour could be as efficiently and economically performed by some mechanical contrivance as by sheer brute force of the hired man. Now that even high price labour is scarce and extremely difficult to secure, every thoughtful farmer is contemplating how best to meet the situation so as to release somewhat the tension and strain of the strenuous life of the present day on the farm. Naturally his thoughts turn in the direction of installing some mechanical equipment to perform the heavy hum-drum work and the question that troubles him sorely is what is the best "rig" to install to advantage, not only at the pump or feed grinder but also at the wash-tub, churn and separator. To the average farmer who is forced by circumstances to contemplate something seriously along this line and who has had comparatively little or no opportunity of seeing the different kinds of motive power and the methods generally adopted to apply them to all sorts of farm operations, the problem of selecting the right mechanical outfit which will meet all his requirements most satisfactorily is a vital and a perplexing one.

There are two types of engines on the market, the two-stroke cycle and the four-stroke cycle. The operations taking place in the cylinder to produce continuous power are similar in principle and character in each type and effect the same results but the method of control is different. In a two-cycle engine there is an impulse of explosion for every second stroke of the piston while the four-cycle has four single strokes of the piston for every explosion. It is evident that given the same size, weight and strength of engine parts, the engine operating with the greatest proportion of working strokes will develop the most power so that the two-cycle engine has a decided advantage on this score but owing to its later development, its various mechanical difficulties yet to be overcome, it has not met with success like the four-cycle principle which better meets the requirements of power users, and manufacturers do not care to leave a ready market to perfect the two-cycle problem.

CONSIDER THE HORSE POWER OF AN ENGINE

One of the weighty points for consideration is the horse power of the engine most suitable for farm work, but different localities are engaged in widely different kinds of farming. It is therefore impossible to arbitrarily say that a certain horse power will adequately meet all demands, say of a hundred-acre farm. The work to be done by the engine of course depends entirely upon the size and capacity of the machines to be driven and since in the diversity of farming practised a very wide range of machinery exists, it is necessary in order to help the farming community at

To drive the various small farm machines such as a cream separator with a capacity of from 600 to 700 pounds of milk per hour requires 1-3 horse-power. A pump lifting about 20 gallons of water per minute from a well 50 feet deep would need about 1-2 horse power based on a pump efficiency of 50 per cent. Churns, washing machines, fanning mills, grindstones, each requires about 1-10 horse power to drive them under load. A bone-cutter requires about 1-4 horse power if not crowded. A hand drill, depending upon size of the holes drilled and the speed, would need from 1-10 to 1-3 horse power. These machines include practically all of the smaller machines in use on one or the other of the various kinds of farms. The total power required for all of them amounts to 1½ horse power. The feed grinder will require from 1 to 1½ horse-power, depending of course upon the capacity, speed of the mill, condition and kind of grain, and the fineness desired.

A saw rig could be operated by a 2 horse power, although with a 3 horse power a great deal more work can be accomplished in a given time. Assuming then that a farmer wishes to purchase an engine to run all these machines we find that the horse power of the motor, according to our formula, should be as follows:

The largest machine, the saw, requires 2 horse power, the grinder and the others 1½ horse power and small machines 1½ horse power. Total—3 horse power, 25 per cent. of which is ¾ horse power. Then 2 horse power plus ¾ horse power equals 2½ horse power, the amount at which the engine should be rated. This 3 horse power engine

would develop sufficient energy to drive the saw at limited capacity and many of the smaller machines simultaneously. Many farmers find that a 4 horse power engine is an excellent size, for besides operating all the small machines enumerated it will in addition drive a feed mill with a capacity of about 20 bushels per hour. Usually this takes about 3 horse power to accomplish the work.

THE PLACE FOR THE LARGE ENGINES

The large engine, however, has its place where heavy class of work like threshing, filling silos, etc., has to be done. But the question arises has the average farmer enough of this work to justify him in investing in a large engine or would it be cheaper to hire some one making a specialty of that class of work to do it. Should the work warrant a large engine, have it large enough to handle the work successfully, indeed it should be so large that it would be good economy to have two—a small one which could be moved from

Our Efforts Appreciated

Cumby, Ont., Sept. 18th, 1908

Editor, The Canadian Dairyman and Farming World,

Dear Sir,

I am pleased to read in the daily press that the Postmaster-General is to give Rural Free Delivery a fair trial. I think that the very clever series of articles that appeared in The Canadian Dairyman and Farming World on Rural Free Delivery were largely instrumental in bringing about this state of affairs, so beneficial to our farmer friends.

*(Signed) Charles Clark,
Publisher, "Cumber Herald"*

large to have some basis on which to determine to one's own satisfaction what horse power best to buy. It is by no means economy to have a rated horse power very much higher than is actually needed to perform the work in hand. Of course there is no engine built that will last as long if it is run to the limit of its capacity all the time. There should be a reasonable allowance. A gasoline engine reaches its maximum horsepower when the governor is not acting. To determine the horse-power required a fair basis would be that the horse-power of the motor should be equal to that required by the largest machine driven, plus 25 to 50 per cent. of the power necessary to drive the other machines—25 per cent. when the machines need not be driven at the same time and 50 per cent. when several machines are to be driven simultaneously with the largest one. This rule can be successfully applied to average farm conditions.

place to place for the light work and the larger one.

Practically all the standard makes of the four-cylinder engines are designed to take into the cylinder at each suction stroke the largest possible quantity of the explosive mixture that can be taken in by suction. Then this charge of fuel, as it is often called, is subjected to a compression somewhere between 40 and 90 pounds per square inch by the returning piston. On exploding this compressed charge gives forth a working force of nearly four times as great as the pressure of the gas at the point of exploding. Hence two engines of like bore and stroke running at the same speed would each consume very much the same quantity of explosive fuel if working under full load. But an engine having only, say 40 pounds compression pressure develops only half as much power as one under 80 pounds, so that the former would be wasting half its fuel or in other words would require twice as much fuel per horse power as the latter engine.

DIFFERENCE IN ECONOMY OF FUEL

It is surprising what a difference there is in engines in this respect and the economy in fuel should be looked into carefully. Tests demonstrate that low compression engines are "gasoline eaters." High compression engines about 85 pounds to the square inch give the best results. The smaller the horse power of the engine the more it will use relatively, and the best engine on the market will not get much, if any, under a gallon a horse power for 10 hours run under full load, despite the claims of manufacturers.

If there is a difference in engines in this respect there is of course a cause for it, and if so, what is it? To an economical engine a good compression, a good mixing and a good spark, properly timed are absolutely essential. The first we have discussed. We shall now briefly deal with the remaining two. The nearer the mixture of air and gasoline approaches to a perfect gas, the higher the efficiency of the engine. It is generally considered that a proper mixture consists of one part gasoline to seven parts of air. Choose an engine with the mixer located near the head and requiring no regulation of the air. An engine drawing its charge through a long pipe is a hard starter, especially in cold weather. A small glass reservoir on the mixer saves much annoyance as one is able to see if the pump is acting, the tank empty or water in the gasoline. Next comes the method of ignition, the hot tube and the electric spark. The former is all but obsolete, the latter is divided into two kinds, jump and touch spark. Generally speaking jump spark has been adopted for high speed engines, the touch for slower speed power purpose engines. The jump spark has the advantage of no mechanical moving parts and is subjected to a little wider variation of the ignition point and is usually run with dry cell batteries. The touch spark is mechanically operated. The spark is produced by snapping a pair of contact points. As these points are separated after completing electric circuit there is produced a bright spark.

TIMING THE SPARK

The power of the ignition greatly influences the consumption of fuel which may be reduced from 25 to 30 per cent, in a given horse power by using the proper quality of apparatus. There should be some simple method of timing the spark. This is a very essential feature as the explosion should take place just before the piston reaches the farthest point back. The greater the speed of an engine, the more advance on the spark. This should be regulated so as to throw it past the centre for starting.

Avoid high speed engines for power purposes; the race horse is alright on the track but out a poor figure at the plow.

Photographs and articles are always welcomed for publication in these columns.

Possibilities of Dairying in Northern Alberta

G. H. Hutton, B.S.A., Supt. Northern Alberta Experimental Farm

To deal with the crops which can be successfully raised in Alberta, in any detail, would require a great deal of time. The crops which the soil of Alberta can produce are such that any dairymen using them would be justified in hoping for and expecting the best possible returns from his investment.

Travel where you will you can see the natural grasses growing in abundance, and not only natural grasses grow wild but various legumes such as pea vine and vetch, indicating under conditions of the prairie that this soil will produce these fodders in such varieties as to make a balanced ration such as a good dairy cow appreciates.

What has been attempted by man in the way of growing cereals and legumes has been so far uniformly successful, especially when he has paid attention to the demand of the legume for bacteria to fix for it free nitrogen or the air about its roots.



Where Hog Raising Pays.

Farmers who use rape and alfalfa as supplementary feed for hogs, are rarely heard to say that hog raising does not pay. Mr. H. R. Nixon, of Grant Co., Ont., who owns the lot illustrated, always provides a pasture run of rape, as well as one of alfalfa, for his hogs. He claims that he can put finished bacon on the market at a cost of less than four cents a pound live weight. Photo by our special representative.

Cereal crops, particularly oats and barley, have always been remarkably successful in this Northern part of the Province. These two grains themselves would supply the dairymen with the grain fodders necessary for the successful operation of his dairy. Even last year when the unusual climatic conditions cut the maturing season for the oats and barley rather short, there were in this Northern part of the Province many farmers who had oats weighing 40 to 45 lbs. to the bushel and barley germinated as high as 84 per cent, and weighing standard and over. Of course, we do not deny that where grain was sown late it was caught with the frost and much light grain, and grain lacking in vitality was the result, but my point is that even under the most unusual circumstances prevailing through the country in 1907, there was abundant grain for feeding dairy stock and of a quality calculated to produce the best results. On the Experimental Farm barley yielded as high as 72 bushels an acre in 1907, and showed a germination of 84 per cent. Oats gave 110 bushels an acre, but were not as high in vitality. These facts should prove the possibilities of Alberta as a dairy country from the grain growing standpoint. That the necessary cereals can be produced is an assured fact.

The alfalfa and red clover sown on the Experimental Farm in June of last year wintered well.

The first cutting of alfalfa was made in July. Where it was inoculated the yield was 4,100 lbs. while where it was not inoculated it yielded only 1,900. The second cutting was ready about Sept. 1st, and on the inoculated area it gave a yield approximately equal to that of the first cutting. Red clover is now in bloom again, having yielded at the first cutting without inoculation one ton to the acre. Everywhere over the field large rank bunches of clover could be seen and here the life giving nodules are found, showing that on the old land where manure has been applied the clover will accomplish its own salvation in time. Having then such a happy combination of leguminous crops and large yields of cereals per acre, the possibilities of this important branch of agriculture in this Province seem almost unlimited.

The climate is not as severe as many people imagine, and I believe that the constitution necessary for a productive dairy animal will stand the winter without difficulty. There are already in the Province a number of dairy cattle—Jerseys, Holsteins, and Ayrshires. During the severe winter of 1906 and 1907, representatives of these breeds of cattle were taken from point to point through the Province in connection with the Stock Judging Schools put on by the Provincial Department of Agriculture. These animals without exception came through in fine condition, and their milk yields, considering the fact that they were continually changed as to stabling and surroundings, were large. Many cattle wintered outside, having the run of a straw stack and access to water, and come through the winters in fine condition, without other food or shelter. The rumors sometimes circulated within this Province that dairy cattle are not vigorous enough to stand the climate are not well founded.

BUTTER THE PRINCIPAL DAIRY PRODUCT

The usual manner in which dairy produce is marketed is in the form of butter. It is handled largely by the Provincial Department of Agriculture with Mr. Marker as Dairy Commissioner. Butter is selling at prices satisfactory alike to patrons and consumers. Private butter and cheese factories are springing up in some sections of the Province. One that came to my notice, paid during this season 20c a lb. for butter fat, clear of manufacturing and hauling. These prices I believe, should stimulate farmers to produce quantities of cream, since the skim-milk fed on the farm in conjunction with the abundant native and cultivated grasses and fodders should prove a most valuable by-product. Dairymen in a butter-making district should be enabled to put large quantities of beef on the market annually.

