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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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VOL. LIH.

LONDON, ONTARIO, AUGUST 8, 1918.

No. 1350

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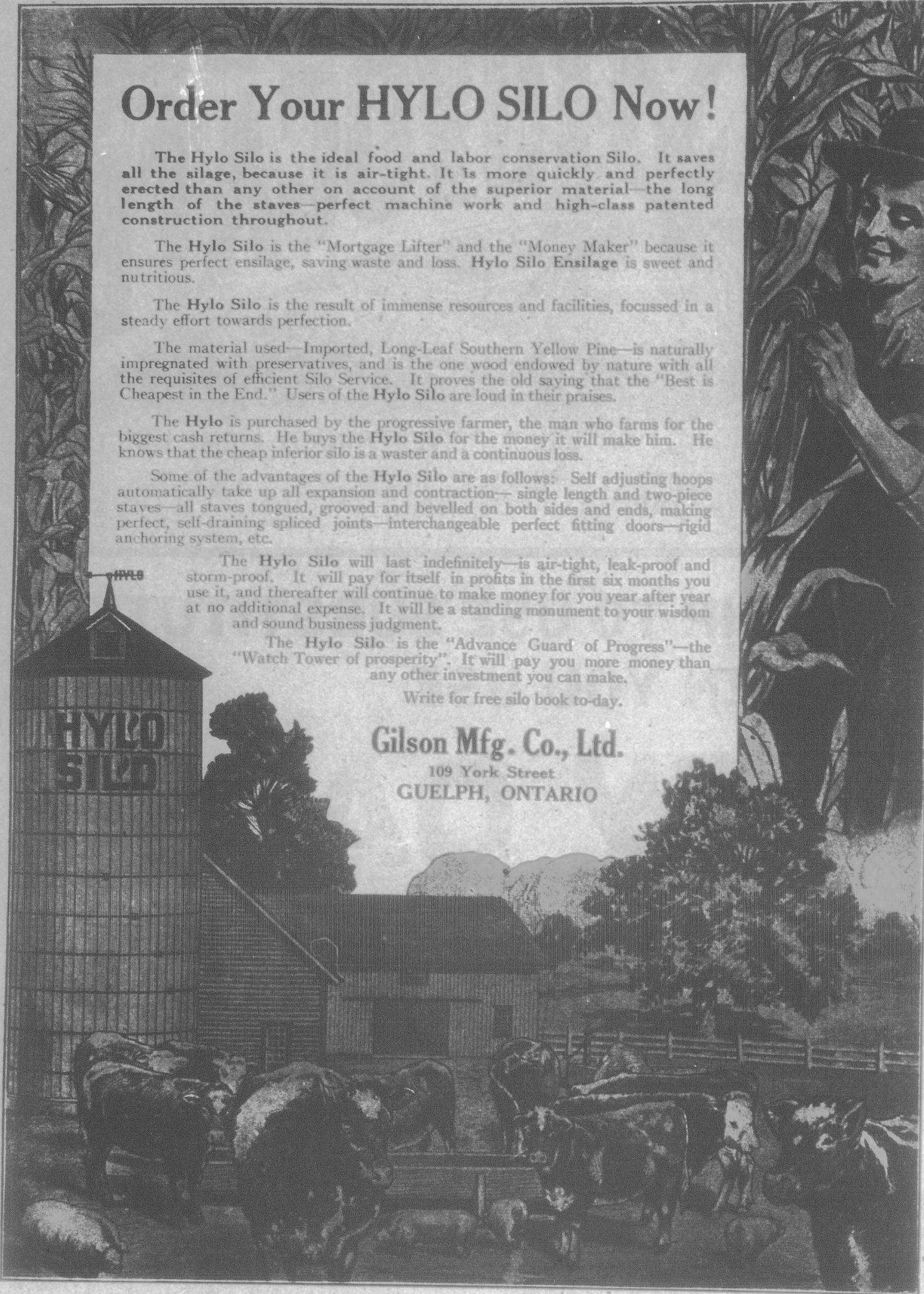
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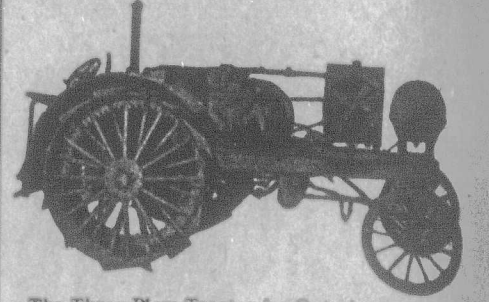
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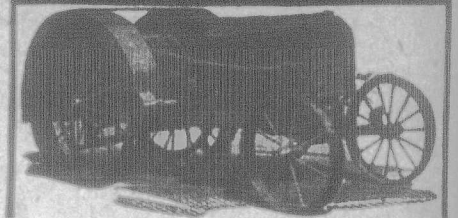
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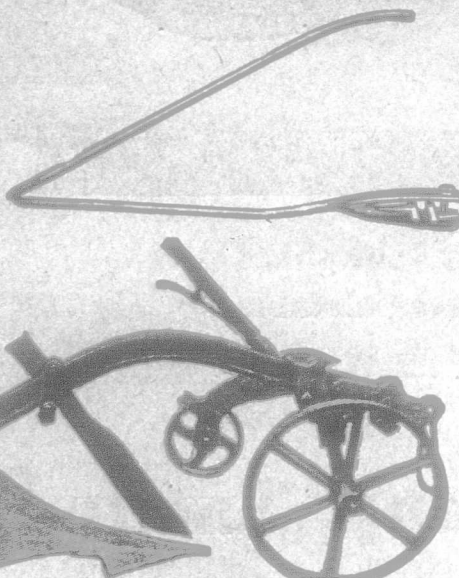
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Thus we select men for responsible tasks. And these are the men who produce petroleum products for better lubrication—greater power. Thus we produce oils that are as nearly perfect as human hands and minds can make.