CHEESE INDUSTRY UNDEVELOPED

The cheese feature of the industry has not as yet been very largely developed, but there is no reason why it should not be a prominent feature in the dairy business in this country since at present quite a large quantity of cheese is imported while the conditions here should warrant its manufacture within the Province. We have the best of climatic conditions, cool nights, fresh air, and there is an abundance of pure water everywhere. Aside from the manufacture of butter and cheese, there is a grand opening in many of the towns of the Province for dairymen, who will supply good clean rich milk to those towns. In some instances it is almost impossible to secure milk at any price, while at the same time near these towns there is abundant land available for pasturage at moderate prices. To anyone who has seen the rapid growth of towns in the West the dairy business of these towns will commend itself as a good business proposition. Another feature which should be of interest to some dairymen of the East is the opening in this Province for the establishing of a number of first class pure bred dairy herds. There are a few—we need more.

It is a regrettable fact that there are a large number of cows being milked in this Province, which are giving their owners no profit at all, and

there is abundant room for some one to carry still further the campaign of education as to the value of pure bred sires in building up dairy herds. As soon as this education is completed there will be gigantic demands for this class of stock, and it will be the man who is on the ground and has the stock for sale who will reap the reward. Altogether the possibilities of dairying in Alberta, while not perhaps as alluring as mighty waving

There are in this province some excellent specimens of horse flesh, especially amongst heavy breeds which are most in demand. Several large importers have at the head of the stable, stallions which stood well up at the leading shows in Great Britain, United States, and at the larger Canadian shows. The breaking of the prairie necessitates power; and there is a great demand for Agricultural horses to supply it in spite of

flocks ranging from a few hundred to many thousand run the open prairie, engages the attention of quite a few stockmen. The industry has grown rapidly since 1901, when there were 73,097 sheep in the province until 1906, when this number had increased to 121,290. About \$100,000 worth of sheep and lambs are annually shipped from Maple Creek and adjacent stations. In the neighbourhood of 900,000 pounds of wool starts on its journey from the same points each year, and as this according to 1907 prices was worth 15½ cents a pound, it represents quite a creditable sum in dollars.

Hog raising, has kept pace fairly well with the increase in population increasing from 27,753 in 1901, to 123,916 in 1906. The system of farming here practised is admirably suited to the hog which flourishes on the grain screenings, but is not yet grown in sufficient numbers to supply the local demand.

The same condition of affairs is true of dairying and poultry raising. Large quantities of butter and eggs are imported each year and there is an excellent opportunity for building up of remunerative businesses to supply these wants.

Pointers on Plowing

In low, flat land that has not been under-drained it is best to make the lands narrow, so that the furrows may be used for drainage purposes. Where this is necessary it is best to make a high back furrow, this will give the land the proper crowning slope which will drain off the water quickly.

In plowing under manure, if spring grain is to be sown, do not turn it under too deep, especially does this apply if fall wheat is to be sown on the same field, as both crops will then be materially benefited by the manure. The second plowing should be about two inches deeper than the first which will again turn the manure under but nearer to the surface. In this manner there will be very little loss by drainage into the subsoil.

To keep the bees in good condition throughout the cold weather, when they cannot fly frequently, the great and important requirement is dryness, both inside and outside the hive. A dry atmosphere, with a slow circulation of air about or through the cluster of bees in the hive, a fairly even temperature, and absolute freedom from outside disturbance, will generally carry the bees



A Survivor of Olden Times.

Those who in years gone by were called upon to take a team to furnish power for their neighbors' threshing, will be interested to learn that there is one of these sweep-power machines in acti operation in Otonabee Township, Peterboro County, Ont. The outfit is owned by Cleghorn Brothers, and was photographed by our special photographer.

fields of wheat, are in the far future, likely to be as stable, as sure, and for an average of a number of years, as remunerative.

Live Stock Industry in Saskatchewan

John Stirling, Southam, Saskatchewan

To non-residents of the country, Saskatchewan is known principally on account of its reputation as the home of a large and rapidly growing part of the world's best hard wheat, which, important though it may be, is not the only large agricultural industry in the province.

Stock raising, which until the comparatively recent rush to the west was its main support, is important. While "Wheat is King" the province produces many horses and considerable beef, mutton, pork, and small but growing quantities of cheese, butter and eggs. The low initial cost required to start in it, the quick return and the high yields per acre of grain of good quality has made wheat-growing the staple industry and attracted to it the attention that would otherwise have gone to the mixed farming and stock raising, which, however, has still a large number of adherents. This is especially the case in the South Western portion of the province where a district of about 25,000 square miles is given over almost entirely to ranching purposes just as the remainder of the settled part of the province is almost entirely under the sway of King Wheat. Generally speaking this is true. There are, however, some districts especially adapted to live stock, such as the large area of partially wooded country north of the Yorkton branch of the C. P. R. and of the main line of the C. N. R. This comprises a strip of county varying in width from 75 to 150 miles and runs in a north westerly direction, almost all the way to the Alberta boundary.

In addition to this stock raising is practised to a considerable extent in some of the wooded sections in the central portion of the province.

A recent despatch from London, England, states that Great Britain in 1907 exported to Canada 61,783 horses, the largest export ever known, though the total value, \$6,290,000 was exceeded in 1906. If the subsequent history of these animals were traced it would be found that a large proportion of them, especially the heavy breeds, eventually found their way into western Canada and a large number of these into Saskatchewan.

what is being done by steam and gasoline engines.

An idea of the magnitude and rapid growth of the horse industry may be gained from the following figures: In 1903, under the old territorial government, a stallion enrolment act was passed, compelling the entering at the Department of all stallions whether pure-bred or grade. The act remains in force. In 1904 there were 303 pure-breds and 249 grades, in 1905, 88 pure-breds and 71 grades; in 1906, 140 pure-breds and 112 grades, and in 1907, 153 pure-breds and 124 grades. Possessing a climate suitable for the purpose, plenty of good pasture, and having in operation a system of farming that lends itself readily to horse raising the prospects of that industry are of the brightest.

The cattle industry of Saskatchewan is also important. In 1906 there were shipped east 15,812 head and during the year following 20,271 head. Low prices have had a tendency to check the ex-



Pounding Out the Grain in the Modern Way.

This outfit was threshing peas in the field when visited by our special representative, who took the photograph. Handing peas in this manner saves much labor. The practice of outdoor threshing is very popular with the men, but when carried to extremes, it seriously inconveniences one's neighbors, who have to leave their work to help with the threshing. The outfit is owned by Mr. Robert Miller, of Lang, who may be seen standing in front of the engine.

clusive production of this class of farm stock, but with their recent rise the eagerness with which western sters were taken up from experimental shipmen's to Chicago yards and the agitation principle in Alberta for the development of a European chilled meat-trade, has to a considerable extent revived interest in this industry.

Sheep raising, which is largely confined to the south western part of the province where large

through the winter in a condition ready to build up strong and vigorous colonies in time for the clover bloom the following year.

"Don't keep a hired man around the place two minutes after he begins abusing your cows. If he don't know enough to treat them kindly and gently, then get rid of him."—Mrs. David Taylor, Peterboro Co., Ont.

New Brunswick Exhibition

The Provincial Exhibition at St. John, N. B., was held under the most favorable auspices and the finest of weather. In every respect it was larger and better than two years ago. In live stock, the swine exhibit was smaller. Horses were out in larger numbers and of higher class, particularly the roasters, coach and driving classes. Dr. Stanfield, Walkerton, Ont., judged light horses.

In the three-year-old class, Stock Farm, St. Anne de Bellevue, and W. W. Black, Amherst, N. S., were the principal exhibitors. Their stock was of high quality. James I. Davidson, Balsam, Ont., judged Clydesdale and best breeds of cattle.

CATTLE

Short horns were up to the mark in quality, but fewer in numbers. C. A. Archibald, Truro, and R. H. Snowball, Chatham, N. B., were the chief exhibitors, and divided the prizes. Also J. F. Payne, Fredericton had the 2nd prize aged bull. In Herefords, W. W. Black, Amherst, was the only exhibitor. His herd had been well maintained since we last saw it two years ago, and was out in fine trim.

DAIRY CATTLE

Ayrshires far outnumbered the other breeds, and in quality equal to our western shows. Divisions had to be made on line points, and in many of the classes, where 10 to 14 animals were competing, many good ones had to leave the ring unplaced. Messrs. McIntyre Bros., and the Parlee, St. J. Goodfife, Sussex; Hampton Stock Farm; S. Creighton, Silver Falls; J. A. Garrett, Croucheville, N. B.; C. A. Archibald, Truro, and C. C. Archibald, Stock Farm, St. Anne de Bellevue, Que., were the exhibitors. In aged bulls, Parlee won 1st with his old Lord Dudley; Stonycroft, a close second with Montclair. In yearlings, Archibald, 3rd with Netherhall Nobleman; Creighton, 4th with Castleglen of St. Annes. In two-year-olds, McIntyre won 1st with his fine bull, where he had a shade high up. Whitehall Sunrise; 2nd to Barrett's White Heaster, Matchless.

Senior Yearlings—Stonycroft's Chief took the lead with McIntyre's Togo a close 2nd. In junior yearlings, Archibald easily won with his imported bull of Osborne breeding, Morton Mount Southgrove, perfect in form and type, a fine handler and with vigor of constitution; we look forward to the development of this young bull with interest. Although giving a hard close, Lord Dudley and Sunrise Whitehall, he was awarded the diploma, which confirmed F. S. Peer's placing at Halifax the previous week, where in the same category he won the honors. The prizes in the younger classes were divided between Stonycroft, Hampton, McIntyre and Parlee. The 10 aged cows were possibly the best that ever graced the ring at St. John,—all worthy of a place. Utility points well balanced udders with large teats gave place to the fine points on which many awards have been made. Consequently, four cows were drawn out, every one of splendid Ayrshire type, and giving evidence of being large producers, any one was worthy of 1st place. The Halifax judgment was reversed here.

McIntyre's Maggie of S. B., a cow of wonderful capacity, with fairly good udder and large teats, taking 2nd place at Halifax, was put top, followed by Stonycroft's Old Gretta Trim, who received 1st place in both types and carrying a five udder, yet she was scored on account of short and tapering teats. Parlee got 3rd with High Newton Sillerfoot, bred at Halifax, a fine cow, carrying a large uniform udder, but weak on shoulder and teat. Fourth went to McIntyre's Emma of S. V., although somewhat coarse in the cow of great capacity. In the four year dry class, Stonycroft, McIntyre

and Parlee went in their order with close competition. In the three-year-old class, McIntyre's White Lady, a beautiful symmetrically built cow, perfect in type and carrying a grand vessel, with large well placed teats, was the winner. In fact, was an easy winner for the diploma; 2nd to Creighton's beautiful White Heaster; 3rd to Stonycroft's Barthelemy Marchant; 4th to Parlee. In the dry three-year-old class, Hampton won 1st with Aggie, a cow of fine type, 2nd to McIntyre's 3rd to McIntyre's Stonycroft won 1st in two-year-old cow with Barche's Emily, a child 2nd, Parlee 3rd and Barrett 4th. In two-year-old heifer, 1st went to choice heifer of Archibald's, Gurt's B. V., 2nd to Parlee, 3rd to McIntyre.

In Senior yearling, 1st to Barrett's Maggie of Silver Falls, 2nd McIntyre, 3rd Archibald. In junior yearling, Parlee again won with a heifer of the qualities and type, Pearl of Silver Falls, 2nd to Stonycroft, 3rd to Parlee. In junior cow, 1st to McIntyre's Hampton; 3rd, Parlee. In junior calf,—1st, Stonycroft; 2nd and 3rd McIntyre. Aged herd,—1st, McIntyre; 2nd, Parlee; 3rd, Parlee. Junior herd,—1st, Archibald; 2nd, Stonycroft; 3rd, McIntyre. Eall and 3 of get,—Stonycroft with Monkland Victor. Cow and 3 of progeny,—McIntyre Bros. with Emma of S. B. Best bull owned in N. B.—1st, McIntyre; 2nd, Parlee. Best female,—1st and 2nd, McIntyre.

AYRSHIRE ASSOCIATION PRIZES

Bull and 4 of get,—1st, Stonycroft with Monkland Victor; 2nd, Hampton, White Hall Nobleman; 3rd, Parlee, Lord Dudley. Cow and 2 of progeny,—1st, McIntyre's White Lady; 2nd, Stonycroft, Newhouse Looky; 3rd, Parlee's High Newton Sillerfoot. W. F. Stephen, Huntington, Que., acted as judge of Ayrshires, French Canadian and other breeds.

HOLSTEINS

Two exhibitors were out with herds of the black and whites—Logan Bros., Amherst, N. S., and Harding Bros., W. S. Harding, Wellford, N. B., showed a few individuals. Logan Bros. won most of the prizes, they were uniform in type and quality. In this herd we see utility, breed type and good appearance combined. Their aged bull Artez Mercedes Posch, has few equals, and is proving his worth by transmitting his strong characteristics to his offspring. Their young bull Mercena Vale, of Retic breeding, gives promise of another like the aged bull. Most of the Harding winners in males were sired by Artez Mercedes Posch and were an even lot, with fine quality.

The aged cows were a grand lot. Logan's Jewel Sylvia, received 1st and diploma,—large but not coarse, full of quality and great capacity, is proving a great utility breeder. Harding's three-year-old which received the red, is a cow worthy of note, of the Faforit strain, bred by R. F. Hicks, Ont. She has remarkably good quality combined with great capacity. Among the young heifers were noticed a number of choice animals.

JERSEYS

S. Creighton, Josslyn & Young, Silver Falls, W. McMonagle and Robinson, Sussex, and H. S. Pipes & Son, Amherst, contested for the honors. The Jerseys claimed many choice animals, notably, the aged bull, 1st placing,—some of the best body but of fine quality. McIntyre's Foxy, 2nd; Pipe's Emma and Robertson's imported Golden 3rd. The two-year-old class claimed the diploma bull in Josslyn & Young's S. V. Featstone, bred at Hood Farm, a bull of strong character and constitution, good Jersey type and quality

combined with dairy conformation; 2nd to Pipes Brampton Financier, a fine type. In yearlings, Pipe's Brampton Barche came 1st; McMonagle's Emily's Golden, 2nd. A lot of lusty yearlings were shown in the younger classes, Pipes winning 1st in junior yearlings and Robinson in each of the calf classes.

The females were as choice a lot as the bulls. While many of them were not of the most fashionable class, yet they were of good, strong dairy type. In aged cows, Robinson cow, 1st and diploma with a sweet Island cow, somewhat underized but carrying a model vessel; Hood Farm Bonnie, 2nd; Josslyn & Young's Dame Norton 3rd, a large cow but not quite as good type or quality, and Mollie of Brooklands; 4th to McMonagle. In the dry class, Pipes won 1st with Brampton Monarch, bred with Josslyn & Young's Pansy of Rosebank a close second. They also took 3rd with Jennie Queen. In three-year-old cows Josslyn & Young took 1st and 2nd with Queen of Rosebank and Pedro's Judy, McMonagle 3rd with Oran of Glenview. In the dry three-year-olds, Pipes won 1st with Brampton Monarch, Oran and Brilliantina; Robinson's Figgies 3rd of Hood Farm, 3rd. Josslyn & Young won 1st and 2nd in two-year-old cow. Robinson won 1st in two-year-old heifer. In the heifer and calf classes the prizes were taken by Pipes, Josslyn & Young, and McMonagle.

Aged grade,—1st, Josslyn & Young; 2nd, Pipes; 3rd, Robinson. Young herd,—1st, Pipes; 2nd McMonagle; 3rd, Robinson. Bull and 3 of get,—Josslyn & Young's Diploma Cow and 3 of progeny Josslyn & Young (diploma). Best bull in New Brunswick,—1st, Josslyn & Young; 2nd, McMonagle. Best female in New Brunswick,—1st, Robinson; 2nd, Josslyn & Young.

GURNEYS

Gurneys were shown by Walter McMonagle, Sussex, and Roper Bros., Charlottetown, P. E. I. Mr. Corning had entered but sent his herd on to Chatham exhibition. The quality of this breed has improved very materially since four years ago. The prizes were well shared by each exhibitor, therefore we refrain from enumerating. The old bull of McMonagle, Higgin's Nonpareil, is still to the fore and keeping fresh despite his years. He is proving a grand stock getter. Roper's Golden Opinion is a fine type of the breed and is mating well with Roper's females. Their young bull (imported in dam) from the sweepstakes cow gives promise of making a fine bull.

In aged cows, Roper won 1st, also diploma, with imported Rosa of the Villet, a choice female of fine quality and teat, with splendid vessel and type. McMonagle's Queen Orin is another good cow, as is also Roper's Dolly of the Villet (time). In the dry class, Roper's imported Dolly of the

(Continued on page 11)

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HASTINGS CO., ONT.

Belleville.—The crop of winter apples that will be fit for packing will be considerably lighter in quantity than the indications showed a month ago. The apples are dropping quite badly on account of the dry weather and the cooling mists has developed considerably.—F. S. W.

JACQUES GARIBER CO., QUS.

Lachine Locks.—We have a medium to light crop of apples available. Fameuse are clean and of good color and fair size. There is a very serious drought prevailing at present. The rainfall in August was 1.73 inches. Up till Sept. 15th, it was 31 inches. It has affected the crop greatly. The market is slower than last year.—C. P. N.

BOUVILLE CO., QUE.

Abbotsford.—Owing to continued dry and hot weather, apples have ripened prematurely, causing them to be under-sized and to drop badly, which will reduce the commercial value of the crop 50 per cent. of what was in sight a month ago. Two cars of windfalls in bulk were received at 40 cents a barrel at car, and many more cars might be filled at the same rate.—J. M. F.

ST. JOHNS AND BREVILLE CO., QUE.

Henrysburg Centre.—In the first part of the season, the prospects for an apple crop were fine but to-day, the ground is literally covered with fruit. The long continued drought ruined the crop for this year. In some orchards, half the trees are bare. What few are left are ripening fast. It will hurt the keeping of them for the winter. Pewaukees are all down; McIntosh, half; Fameuse, two-thirds. There will be very few, if any, apples of No. 1 grade. The weather all through September has been hot and dry and bush fires are raging.—J. S.

TWO MOUNTAINS CO., QUE.

St. Traps.—Our crop of plums has been very good, although damaged by curculios. The crop of pears is very good. The apple crop is good for the year. However, the great dryness we have had for several months, is very bad for apples and for trees.—G. R.

SUNBURY AND QUEENS CO., U. B.

Upper Sheffield.—The crop of apples this year is only fair but the fruit is of good size. The season is three weeks earlier than usual. The price for apples at present is low but will be better after a while. Not much peach is to be found this season.—I. W. S.

Lower Gagetown.—Apples are considerably less than usual this year, although fall varieties, such as the Duchess, made a good showing. Fameuse, Wealthy and Golden Russet are only a medium crop. Of late, Fameuse have commenced to show signs of spot. Bishop Pippins and Alexander will, I think, prove a good crop.—G. Maca.

A farmer can sell dirty seed to dealers to re-clean, but he makes himself liable by selling it to farmers who intend to sow it. Farmers should take advantage of the seed department at Ottawa and have their seed analyzed. It will cost them nothing, not so much as a postage stamp and analysis made by the seed branch is a valuable asset to the farmer when he comes to sell his seed. It will help him to get the highest price for the seed he has for sale.—T. G. Raynor, B.S.A., Seed Department, Ottawa.

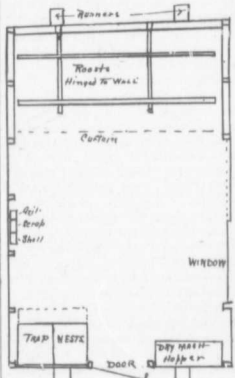
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When cutting ground seed, do not contaminate the seed of the whole field by taking weeds off of the killed-out places. Leave these portions by themselves when cutting.—T. G. Raynor, B.S.A., Seed Dept., Ottawa.

POULTRY YARD

A Good Poultry House

F. C. Bignard, Macdonald College, Que.
We have been using a colony house at Macdonald College that gives very good satisfaction. The house is simple and cheap and seems to fill the bill very well. The floor is 8 x 12 ft. and is built on two runners 6 x 8 in. and 14 ft. long. Two good sized cedar rails serve the purpose very well. The studding is 6 ft high and it has a double roof. It is sided with single matched lumber, except at the east end where it has a double thickness, and a layer of building paper. The roosts are at this end. The photo on cover shows what the house looks like and the ground plan gives the arrangement of the inside. There is a wooden floor laid on 3 x 4 in. joists placed crosswise the runners. If 1/2 in. flooring were used it would



do to lay it on the runners direct and do away with the joice.
The building usually faces the south having the door towards the west, this answers very well as our worst winds come from the east. The roosts are placed in the east where the double boarding is, they are about 20 inches from the floor and are made by notching two 7 foot 2 x 4 in. across two 3 foot pieces that are hinged to the wall at the back, a chain is fastened to the wall 3 feet above the hinges, the other end of the chain hangs to the outer end of the cross pieces, long enough to let the roosts down level. This chain is used also to hook the roosts up during the day. No drop board is used and the droppings are allowed to mix with the litter on the floor. The curtain that hangs in front of the roosts is made of factory cotton and comes to about one foot of the floor. It is let down only on very cold nights in winter. A roller attached to the bottom of the cotton makes it possible by the use of two staples and a stout cord to roll the curtain up very quickly and neatly.
The small hopper on the back wall is divided into three parts having grit, oyster shell and dried besncraps for the hens to eat at will. The trap

nests are six in number built in tiers, the lowest is 18 inches from the floor. The dry mash hopper is a box holding about 100 lbs. of bran so arranged that the hens can eat it out of a trough at the bottom without wasting. The window is made to slide; there is a small runway under the window. This house has been in use for two years and has given good satisfaction. Next week I want to say something about the advantages of this house to the farmers and the system of feeding.

Poultry at St. John.—The poultry exhibit at the New Brunswick exhibition was equal to many larger exhibits in quality. The American and Mediterranean breeds were superior to the European and Asiatic. H. D. Smith of Waltham, Mass., awarded the prizes and spoke highly of the exhibit.

Items

Buy hens are not only the best egg producers, but their eggs show the best fertility. In order to keep them at work strew the floor of the pen with lay or straw and scatter the grain in this.
Another word about the chicks in regard to early roosting. Get them to roost as early as possible. Do not make rough roosting poles. The smoother they are the easier it is to keep them free from lice. Chickens cannot be healthy that are cuddled up in a tiny bit of a brood' coop, sweate-

ing in the heat of the atmosphere, as well as that of their own bodies. Nothing will cause roup quicker than this.

Given good care, just sensible care, as common sense will ordinarily dictate, poultry will return a good profit on the time and money expended thereon. Neglected, they will produce nothing but loss and disappointment, as they should.

Good layers will always be found among the hustlers. If they are active they are almost invariably healthy. Exercise creates in them an appetite, develops bone and muscle, stimulates healthy circulation and promotes digestion.

Make arrangements for fattening all birds, either cockerels or old hens, before they are marketed. If you have not a feeding crate or two, rig up and old packing box, or better still have a good solid crate which will last you for years.

Give the fowls plenty of fresh water. It is surprising how much fowls will drink if they have it fresh and where they know right where to find it whenever they want it. This is especially true of the laying hens. Eight times out of ten a hen when coming off the nest after her young will go to the water and drink long and deep. This thirst is produced by the muscular effort put forth in delivering eggs. During the effort great combustion takes place to produce the energy, thus depleting the tissues of water. So do not neglect the water.

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PETERBORO, ONT.