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More Insurance Needed

THE people of Canada purchased \$50,000,000 more life insurance during 1917 than they did in 1916. This is in keeping with a similar marked increase during the previous year.

This increase is significant. It shows that the people realize

- (1) the lessons of the war that emphasize the uncertainties of the future;
- (2) the wisdom of investing increased earnings for future protection;
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WHETHER your separator runs hard or easy will tell in your profits. The easier it operates the less wear, the longer durability, the surer the returns on your investment.

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We make washers and wringers to meet every requirement.

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The Farmer's Advocate and Home Magazine

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LIII.

LONDON, ONTARIO, AUGUST 8, 1918.

1350

EDITORIAL.

Help the local fair.

Help, boost and be optimistic.

Pasture for the hogs reduces the feed bill.

Have you cut the thistles and burdocks growing along the fences?

Don't let the other fellow form your opinions; think and act for yourself.

Make sure of the seed for that field which is being prepared for fall wheat.

Are you planning to exhibit any live stock at the fall fairs? If so, begin to fit and train the entries now.

The continued dry spell reduced yields somewhat, but in spite of this Old Ontario will give a good account of itself this year.

Give the new seeds a chance by not turning the stock on to them. The dry weather has been hard enough on the tender stand.

The drying of fruits and vegetables is gaining in popularity. This practice in many cases seems to have advantages over canning.

In wet seasons and in dry the farm heavily stocked gives the best crops. This harvest and the two previous ones substantiate this statement.

School teachers and inspectors, 444 in all, completed their summer course at Guelph last week. These can do a good work in the rural schools.

We complain too much about the weather. It's too dry or it's too wet; it's too warm, or it's too cold. We can't change it and perhaps it would not be good for us if we could.

It may be well to keep most of the eggs in one basket, but it is not a bad plan to have a few stored in another container in case of accident. The farmers of Eastern Canada enjoy this privilege.

Forty barrels of whiskey concealed in a carload of baled hay was discovered recently at Guelph. It must have been meant for some point in the West where it has been so dry this summer and feed is short.

In too many townships the roadside is the seed-bed for practically every known weed. How can the farms be kept clean when the roadside produces a fresh supply of seed each year? There is need for action on the part of weed inspectors.

Farmers and their families who have been working from daybreak until long after Old Sol sinks behind the western hills have earned ten days' or two weeks' vacation. But who will carry on the farmwork if they leave? No matter how deserving of a holiday, the tiller of the soil finds it difficult to leave for more than a day at a time.

Play and Recreation.

Play and recreation are not very popular terms in these times when all are bending to the work in hand and making every moment count. Nevertheless there is such a thing as getting too friendly with toil and reducing one's efficiency. Long hours do not mean the greatest output and manufacturers find that short shifts with fresh labor bring the best results. Such a policy cannot be adapted to farming conditions but life in rural communities can be brightened and the effectiveness of agricultural workers increased through the introduction of games and organized play. Those who completed their course in Rural Leadership at Guelph, last week, will probably carry back to their communities altered ideas in regard to recreation and a very favorable opinion concerning play. During their short period of tuition they entered enthusiastically into games new to them, and many long since arrived at man's estate became as much engrossed in the game and as interested in decisions as a school boy of twelve. If they carry this spirit back to the country and introduce the community idea linked up with games and recreation, their course will not have been in vain. Already, under the leadership of A. Maclaren, many games have been organized at picnics and gatherings throughout the country with gratifying results, and with a great deal of pleasure to those who took part. Volley Ball, and indoor baseball played outdoors, seem to meet with a large amount of approbation on the part of old and young alike. In several instances this season these and other games have been welcomed as a means of providing sport at picnics instead of sitting around on the ground and fences. Adults as well as the boys and girls should enter into the spirit of this form of relaxation and recreation. There is rest as well as pleasure in a good game and those who participate once are the best exponents of this idea. While the course was calculated to increase the efficiency of Home, School, Church and Community, it seems necessary to emphasize the importance of play and its direct relation to the health and happiness of those who live in the country.