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PLOWING AND PLOWING MATCHES

Proper tillage of the soil begins with good plowing. Yet, notwithstanding all the improvements in modern agriculture, it is doubtful if as much attention is given to plowing to-day as twenty-five or thirty years ago. More plowing is done, but our experience would indicate that it is not as well done. The chief aim of the plowman of to-day seems to be to get over the ground, no matter how. The plow that will turn the widest furrow and do it in the quickest time is the favorite. There is more shallow plowing done than is conducive to the best plant growth just because it can be done in a hurry. There are some soils for which shallow plowing is the best thing, but on a great many soils, deep plowing and a thorough cultivation of the soil are necessary to the best results in plant growth.

The plows of fifty or one hundred

years ago were built on exactly the same principle as those in use to-day. The modern plow will do its work easier and better, but essentially it is the same kind of an implement as those used a couple of generations ago. Improvement in plowing must therefore depend more upon the skill of the plowman than anything else. If he is content to merely turn over the ground, there will be no improvement and the first essential in proper tillage will be done in a slipshod careless fashion that will have its effect on the future crop. The bulk of the plowing in this country is done in the fall, when there is not the rush, there is in the spring season. There is time, therefore, to give attention to the quality as well as the quantity of work done.

Twenty or twenty-five years ago the annual plowing match was as popular in every locality as the fall fair. The interest in these matches has largely died out and the number held in Ontario is very few. If an examination were made it would be found that where a plowing match is regularly held and an interest taken in it, soil cultivation is at its best, and crop production most successfully carried on. The man who plows well will cultivate his soil well. In other words the best plowmen are the best farmers. For this reason more attention should be given to encouraging better plowing. A revival of the old time plowing match in every locality would help in this direction. Farmers' Institute workers are constantly on the alert for new features that will interest more people in their work. Why not try the plowing match? A series of these held every fall, and properly conducted would be of great educational value, in creating an interest in better plowing among the young men on the farm, and among the older ones too. Too much attention cannot be given to proper cultivation of the soil. Good plowing is at its foundation and should be encouraged in every way possible.

THE TRADE IN PURE-BRED SHEEP

The sheep breeders are in somewhat of a quandary. The 30-day quarantine recently imposed by the United States Government upon all sheep entering that country has deprived Ontario sheep breeders of their best and most profitable market. For years Ontario has been the chief source of supply for breeding stock for the big sheep ranches of the Western States and the source also from which many American breeders secured their foundation stock. Our splendid flocks have been built up largely because of having this profitable outlet, where a steady supply at profitable prices was always required. The 30-day quarantine will cut off this trade completely. While it might be possible to send through car lots with more or less safety, as it will pay to send a man along to look after them, small lots or individual animals cannot be put through quarantine except at a cost that would make the business unprofitable. The accommodation at ports of entry is usually of very inferior character and few highly bred sheep

would come through a thirty-day stay there with impunity.

The situation is a serious one and sheep breeders who have been depending on the American trade may well feel some concern as to the future. The only market open to them is the home market. Wool production was profitable a year ago, but it is not so to-day. The home market for lamb and mutton and the trade in export sheep with Great Britain are open to them. But a dependence on this alone means lower prices for breeding stock and a lowering of profits. The lamb market has been a very profitable one the past six months. Yearling lambs sold higher last spring than for many years past, and spring lambs have commanded a good price also. It may be possible to cater to the growing demand for choice mutton and lamb in a way that will make it profitable for the producer. Lambs fitted for the late winter or early spring lamb trade of our large cities always command high prices. But very few of our sheep men have given any attention to this trade. It may be possible to greatly extend it.

Then there is the growing demand for breeding sheep in the West and the Maritime Provinces. The trade with these parts of the Dominion has not been catered to as much as it might have been. Sheep breeders have had a more profitable market elsewhere. But with this cut off the demand in other provinces may be worth looking after, and may afford a market for a considerable portion of the surplus breeding stock, though lower prices would prevail than those obtainable in the United States. It is also possible to improve the demand for breeding sheep in Ontario. There are hundreds of farmers who do not keep sheep but might be induced to take up sheep-raising if conditions were more favorable. A drawback to the further development of the industry here is the danger of sheep-worrying by dogs. The law on this question is not as effective as it might be. A concentrated effort on the part of sheep breeders, who have been somewhat lukewarm in the matter, might induce our legislators to enact measures that would make sheep-raising on the average farm a safe proposition in so far as the dog question is concerned. With the American market closed more will have to be done towards developing the home market and the lines we have indicated may afford some solution of the difficulty in which our sheep-breeders find themselves.

THE BACON TRADE

There has been much said and written the past few months as to the future of the bacon trade. It is a question that concerns the producer as well as the packer. The latter has spent thousands of dollars in erecting large packing houses and equipping them for the trade. He cannot but be vitally interested in the future of this important trade, which shows signs now of petering out. If it does his investment in plant and equipment will be a dead loss unless he can turn it to account in some other line of trade.

But our concern is not for the packer. He is able to take care of himself. The farmer is also, for that matter, and perhaps, will not relish any advice on the bacon hog situation at the present time. However, it is not our desire to give him any advice, but merely to point to one or two things in the bacon hog situation that are worthy of the fullest consideration by every hog producer.

At the present time Canadian packing houses are not receiving one-quarter of the hogs necessary to keep their establishments running to their full capacity. This means that it costs over twice as much to convert the live hog into bacon as it would under normal conditions. As to this, however, the producer need not worry much. But what does concern him is that this short supply leaves the field free for other countries to come in and displace the Canadian article in the British market. During the past year or two Denmark has been doing this with a vengeance and to-day holds a large portion of the British trade that was formerly ours. Are we going to allow the Danes to hold it and make no effort to recover lost ground, are questions uppermost in the minds of many in this trade at the present time. From what we know of agricultural conditions in both countries, Canada should be able to produce bacon as cheaply and of as good quality as in Denmark. On the quality score there can be no doubt. Canadian bacon has always stood high in the estimation of the English consumer. As to the cost of production we must be prepared to produce bacon and land it in Great Britain as cheaply as the Danes do or else quit the business. If we are not prepared to do this, our trade in bacon, which, taking a period of several years back, has been a profitable one for the producer, must go to the wall and our energies be directed in some other channel.

If we drop out of the export trade the outlet for our hog products will be limited to the home market. Is this market of sufficient importance and is the home demand large enough to make it worth while giving much attention to hog production? There are some who think it is and who believe that if the tariff on green and cured pork coming into Canada were properly adjusted, hog products would command a profitable price in the home market. We must confess to some misgivings on that score. An agricultural country like Canada, with only 6,000,000 people, does not afford a very large outlet for a product of this kind. No doubt, if the tariff were so adjusted as to keep out American pork, the home market would be better than it is. But under the most favorable conditions it could not have begun to take the bacon Canada has produced during the past ten years. The question simmers down to this: If we are prepared to curtail the output of hogs to a small number, less even than we are now producing, then a profitable market can be found for them at home. If not then a market must be found for the surplus outside of Canada, and that market is Great Britain, where we must come into competition with the Danes. Take any other line,

beef, mutton, cheese, or butter, if it were not for the outlet we have in Great Britain for the surplus of the trade in these commodities would be reduced to a very small compass indeed. The home market, no doubt, is important, but to depend upon it altogether for a market for any of our staple products would mean the curtailing of the output to a very large extent to make the business profitable for the producer. What applies to beef, mutton, cheese or butter applies to bacon also. If we are to depend upon the local trade for a market for all our hog products we will have to return to the conditions existing before the export bacon trade was established, though it is true, no doubt, more bacon is consumed now than then, and a better quality is demanded by the home consumer.

But the present outlook for bacon may afford a solution of the problem. The outlook, as has been pointed out in our market columns in recent issues, affords good reason for believing that a turn in the tide has come and that bacon prices during the coming winter will be on a plane equal to those of a few years ago when every farmer, who managed the business at all carefully made good money out of hogs. A factor in the situation is corn. Dear corn means dear meat. The price of American corn is higher than it has been for years. This means a proportionate increase in the cost of producing the American hog. Some recent figures also indicate a short supply of hogs in the United States. Though the price of hogs here is governed largely by the price of bacon in England, the American supply has some influence on the British market, as there will be a smaller surplus of the cheaper grades of bacon exported from that country if it is short. Then Danish killings have fallen off recently to the extent of 5,000 hogs a week, and cable reports indicate a steady demand for bacon in Great Britain at recent advances in price. To sum up, everything points to a return of the favorable conditions in the export bacon trade existing a couple of years ago, when we were all talking hog and giving special attention to producing the right quality in large numbers. Are we prepared for this change in the situation? Is the outlook sufficiently encouraging to warrant hog producers going into the business as extensively as they did at that time? A negative answer must be given to the first question. The second question we will leave to the sound, common sense of our readers.

VALUABLE MARKET REPORTS

We are asking you to canvass for a paper which is well and favorably known all over the greater part of Canada. It is the only paper of its class in Canada which is published weekly at only \$1.00 a year, and each issue contains much valuable information for both the farm and the home. Many of our subscribers tell us that it is well worth the subscription price for the market reports alone. Some subscribers find other parts of the paper of greater interest and value to them and we are sure that a very little persuasion on your part would induce your neighbours to see that it would be just as interesting and useful to them. Read the following extracts from letters which have come to our office recently and you may judge for yourself what some of our subscribers think of The Canadian Dairyman and Farming World.

New Brunswick Exhibition

(Continued from page 7)

Willows is a strong cow of fine dairy qualifications. Roper won in three year-old cow with imported Juniper; McMonagle, 2nd, Glenview, Dido. Roper won 1st in all the female classes, 1st in aged herd, 1st and 2nd in young herd. McMonagle was 2nd in each. McMonagle won the New Brunswick prize for best male and female, also for 1st and 3 of his grade. E. S. Stevenson, Ancester, Ont., judged the Holsteins, Jerseys and Guernseys.

FRENCH CANADIANS

French Canadians were exhibited by Mr. J. Boden, jr., from farm of Wm. Van Horne, St. Andrews, N. B., and Guy Carr, Compton, Que. The

former took all the first prizes but one, and had a very fine display. The aged bull is a fine specimen but had to give way to his get, the senior yearling for diploma. The same may be said of their aged cow, although a cow of fine type, yet she was beaten for diploma by her daughter, the two-year-old.

A herd of Dutch Belted cattle were on hand also from Sir William's farm, their novel color, and white belt seemed a wonder to many who had never seen them before. Among the dairy grades that were shown, McIntyre Bros. won all the reds but two, one going to Logan Bros, and one to Roper Bros.

Read This

Here is a proposition which will be of great interest to you. Take a few minutes to consider it. For only two new subscriptions to The Canadian Dairyman and Farming World, we will give you a good, nickel-plated watch. This watch is an excellent time-piece, stem wind, and fully guaranteed. Think of the convenience this watch would be to you if you have not already got one. Or, perhaps your boy has not yet been given one. This would be a good way to secure one for him, or to let him earn one for himself. We are sure that you will feel fully repaid for the little spare time which you will have to give to secure the two new subscriptions.

OTHER ATTRACTIVE OFFERS

Other attractive premium offers are our live stock and cash prize offers, which are still open to all who wish to take advantage of them. Our live stock premiums are all pure-bred stock and have given excellent satisfaction in every instance. Our cash prizes will make a splendid opportunity for you to secure a little extra pocket money which may perhaps enable you to get some little comfort or convenience for the coming winter which you had formerly decided that you could not afford. You do not have to wait until you secure the full number of subscriptions for one of the special cash prizes. We will pay you for whatever number you send in to us, from one to 1,000.

"I think The Canadian Dairyman and Farming World is a splendid paper for all farmers, and especially young men just starting in the business. It contains so many timely and sensible articles on the cultivation of grain and fruit, and the care of stock, and anticipates in a remarkable way what the grower and feeder would like to get advice about."—Mr. L. P. Hubbs, Prince Edward Co., Ont.

"Enclosed please find \$1.00 to renew my subscription to The Canadian Dairyman and Farming World for another year. I am very much pleased with the paper and have found much valuable information in it."—Mr. A. B. Waterloo Co., Ont.

"The Canadian Dairyman and Farming World is a very useful paper and I am much pleased with it."—Mrs. J. Rogers, Simcoe Co., Ont.



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CIRCULATION DEPARTMENT

THE CANADIAN DAIRYMAN AND FARMING WORLD
PETERBORO, ONT.

Creamery Department

Butter Makers are invited to send contributions to this department on all questions of matters relating to butter making and to suggest subjects for consideration. Send your letters to the Creamery Department.

Butter-Making Growing

Though cheese is high in price, and is likely to continue so for this season, at least, there are no indications of a change from butter-making to cheese-making. The cream gathering creamery is here to stay. Farmers once accustomed to this kind of dairying rarely change, even though a larger direct cash return will result from patronizing a cheese factory. The cream gathering creamery is suited to districts where dairying is not made a specialty of. The cream can be hauled long distances at a comparatively low cost. The farmer with a few cows and a cream separator, can secure the cream and care for it with little trouble. He has the skim-milk at home sweet for young stock, and is enabled to follow a mixed line of farming not only for the sake of these and other things, the cream gathering system holds its patrons from one season to another.

It was not so in the old days when the whole milk system was followed in creamery butter making. The skim-milk was of less value and often, because of its sour condition, of little more worth for feeding stock than whey. This placed butter-making at a distinct disadvantage, as compared with cheese-making. The profits from the latter were very much greater and no creamer could live along side of a cheese factory. In contrast to that condition, there are sections to-day that formerly made cheese, engaged in butter-making.

This is not saying that the cream-gathering creamery will eventually replace the cheese factory. No one expects that it will so long as the present demand for Canadian cheese continues. It would not be wise policy to have it do so. There are many districts with well equipped factories, and every facility for making fine cheese. These should continue in the business. There is good money in it for the farmer who keeps good cows, and makes dairying more or less of a specialty. Many farmers have proven this, and are not likely to change over without there is some good reason for so doing.

Where butter-making will have its greatest expansion is in the newer districts. It is bound to become an important industry in the West. Every year we see the number of creameries increase. The western farmer must, more and more, engage in mixed

To Butter-makers—and all who buy salt in large quantities, its cost is no inconsiderable item.

Windsor Salt

goes farther—and does better work. Its cost is really less—and it makes the butter worth more. Ask your grocer.

farming. The keeping of live stock will soon be a necessity with him. Grain growing will continue to be his specialty. But in order to maintain the fertility of his land and to have something to fall back on when crops fail, he must take up some other line of farming. From growing he cannot do. Cheese-making involves hauling the whole milk to the factory. Where distances between farms are great, as they are in the west, the expense of hauling is costly. But butter-making, on the cream-gathering plan, fits in with these conditions. It enables the farmer to obtain a little ready money during the months when none is available from other sources. He can raise some young stock while so doing.

The home market is the chief outlet for the butter output. In the West every town and village becomes a market for butter. The number of towns increases every year. They grow in size just as quickly. The people must have butter, and it creates a demand for it which the farmers of the West can supply at very little cost to themselves. Canadian cities, both East and West, are growing in importance and wealth. The amount of butter required to supply them is increasing every year. The butter-maker, therefore, may always be assured of a market at home for most of his output. If there is a large surplus the export market is always open.

Home Butter-Making

In making butter on the farm, one of the most difficult things to determine is that state when the cream is the proper ripeness to be churned. It is difficult to get uniform results having one churning like another. Acid tests have been invented for this work but a skillful and experienced butter-maker is the only one who can judge to the ripeness of cream for churning by its appearance.

Churns with no fixtures inside are the best. A revolving barrel churn is superior to other kinds. Such brings the butter by the concussion of the cream falling from one side to the other. Fill the churn to one-third or one-half full. Before putting in the cream, seal the churn with hot water and then rinse with cold water.

Bring the cream to the right temperature for churning before putting it in the churn. This may be done by surrounding the vessel containing the cream with cold or hot water as the cream requires. Always churn at as low a temperature as possible and have the butter come in a reasonable time. The colder it is churned, the less butterfat will be left in the buttermilk and the more perfect will be the granules of butter. Each butter-maker must determine by trial the right temperature to obtain the best results. The churning temperature depends, in some degree, on the breed of cows, the individuality of cows, the period of lactation, the feed, and most important of all, the richness of the cream.

Use good, fine dairy salt for salting the butter. Never use the common coarse barrel salt which is so frequently used. After salting, working of the butter is necessary to get the salt evenly distributed and to expel a portion of the brine. It should never be worked in such a way as to injure the grain and give the butter a greasy appearance. After working, pack the butter in kegs, in neat, clean packages or put it in such form as is required by the market.

If making butter to put on the general market, put up an article that the market demands. The article it will pay the best price for. The best way to learn this point is to have your butter criticized by a dealer who knows what the market will pay. Then profit by what he tells you.—W. M., Bethany, Ont.

Dairy Exhibits at St. John

The dairy exhibit at the New Brunswick Exhibition although not large, was of a high quality, particularly the cheese. The Judge, Geo. H. Barr, Ottawa, stated that while the cheese was made up in splendid shape, it lacked the nutty flavor peculiar to the "fines." The creamery butter was excellent and would have probably been seen further west, most of it scoring over 97 points. While one lot of dairy scored over 96, yet the most of the exhibits were of inferior quality, resulting from the cream being too ripe and giving the butter an old flavor. The butter-making competition in which there were about a dozen entries was one of interest, and was superintended by C. W. McDougall and L. Daigle.

BUTTER AND CHEESE AWARDS

Cheese, 3 colored, Chas. J. Cooke, New Perth West, P.E.I., 1st; Leo Hughes, Kingsport, P.E.I., 2nd; A. D. McLellan, Bridgewater, P.E.I., 3rd; James N. Carter, Winaloe road, P.E.I., 4th.

Cheese, 3 White, Cornhill Cheese & Butter Co., 1st; Petticochee Cheese & Butter Co., 2nd; C. J. Cooke, 3rd; Angus D. McLellan, 4th.

Butter, 2 boxes (25 lbs. or over) Sussex Cheese & Dairy Co., 1st; Eveleigh Dairy Co., 2nd; Brookfield Cheese Mfg. Co., Brookfield, N.S., 3rd; F. G. Lang, North Tryon, 4th.

Butter, prints (24 lbs.) Sussex C. & D. Co., 1st; Brookfield C. & C. Co., 2nd; F. G. Lang, 3rd; Rosland Dairy, Urbania, N.S., 4th; Eveleigh Dairy Co., 5th.

Butter, Crook or Tub (20 lbs. or more) Geo. McAlpine, Lower Gagetown, 1st; W. N. Stieritt, Grey's Mills, 2nd; W. J. King, Sussex, 3rd; Roper Bros., Charlottetown, 4th.

Butter prints (10 lbs.) Rosland Farm, 1st; W. J. King, 2nd; Roper Bros., 3rd; Josselyn & Young, Silver Falls, 4th.—F. S.

Pasteurized Sour Cream

Writing on the New York Produce Review on the unusual sour cream sour cream, H. Weston Park, Oxford County, Ontario, says:

"I have pasteurized a lot of thin, sour cream and have every reason to consider it advantageous. I always employ a lower pasteurizing temperature for thin cream than for thick, as there is less loss in a large volume to be acted upon, which consequently causes it to be more thoroughly heated. Another reason for using a lower temperature is that thin cream adheres on a revolving metal surface to a considerably thinner layer, which permits of more thorough heating of the fat globules than is the case with thick cream. Of course, a lower temperature is advantageous for the thin cream too, on account of the more rapid "cooking" in which takes place at high temperatures. I have found 165 degrees F. to be high enough for thin cream and the subsequent cooling, of course, can be carried as low as possible, but not below 32 degrees F. However, I have been content to cool to 50 degrees F. and to churn at 52 degrees F. These temperatures give a good body and need not be maintained as long as when the thick cream pasteurized at 195 degrees F. requires. Thin cream cooks much faster than thick cream. I have not found any increased loss in handling pasteurized thin cream than pasteurized thick cream. I find the pasteurizing removes much of the objectionable flavor of both kinds of cream, and I use more starter in thick cream than in thin."

Mold on Butter

They are having trouble with mold on butter in some shipping centres. Perhaps this dry muggy weather is having something to do with it. There may be other causes. The refrigerator at the creamery is not kept at a low temperature mold is sure to ap-

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pear on the boxes, especially if they have been put in a damp condition. The refrigerator cars are not properlyiced mold will develop.

Paraffining the tubs is said to prevent mold. Where the tubs are well soaked and the butter properly cared for when packed it reaches its destination in a bright and clean condition. A thorough soaking of the boxes in salt and water will also prevent mold. The water or brine should be renewed frequently or it will get stale.

Mold is an unsightly thing and butter-makers should use every endeavor to keep their butter free from it. Sometimes butter arrives in a warehouse in such moldy condition, that it has to be cleaned and repacked to make it presentable. This detracts from its value and injures the creamery's reputation. Appearance counts for a great deal in the marketing of butter and makers should aim to have all they make in a clean, bright condition when it leaves the creamery.

"I thought that I would drop you a few lines to let you know that I would like to be an agent for your valuable paper. If you would like to give me a chance let me know at once as I would like to start right away. Tell me what commission you give on each subscription. I will try to make it successful. Please send me full particulars, also sample copies."—Mr. H. J. Stumpf, Bruce County, Ont.



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Cheese Department

Makers are invited to send contributions to this department, to all questions on cheese relating to cheesemaking and to suggest subjects for discussion. Send your letters to The Cheese Maker's Department.

Talks with Cheese Makers

Through the kindness of Dairy Instructor R. T. Gray, who has oversight of the cheese factories in the Campbellford district, in Eastern Ontario, a representative of The Canadian Dairyman and Farming World in August was permitted to accompany him on a visit to factories in his group.

There are no men in the dairy business who earn their salaries more honestly or by harder work, than the Dairy instructors. They are busy men, being on the road from one week's end to the other. The great improvement that has taken place in the quality of the dairy products in Ontario during the past few years, can be traced almost entirely to their work. The instructors exert great power for good in their respective districts. A word of the cheese maker here, pointing out some small defect that has not been noticed, and which might in a short time cause no end of trouble, a word of commendation to the diligent maker or farmer, all have their effect and help to bring about improvement. The instructors are doing valuable work, keeping the business going on smoothly, quietly, and profitably, for the maker and farmer alike.

Everywhere we went the makers were glad to see instructor Gray and his party. In practically all the factories visited the cheese that was found on the shelves gave strong evidence of the value of the co-operation that exists between the cheese maker, the dairy instructor, and the farmer. A great uniformity in the cheese of the section was noticeable.

A MILK SHORTAGE

There has been a great shortage this year in the milk supply, as compared with last year. Mr. John Kitchen, the cheese maker in Empire Factory, has had 17 years experience. He reported that at the time of our visit in August, he was 2000 lbs. of milk short of the amount he had received up to the same date last year. This year, however, farmers took better care of their milk than ever before. "I have never seen such an improvement in the milk supply," said Mr. Kitchen, "as this year. During the extreme hot weather, the care the farmers were giving their milk was plainly evident in the nice, close, good textured curd that I had when manufacturing the milk." Mr. Kitchen owns the Empire Factory, which was found in a clean, attractive condition. The cheese on the shelves were among the finest noticed anywhere.

One of the younger makers, Mr. William Langmuir, is making this year in the Kinberly Factory. The milk supply at this factory this season has been about 20 per cent. less than last year, but the quality of the milk has shown a great improvement. The curing room was found to be decidedly warm. The factory is owned by the patrons.

A WELL-KEPT FACTORY

Forest Factory reflects credit on the cheese maker, Mr. David Wallace, as it was neat and clean and presented a nice appearance. The cheese in the curing room were uniform and neatly finished. Mr. Wallace, like the rest, reported a great improvement in the care his patrons had given their milk this season.

Hoard's Factory, is practically a new building. It is a frame structure, lathed and plastered inside. The

walls were as white as snow, and the vats and dairy utensils clean and bright. The maker, Mr. Frank Little, has had charge of the factory for three years. He is a graduate of the Kingston Dairy School, where he passed with first class honors in the class of 1907. Since then he has upheld the reputation of the institution as a thorough and competent maker. Mr. Little stated that he was very particular in regard to the quality of the milk he accepted on the weigh stand in the morning. Any milk not up to the standard was returned. Fortunately, however, he had not found it necessary to return much as his patrons took good care of their milk.

A TIDY FACTORY

At Shamrock Factory, Mr. Chas. Tinn was at the helm. He has been making for the past seven seasons. He is one of the most successful makers in Hastings county. This is a large factory and is owned by the farmers. Mr. Tinn stated that they were short in their milk supply this year. It cannot be said that this is an up-to-date building, as it has seen years of active service and it has outgrown its usefulness, being rather small and cramped to work in. It is however kept as clean and tidy as it is possible for the maker to keep it. No doubt in a very few years a new and up-to-date factory will occupy this site, and be a credit to the large business that is being done here, as well as to the enterprising farmers who supply the milk.

AN UP-TO-DATE FACTORY

Mr. A. T. Neal was found in charge of the Stirling Factory, which is also owned by the farmers. This is a new up-to-date factory, with cement floors throughout. It is nicely painted inside and out, and is carefully managed by Mr. Neal, who has had charge of it for six years. He has been a very successful maker, winning prizes at the local fairs, including Armora, Stirling and Madoc, where in 1906 he won the silver trophy cup, valued at \$50.00. Mr. Neal approves very highly of the present system of instruction, and said that his milk supply had greatly improved during the past year. Mr. Neal is a strong advocate of Wymdote Dairymen's Cleaner and Cleanser for keeping utensils and vats clean and bright, and also strongly advises his patrons to make use of it. In fact every cheese maker visited spoke highly of it.

A CEMENT FACTORY

The Evergreen Factory, near Stirling, is a fine new building that has just been erected out of cement blocks. It is erected in this section of country and one of which the farmers should feel proud. The patrons have not as yet moved into it, but we expect to very soon. They have a cheese maker, George Rose who is a hard one to beat. Mr. Rose has been making cheese for 20 years, and is right up-to-date at the work. Rose is a regular prize winner in this section of country and at Madoc last year made them all step some to get a look in. I am very sorry that I could not get a photograph of this factory. It is well worth publishing in The Dairyman.

We found Mr. William Wright in charge of the Kingston Factory, where he was putting up a nice lot of cheese. It is a small factory, having only 21 patrons, but it is kept in a nice clean condition.

MILK SUPPLY IMPROVED

An improvement was noted in the milk supply at the Empire Factory. Mr. Gray said that 1907 they were bethered of a good deal with fruity flavors, but very few are to be noticed this year. Mr. Rog. Thrasher

is in charge of this factory. This factory cannot be said to be up-to-date. It is a very old building, and no doubt will soon be replaced by one more modern.

Mr. John West makes the cheese in the Harold Factory. This factory is kept clean and tidy. This also is an old building, and has outlived its usefulness, but as far as the cheese maker was concerned, it was kept as clean as it was possible to have it.

Mr. John Storms was making in the Spry Factory. This is a small factory and is quite a convenience for a number of farmers who are somewhat isolated from other places. It is owned by Mr. James Spry, of Stirling, one of Rawdon's most successful farmers.

MAKING MANY YEARS

At Maple Leaf Factory, Mr. John Lane was found in charge. He has spent 23 years in the business and is right up-to-date. His cheese in the curing room showed a uniformity of make that it would be hard to beat. This factory was built last year. It is constructed of cement blocks and is a beautiful building with good ventilation. It is easily kept clean and sweet. No provision was made for keeping the temperature under control. This looks like a mistake, as upwards of 200,000 lbs. of cheese are made here each season. An improvement could be made to the surroundings of this factory by leveling down and by filling up some of the holes around it. The patrons would think so if they once saw it done. This work probably will be attended to very soon. This is a joint stock factory, and has 56 patrons.

Mr. R. W. Thompson was at work in the Springbrook Factory, where he has spent 13 years making cheese. Mr. Thompson has been a very successful maker, and has won a large number of prizes at different fairs, among them being the Toronto fair, where he has secured many awards.

All the factories visited were found to be clean and in a sanitary condition, but at none of them had provision been made for the control of the temperature in the curing room, which the makers report runs up to, in some cases, as high as 86 degrees. This is bad, as it gives the cheese a chance to warm up and develop foreign flavors, which it would not under cooler conditions.

The cheese showed a wonderful uniformity in make, finish, etc. Mr. Gray stated that some 15 or more of his makers are all using the one starter or culture, which in itself ensures a uniformity of flavor. Some other factories that were visited will be described later. All the makers are regular readers of The Canadian Dairyman and Farming World—Jas. Irwin.

In writing to The Dairyman and Farming World, N. J. Kuneman of the cheese department of the Manitoba Agricultural College, says: "Never before was the dairy industry in Manitoba in a better condition. All the cheese factories and creameries have improved remarkably. The out-

put this year will be quite an increase over previous years. Our system of inspection is good and thorough. Dairymen are encouraged by the good prices prevailing. Next season will see several new factories in operation."

Everett & Wylie, of Almonte, Ont., whose factory was burned a few weeks ago, have just ordered with The Steel Trough & Machine Co., Limited, Tweed, Ont., for two Patent Steel Cheese Vats.

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—Seneca

Soldiers of the Queen

(Concluded from last week)

They were driving home late one afternoon, all but Desmond, who had gone to London, and Lawrence's horses were galloping up a long hill which ended in a little village about ten miles from Avonmere, when strange cries and curt commands made themselves heard above the jingling of pole-chains, wheels and hoofs, and a turn in the road brought them upon a scene of more life and activity than they had met before in their driving.

A little hotel by the roadside was the centre of disturbance. It seemed deserted, and several men in the dark uniforms of the constabulary were removing such piteous shreds of furniture as it contained. Several neighbors stood about looking on with grim hopelessness. Some of the women were crying into their shawls, and it was to them and to the men engaged in carrying the furniture that the harsh commands were addressed. They were issued by a tall man who lounged, chewing a straw, against a tree. When he saw the coach, with its air of importance and prosperity, he bestirred himself and came forward to report.

"It's a very stubborn case, sir," he told the General, the authority of whose fierce eyeglass he instantly recognized. "We've done this job twice before, and here we are at it again. The tenant goes back as soon as our traps are turned. I've sent for a brook from the barracks, and when they come we'll be off for good and all."

"Good gad, sir," cried the General, "what are you afraid of? What is there to frighten you in those poor devils there?"

"There're nasty devils when they're roused," the bailiff answered; "and several of them have muskets in those cabins of theirs."

Shiela, from her place beside Lawrence, turned to him for explanation. "What is it?" "What shall we be going on here? What are those men doing?"

"It's an eviction," Lawrence answered, with his eyes on his horse's ears. "I wish to goodness I had you and Mother well home out of it."

"An eviction," she repeated. "Oh, what shall we do? What shall we do? How shall we stop it?"

"We can't," he answered. "We can only get away from it."

But the road was narrow, and before the coach was again in motion all chance of escape was cut off by the spectacular arrival of fifteen or twenty scarlet-clad soldiers who rode up, alert, curious, wondering what work lay before them. When they understood that they were to assist at an

eviction the language which arose around the coach was fearful. Even Cagney and the General were lost in wonder.

At a word from their leader they stationed themselves at ten-foot intervals about the little house, and then the bailiff nodded to his two aides.

With a gesture of sulky protest they vanished into the darkness of the little hut. A wall went up from the assembled women; a wall composed of a mixture of "The Lord be



Grow Daffodils Like This at Home

Plan the bulbs now. When grown singly in pots like lawn blooms are secured. The one illustrated is about two-thirds natural size. In these columns, an article on growing bulbs indoors, will appear next week.

good to her!" "Och, woman dear, it's what must come to us all." "Oh, the devil fly away with the blackguards!" "Glory be to goodness!" and "Wiras therus!" But when the two constables reappeared with their prey, even the men joined in the cry of "Och, the crathur, the crathur!"

She was a poor, frightened, little wisp of an old woman, barefooted and wrapped in a scrap of shawl. Her weak eyes caught the gleam of red

and brightened for a moment wistfully, but they darkened when she saw the bailiff still chewing his straw under the tree.

"Mrs. O'Donnell," he flustered when he caught her eye, "this is the second time we've had to come here to tell you to pay your rent or leave the premises. We put you out three days ago. What brought ye back?"

She looked piteously at one of her warders, freed the arm the other held, and raised a trembling hand to her trembling mouth.

"Answer me. What brought ye back?" commanded the bailiff and the man she had turned to urged:

"Mrs. O'Donnell, ma'am, for the love of Heaven don't say a-m. Give me a word I can screech at him if you're anyways wake in yourself. Do now, ma'am, dear."

Thus encouraged she whispered to him and he transmitted: "She had no place else to go."

An old woman in the crowd broke from the restraining hands of her friends, scaled the tumbled-down, over-grown stone wall, shook a defiant fist at the soldier who half-heartedly tried to stop her and stumbled up to Mrs. O'Donnell.

"Ann dear, Ann dear," she cried, "you're to come an' stop with me. You're to come, ma'chree, for as long as ye'd stop."

"Father," said Shiela suddenly, "can't you stop them? Tell them who you are. Tell them to go away—"

"I'm not on active service, my dear," he replied. "I'm retired. These men know what they're about, I tell ye."

"Are you going to let them go on?" asked the girl. "Are you going to sit here and let them do this thing? Oh, if Desmond were only here!"

"Hush, dear," said Lady Mary urged. "We can do nothing now. You see her own friends will take care of her—"

"Oh, merciful Heavens, have pity on her suddenly," Lawrence cried on.

For she had seen the bailiff nod again to one of his aides, had seen the man throw something upon the low, thatched roof, had seen Mrs. O'Donnell turn and, with a wild shriek, bury her head in her friend's breast.

The horses sprang forward, and Shiela, looking back saw that the soldiers had formed in the road again and were trotting away from the turn of the road where, above Mrs. O'Donnell's burning roof, the smoke was rising, heavy and black, into the shining amber of the sky.

The Fitzgeralds were silent until they neared the gates of Avonmere. Then Gerald spoke. "That was most dramatic," he remarked approvingly.

"I've seen things very like it in plays. It was capital. The bare feet were especially happy."

"Don't, dear," his mother interrupted. "I know you aren't serious—"

"But I am," he assured her, and then asked idly: "I wonder where Owen's got by this time. He stayed behind there, you know. I wish I had. Those bare feet were so awfully happy, you know. I'll have to make Owen tell me about it when I see him."

But Owen did not appear until very late, and then he looked so dangerous, so wild, that it was Lady Mary who accosted him with:

"I'm glad, my boy, that you stayed to do what you could for that poor distraught creature. Is she more comfortable now?"

"Yes, much," he answered.

"I must inquire into the case," said the General pompously. "It's out of my district, of course; but I intend to discover how a woman of her years was so alone. Had she no children?"

"No relatives, I must inquire—"

"I can tell you," Owen answered. "She had nine sons. Nine sons she bore and reared in that little house. And three of them died in Africa, two in Malabar pomposity."

"And the last died in the streets of Delhi. Soldiers, all of them—soldiers of the Queen."

"Good gad, sir," cried the General, "are you sure? The mother of nine soldiers!"

"Sure!" echoed his son. "Look at that! At what Father and I alone took out of her poor old hand and asked me to show to you. See, a battered old cross and the name John O'Donnell. Bought in 1857, the Victoria Cross. The price of her oldest son."

"Cagney," yelled the General, making for the door, "Cagney get the carriage at once! Master Owen has found the mother of poor John O'Donnell, the third man at Delhi!"

"Wait!" cried Owen. "You're too late. She died an hour ago, she was thinking that those beasts of soldiers who burned her house were her boys come home from the war!"

And he fell to crying bitterly with his head in his mother's lap.

How Women may influence Men

By Mrs. Geo. Clements, of Warsaw

In the first place, woman has a vast and noble influence in the home. From the cradle to the grave, it lies in woman's power to influence for the better; she is departing to the child all the pure, elevating and ennobling qualities that she wishes her son, as a man to be possessed of. For the hand that rocks the cradle is the hand that rules the world.

By teaching a boy to love and respect his mother, you teach him to love and respect his wife in after years; she did not know she possesses the love and respect of her husband has obtained a power over him equal to that with which the serpent beguiled Eve. In the cause of temperance women are exerting every energy of mind, body and soul in influencing men to vote for temperance.

It is my candid opinion, that not one woman in every ten understands temperance as it is explained in the Bible. The woman who indulges in dancing from nine o'clock in the evening until daylight the next morning, and continues this night after night, so that she is unfit to attend to her duties in the home, is as truly intoxicated as the man who drinks a whole flagon of ale. The same if we indulge in any other amusement or pleasure, to excess, whether it be skating, playing ball or boating. We are as truly inebriated as the man who takes an overdose of opium; we must cast the mote out of our own eye before we attempt to draw the beam out of our brother's.

I would not for one minute condemn dancing, or other amusements for dancing has been handed down to us from the days of Jephthah, when his daughter came out to meet him with timbrels and with dances, and there is no other amusement that requires requirements of physical culture the same as dancing.

Then there is another question: that of appearance and dress. Where is the man that gives a fig whether his cheeks are rosy, or his hair auburn, or whether his eyebrows are pencil?

To perfection or not? He has more time to devote to consider. Why then do women place so much time and thought on these things? Why paint the rosy cheek, the snowy neck, why load with jewels, why adorn the hair? Oh, lady, scorn these arts, but richly deck thy soul with virtues, and thus for duty prepare. Woman has no longer to pander to the good opinion of men, as marriage is no longer a mere decorative art.

It is a blessing, because, both financially and socially she is his equal, and at liberty to consider the two great questions, health and happiness, and how to best bestow men on requirements.

"Read at Women's Institute Meeting in August at Warsaw, Ont.

Factory Girls' Pleasures

Much has been said and written about the hardships of girls that work in large factories, shops and stores. It is becoming a well known fact, however, that many of these larger establishments are doing much of late to relieve this reputation. Our attention has lately been drawn to the conditions existing at the plant of the International Harvester Company's works in Chicago. This firm is said to make 85 per cent. of all the machinery that is used by the farmers of this country. A visit to the works will recently disclosed the following conditions.

There are picnics up the lake in the summer time, rival ball nine and bowling teams; there are tennis games, fire drills in all the plants. There are physical culture classes that work for an hour after closing time. There is a regular system of sick calls. The nurse reports at the plant-surgeon's office morning, noon and night, and at a good many other times, is eternally on the go through the neighborhood.

WHERE THE GIRLS LUNCH

The long, low-ceilinged basement of the twine mill is divided through its middle by a gangway enclosed by two quarter partitions. In these are gateways upon either hand. Those on the left hand lead into the restaurant, and at each of them sits a checker, in a snowy white apron that envelops her from neck to heel completely, handing lunch checks to the girls as they pass in. Beside the checker's desk is a long counter, where other white-aproned attendants have set out a fine array of coffee and cakes and pie and pudding, and dippers of soup, roast and vegetables. Each girl takes her own and finds a place at one of the numberless

tables. Some bring their lunches from home in paper bags and buy coffee or tea at the counter at a cent per cup.

There is all the jollity and freedom and good nature that you would find anywhere. The girls have access to a good upright piano.

In the rest room adjoining, girls can lounge on sofas, read magazines and funny papers, wait for their turn to take counsel of a uniformed nurse, who at every noon-time with her little bag of ointments and bandages, and simple medicaments, holds "office hours" here for the consideration of minor ills.

SANITARY CONDITIONS

There are dressing rooms and private lockers and lavatory structures apart from the mill buildings and connected by bridges from every floor. In this, as in every place where there are girls, there is a matron. The walls and the machinery in the shops are cleaned of dust every night, by pneumatic process, ventilation is perfect, the conditions are inspected at every hour of the day, and the air of the shops kept clear of dust and ill odors as may be. But the moral atmosphere is cleaner still. When you sit the whole matter down, the most that betterment work can do is to lift the worker people self-respect and a desire to better themselves, to reveal the possibilities, in the coin of happiness and contentment that abide in higher living.



If house plants drop from no apparent cause and refuse to thrive, try watering them solely by pouring warm water into the saucers every day. Plants love bottom heat, and it will sometimes give them a new lease of life.

Asked and Answered

Readers are asked to send any questions they desire to this column. The editor will aim to reply as quickly and as fully as space will permit. Address: Household Editor, Canadian Dairyman and Farming World, Peterboro, Ont.

Can you tell me a reliable and satisfactory factory way of curing hams?—Mrs. Fred. Brethour, Halton Co., Ont.

A reliable and satisfactory recipe for curing hams is found in our new Cook Book. If you have not secured one of these as a premium, you can do so by sending us two new subscribers for one year at \$1.00 each. The recipe you ask for will be published as soon as space permits. In the meantime we trust you will write a Cook Book for yourself in a short while.



Can you tell me if an arch for bolting sap can be made of concrete that will stand the fire?—A. DeLong, Oxford Co., Ont.

We would not advise anyone to build an arch from concrete, stone or brick. By the time an arch of this character is constructed one is putting in more money than a steel arch would cost them. The greatest trouble is that frost and fire do not mingle well together, and the arch is liable to crack and heave, and every season they have to go over the arch so as to make the surface level. With the steel arch, this work is done in a moment's time by simply raising or lowering the front end, which anyone can do in a moment or two. The Grimm Mfg. Co., Montreal, Que., have had much experience in this work and can give further information regarding this subject.



Do not file your finger nails too far down at the sides. This destroys the skin which holds the nail in place.



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THE COOK'S CORNER

Send in your favorite recipes, for publication in this column. Inquiries pertaining to cooking are solicited, and will be replied to, as far as possible, after receipt of stamps. Our Cook Book sent free for two new yearly subscriptions at \$1.00 each. Address, Household Editor, this paper.

QUINCE MARMALADE

Pare, core and slice the quinces and boil with just enough water to cover them, stirring and mashing the fruit with a wooden spoon until it becomes soft. When you have reduced all to a smooth paste, stir in a scant $\frac{1}{2}$ lb. of sugar for every pound of fruit. Boil 10 minutes more stirring constantly. Take off and when cool, put into small jars or tumblers.

PICKLED ONIONS

The onions can be sorted and all the small ones made into the following pickle; peel the onions and let them lie in a weak brine made of salt and water over night; then put them in a jar and cover them with boiling white wine vinegar, season with peppers in pods, and spices tied in cloths. Cover close and tie down when cold. All pickles should be tied down as air-tight as possible, and for that reason I use the little old fashioned jars with earthen covers.

QUINCE JELLY

Take the parings and hard parts around the cores of $\frac{1}{2}$ peck orange

quinces; after canning the best portions, cover them with cold water and boil slowly for several hours, add more water if needed to keep them covered. Turn into a flannel bag and let them drip all night. In the morning, boil the juice 20 minutes and skim well, then strain it again through a very fine flannel. Measure the juice and add to it $\frac{1}{2}$ as much granulated sugar. Put it on to boil again until it jellies on the edge or when turned onto a cold plate. Skim again and turn into glasses.

APPLE JELLY

Core and quarter nice, juicy apples, boil with a little water, put them in a jelly bag to strain. When all the juice is strained from the apples press the apples a very little to extract more juice, being careful not to have any of the pulp go through. Add a cup of sugar to a cup of the juice and boil 20 minutes.

QUINCE HONEY

Peel and grate 3 or 4 good sized, juicy quinces, and add to a briskly boiling syrup made of 3 pts. sugar and 1 pt. water. Boil 20 minutes after the quince has been added. As quick as the quinces are grated, turn them into the syrup. Allow the kettle to stand on the back of the stove until all are in.—Mrs. D. A., Carpenter, Ont.

Have you one of our Cook Books? If not, why not? Write our Household editor regarding the Cook Book.

Easy to Make

We show below a simple, pretty little apron, which is quite the thing these days for porch parties and other occasions may be as useful for other affairs as well. It is not so small as to be only ornamental. Any



A dainty and simple apron.

of the thin summer materials such as lawn, linen, organdy, muslin, etc., can be used effectively for this little apron. The little spray of embroidery adds still further to its charm.

If a hair mattress has once been thoroughly fumigated with carbolic acid an inroad of bugs will be ward off for years. Sometimes this is done by the manufacturer, and in buying a new mattress it is well to make inquiries about it.

Save your bits of old velvetreen for polishing. When washed they will prove as useful as chamois.

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Home Treatment will convince the most skeptical that our remedial cream is the most reliable made. We've given fifteen years to the study of skin, scalp and complexional blemishes, and are daily treating them.

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The waist that gives a chemise effect is always a charming and dainty one. The waist will be found equally suited to the separate one, so that its usefulness is varied and its possibilities are many.

Material required for medium size is 4 yds 21, 3 14 yds 27 or 2 yds 44 inches wide with $\frac{1}{2}$ yd 18 in wide for the chemise, or 1 yd if long sleeves are used. $\frac{1}{2}$ yd of silk piping.

The pattern is cut for a 24, 26, 28, 30, 32 and 34 in bust and will be mailed on receipt of 10 cents.

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Frocks made on such simple lines as these are the best possible ones for the tiny folks and can be rendered severe or finish for the boys or dainty by the addition of a little lace for the girls.

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The pattern is cut in sizes for 2, 4, and 6 yrs and will be mailed on receipt of 10 cents.

ELEVEN-GORED SKIRT 5688

With a Tuck Pleat at the back edge of Each Gore.



There is no form of plaited skirt that is more generally becoming, more satisfactory, than this one. The skirt is made to eleven gores and there is a tuck pleat at the back edge of each gore, while the fulness at the back is laid in inverted plaits.

Material required for medium size is 10 yds 27, 6 yds 44, or 5 yds 52 in wide if material has figure or nap; 4 yds 44, 4 yds 52 in wide if it has not.

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CHILD'S UNDER COAT 5873



Cold weather always brings with it the need for extra wraps for the small folks, and here is a convenient little garment that can be slipped on under any coat and which can be made as warm and cozy as possible. There is a little straight collar finishing the neck, and the sleeves are of the usual coat sort. It can be decorated invisibly as illustrated or with buttons and buttonholes as liked.

Material required for the medium size (4 yrs) is 2 yds 21, 2 yds 27, or 1 yds 44 in wide. The pattern is cut for children of 2, 4 and 6 yrs, and will be mailed on receipt of 10 cents.

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COUNTRY NOTES AND PRICES

YORK CO., N. B.

FREDERICTON.—Root crops are maturing nicely. Potatoes from present promise will be an average crop. Turnips will be the same. The yield of our present modern farmers have latter shipped several cartloads of the latter to Boston. There are good crops of rutabagas, carrots and other root crops are yielding well. Cauliflowers are in good demand for pickling and table purposes. We seem to have a monopoly in these at from \$ to 30 cents each, retail. Celery sells fairly well at 75 cents a dozen. Our ground and atmosphere is too dry for our celery and consequently it cannot compare with St. John celery. However, ours improves with keeping, if stored in a cool, moist cellar, for a month or two—J. B.

PRINCE EDWARD CO., ONT.

BETHLE.—Threshing is now pretty well over and the present crop is a little crop than last year are being borne out. Farmers who last year had 800 or 900 bushels of grain, are now getting 400 or 500 last year. The straw crop is somewhat better, however, which will be a great help. The corn crop is a very good one, though it is probably a little less than last year in acreage. A few farmers sow some millet with their corn, and seem to be a good crop. Clover seed appears to be a pretty good crop this year; probably the best for some years. The alfalfa crop cut now, except some late pieces, all drought of over seven weeks is still uncut and pastures are being burnt to a great deal. Cows are nearly dry, and the milk flow has fallen off at least one-quarter. Incidently there is a market for butter, and cheese and although he has received letters from dealers to speak highly in favor of the corn cured milk, it is much superior to the ordinary cured, the price for it is seldom any more than for ordinary cut. The price for a rather light crop and the price is low. From 50c to 75c for fall fruit and \$1 to \$1.25 for spring fruit per bushel. The price of wheat is high. It is impossible to plow at present and now we get rain snow, little fall grain will be sown—H. R.

HASTINGS CO., ONT.

ELBORADO.—Harvest is over and the threshing is about completed. All kinds of grain is yielding well to the amount of straw which was cut, but well filled and headed. The yield is better than last year but about 20 per cent. below other abundant years. The corn and root crops have suffered from the long-continued drought. Corn is all out, and the few stalks in this township have been killed. Turnips, beets and mangels are at a standstill. Some neighbors report good crops of potatoes, but the majority are well below the average. Nearly all who have attempted to plow have abandoned their attempt to do so, and the dryness of the soil. Fires are doing a great deal of damage in the uncultivated districts. The corn and spring wheat have been killed before have gone dry. The Moira river discontinued running a month ago, and the entire bed was dry. The river is dry with the exception of a few deep basins. There have had no rain, excepting a couple of light showers for over two months—F. A.

WATERLOO CO., ONT.

ATK.—We are suffering considerably from drought, having had no rain of any amount since August. We had a slight rain about the 15th, but it was not sufficient to show the effects of the drought, and if farmers have not provided special pastures, their crops and stock will have to be fed in the yard or stable, or else they will go back. Silo filling is under way and the corn is getting on the silo more mature than usual. We are beginning to find out that our Canadian grown seed is the best, because it carries the best, and matures quicker, giving better quality, although not the same quantity. The straw is being cut practically at a standstill. Considerable quantities of turnips have been shipped out at 15c a bushel, and are being sent early for this purpose. The lice on wheat are taking them again this year. New wheat is selling at 80c and old at 80c. Bran is

quoted at \$20 per ton, and shorts at \$25—J. C. S.

WELLINGTON CO., ONT.

ELORA.—The continued dry weather is seriously affecting the root crops. The corn, rutabagas, and other crops are in a state of "dormancy," which some of our farmers are neglecting. Pastures are also drying up. The rutabagas are being dried by a hundred fedder and store cattle for by auction; prices realized about 2c to 4c.

The only a few choices on reaching the latter part of the season. Some farmers have sold heavily by the deal. A representative of the government is said to have visited Elora, Ferrara and towns and villages north preparatory to the building of post offices costing \$5000, and upward. While the farming community seem content to get mail delivered at local post offices, once, twice or three times a week, said post offices being located in farm houses, stores or private houses, any place, with no word of objection, to the rural mail people. Verily, farmers are a contented people. I am glad to see The Dairyman and the Farming World is keeping this matter before its readers—J. C. S.

MIDDLESEX CO., ONT.

APPIN.—This district is experiencing a period of extreme drought. No rain, except sprinkles, has fallen since the 19th of August, and the weather is getting drier. Wells are drying up, cattle are beginning to stand still and cows to fail very noticeably in milk. Some farmers have waited since September 1st for rain to moisten the wheat ground that they may sow for wheat. The Hesden valley has a poor chance to propagate on these fields. One of our late best agriculturists said that the fall wheat has been burnt on any land unless plowed six weeks before seeding time and worked to conserve moisture. This season's wheat and past seasons have proved the correctness of this statement. Early sown wheat has a good crop, but the wheat sown at the autumn top and root growth, we cannot be assured of a crop in our uncertain weather. The Ontario corn crop in April yields. The season has proved an exceptionally good one for the ripening of the fruit per bushel. The yield is a comparatively plentiful supply of corn in the ear, and, if taken care of, a sure supply of seed for next year—G. M. S.

OXFORD CO., ONT.

NORWICH.—The dry weather still continues; it has lessened very materially the acreage from the fall wheat. Pastures are being cut, and the supply of milk to the cheese factories. Farmers having to depend entirely on the milk of which they are getting disappointed, while with others appointing, while with others appointing with ensilage for the cows, it has been a most profitable one. In our country, hogs is largely carried on in our country. Farmers are very busy filling their silos. Corn is a good crop and has ripened early. The root crop will be light because of the drought. The grain crop is heavy. Oats yielded 50 bushels an acre—J. C. S.

MANITOWA

WINNIPEG.—In some districts, owing to siphoned methods of farming, weeds, and the result is a decrease in yield. Such instances are to be found in the older settled sections, or continuous grain growing sections, where the soil has no attempt has been made to combat weeds through advanced methods of cultivation, and where they will have to change their system or go out or be put out of business. As a result, many are going in for stock and dairy farming, trying by this means to get their farms back on their feet. Threshing is general. As there is no scarcity of help to man the machines, which is why the threshing men well distributed the threshmen from one section to another—N. J. K.

GOSSIP

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HOLSTEIN FRIESIAN NEWS

The Canadian Dairyman and Farming World is proud to be a member of the Canadian Holstein-Friesian Association, all of whose members are readers of this paper. Members of the Association are invited to send their names to the Holstein breeders for publication in this column.

TRUE TYPE OF THE HOLSTEIN

Consistent attention to the type of the Holstein-Friesian cattle is a very proper directing attention to the subject of the true type of the breed.

The breeder, who for one moment in his pursuit of higher fat percentage in the milk, forgets type, is doing incalculable damage to the future of the breed. The true type of the breed is very accurately delineated in the description of it is to be regretted that illustrations of typical specimens are not used to illustrate and emphasize the true type. Change of environment of the breed from the low lands of Holland, is doubtless affecting the type of the breed, the bony structure of the Holstein, tending towards a greater finish or refinement. Also, frequent importations of other breeds, and whether any improvement can be made or should be attempted. The Holstein type is the result of selection and environment, and it has distinguished these cattle in all parts of the world. It has come the marvellous and profitable production of yield, the characteristic tendencies of powerful digestion, the great abundance of food. These characteristics, derived from the Holstein, have been important factors in the foundation of the short horns and Ayrshire breeds, and of many of the Continental offshoots.

In America the Holstein type that by its productive power directed the attention of agriculturists towards this breed, and which would never be forgotten, the cream of the breed, the remarkable yields will show, to those having a knowledge of the breed, the descriptions, the close study of the Holstein type in all these wonderful animals. The Holstein is the first thing to impress the mind of the breeder, and its importance should never be disregarded.

In defining pure-bred Holstein cattle, this fact was duly set forth by the founders of the Herd-Book Association, in their constitution, "that the milk be fat, not so matter what may be the yield in milk or its fat percentage, viz., "Pure bred Holstein-Friesian shall be held to mean and refer to only those large, improved black and white cattle, etc." (Art. sec. 5.)

Scientific investigation in this country, particularly in Wisconsin, has confirmed the wisdom of the early breeders in thus defining the type of the breed as "large," for the large cow of any breed is uniformly the most profitable.

An idea of the size of animals of this breed at the time of Mr. Cheney's first importation, was gained from the following quotation (V.O.) Holstein-Her. B. 1910:—

"The Van Tromp (see portrait) imported in the womb of Texalar (see portrait) six years old, and his girls is 8 feet 5 inches length, 9 feet 2 inches height, 5 feet 2 inches chest, and his power, and the weight of the two year old bull, Op-erious 7H, in 1897 pounds. The weight of the imported cow, Texalar (see portrait) is 1500 pounds; Lady Midwood (see portrait) 1400 pounds; the four year old heifer, Op-erious 7H, in 1897 pounds; the three years old heifer, Texalar 8th, 1500 pounds; the two years old heifer, Op-erious 7H, in 1897 pounds; the three years old bull, Op-erious 7H, in 1897 pounds; the bull calf Duke of Belmont, nine months old, 1500 pounds; the bull calf Midwood 8th, nine months old, 635 pounds, all raised in the ordinary way, and the weight of the bull calf Op-erious in pasture from May until November."

B. W. Potter, in 1896, published the results of his investigations as to the weight of 60 large record cows, tested under the supervision of the Canadian Agency, 1894 to 1896.

Mr. Potter summarizes thus: "Of the cows, only 15 weigh more than 1500 pounds, and only 10 surpass the one pound mark. Only 9 weigh less than 1200 pounds, and the average weight of the whole number is 1345 pounds, and of the 25 bulls, but one weighs less than 1500 pounds, and only five less than 2000

pounds. Only three weigh more than 2400 pounds, and the average weight of the whole number is 2164 pounds."

Mr. S. Hloxie, in the pamphlet, "Holstein-Friesian Cattle," writes upon the size of cow, states, "In ordinary milking condition at full age, they range in weight from 1200 to 1500 pounds."

With large size as the recognized predominant characteristic of the breed, it is not surprising that the Holstein color markings in perfectly defined patches or spots, the next general definition required, is the size of the markings. There are three definite types, described as the milk and beef form, the milk form, and beef and milk form.

The average form of this breed and that towards which conscientious breeders are directing their efforts to maintain and improve, is the milk and beef form.

Mr. S. Hloxie thus admirably refers to the milk and beef type of the breed: "It is especially strong in all vital particulars. The bones are fine compared with size and the chine broad and strong compared with the high and sharp chine of the extreme milk form. The loin and hips are well developed, the ribs are rummy and level, compared with the milk form. The chest is roomy and the thighs and moderate well apart. Passing forward to the ribs are smoother and more compact than in the milk form, but of lighter weight than in the beef form. The brisket is not so wide and low as in the beef form, and the chest is not so deep, but the width of the ribs is not so wide and low as in the milk form. The ribs are closely retained. In the milk form the abdomen is usually swung low, and the ribs are steep, but in the milk and beef form the ribs are wider swung and the abdomen more trimly held up though no less capacious. The general appearance of the bull is strongly masculine, but that of the cow is no less feminine than in the milk form."

It may be further emphasized, that the milk and beef form, describes a cow of the milk and beef type, and is characterized by thick, deep and broad, crop well filled, barrel well rounded, loin and hips well set, and the quarters straight, wide and full.

To this form of these cattle is due their extraordinary conformation (vital or vital force, and it affects all their relations to their food, care and production.

The milk and beef form, is accompanied with the angularity of appearance, the light shoulders and chest, and the compact, light quarters of cattle of the milk form.

The future of the breed will be greatly endangered, if the breeders from one consideration or another, the connection of pedigrees to attain large average records or fat percentages, or by neglect of proper feed and care in the early life of the animal, are led to the mating of animals of other than those of large size, and possessing the milk and beef form. Neither the breeds of the Channel Islands nor the Ayrshire breed possesses this form, even today.

F. L. HOUGHTON.

Successor

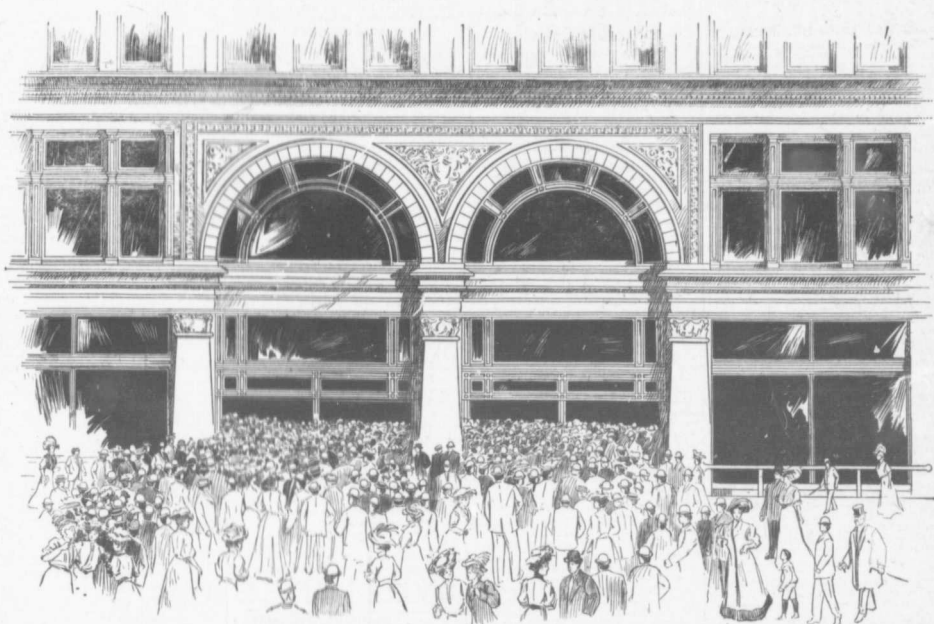
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