The Hog Situation.

There is a hog situation developing which requires some careful consideration and oversight on the part of the Dominion Government. It is a peculiarity of hog harvest that it usually comes on with a rush and with a consequent drop in prices during October and November. The reasons for this are obvious: Spring litters must go off in the fall after the early threshed grain has become available for feeding; fall litters are then coming and require room; taxes fall due and funds are necessary. These all contribute to the unequal distribution of finished stuff throughout the seasons and make the slaughter and storage of hogs a difficult proposition during the late months of the year. In addition to these factors which always prevail, we have in 1918 abnormal conditions to cope with. In response to the appeal made by the Government last fall, farmers have increased their stocks and now the product which was so urgently requested is becoming available. Conditions in Western Canada will unquestionably result in an increased slaughter of meat animals which will in turn make unusual demands upon storage facilities. When product moves steadily into consumption the coolers and storerooms are ample, but exceptionally heavy runs and supply exceeding demand, as it is likely to for a period this fall, all make for congestion and demoralization of trade. History has a habit of repeating itself, but if the movement of hogs this autumn brings with it the customary drop in price it will strike production a hard blow and tend to weaken confidence in the future.

The increase has been brought about, not through any expectations of abnormal profits but that the Empire and our Allies may not want. However, all war material

of a manufactured kind has been produced at a profit and farmers are entitled to the same consideration on the part of our Governments. If storage facilities are not adequate to meet the situation, the state should take the matter in hand. The packer is not likely to suffer from any serious drop in prices for his product when placed on the market, so why should the original producer? A more even distribution of hog delivery throughout the season would help to solve the price problem but the customary sale of finished stuff in the fall seems to be an absolute essential and a factor very difficult to overcome. To use a colloquial phrase, "it is up" to the Government to see that some form of equity and justice reigns. They are in touch with overseas demands, transportation, storage facilities, and should know conditions in the country. It is a time when the authorities, packers and producers should get together and handle this situation in the best manner possible and in the interests of the country at large.

New Representation on The Railway Board.

On September 17, 1918, two members of the Board of Railway Commissioners for Canada will have served their allotted time and appointments will be in order. It is essential that agriculture be represented on the Railway Board but since the retirement of Dr. James Mills this fact has been overlooked. The Government is aware of the importance of husbandry in this country and realizes, we believe, that upon it will depend the welfare of the nation during the uncertain period which will follow the war. A natural course of events would insure the appointment of two representative agriculturists to take part in the deliberations of this body of officials. A proper railway policy will do much for the country and the upbuilding of agriculture and, in turn, farm products and rural requirements will contribute a large part of the revenue received by the roads, and it is revenue that most of them require. It does not seem likely that the Government will overlook these facts when the appointments are made. Production has, in the past, been looked upon as something that would "carry on" of its own accord and if it didn't, it was not a serious circumstance. In the future, however, with a national debt of huge proportions hanging over the door, we shall be obliged to view agriculture as the important factor contributing to prosperity. Transportation and production are interdependent one upon the other, and what industry represents more capital than does farming? Surely agriculture will be given representation on the Railway Board when the opportunity presents itself on and after September 17.

Standard Feeds for Live Stock.

The new standard feeds being made under contract should bring a measure of relief to Ontario stockmen, and many are now waiting for an opportunity to purchase a supply. The wheat, oats and barley mixture cannot be fed this season unless the wheat was grown with other grains and in such proportions as to make it impracticable to separate it. Those responsible for the standard hog feed claim that a ton of it will cost \$9.45 less than equal feeding value in oats and barley. This may appear too good to be true, but it is, no doubt, made possible through the use of by-products of the mills and the importation of concentrates from the United States. Canadian plants are now milling large quantities of corn flour of which process corn feed is a by-product. Analysis of this feed made at the Chemical Department of the Ontario Agricultural College revealed as much as 11.5 per cent. protein and 13 per cent. fat. This valuable product is being incorporated to some extent with the standard feed and should be very effective in the mixture or fed otherwise as a farmer may desire. The limit of 6 per cent. crude fibre will bar a

The Farmer's Advocate

AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

Published weekly by
THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.

Agents for "The Farmer's Advocate and Home Journal,"
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large amount of those ever-present oat hulls which find their way into ground feeds, for oat hulls are crude fibre and little else. Shorts were formerly a good feed but of late they have been little superior to bran. In fact their resemblance to ground bran was a striking peculiarity and their similarity has been made even more pronounced by some analyses conducted at Ottawa. Under the present circumstances the standard feed is worthy of a fair trial for it is made under contract and the ingredients entering into its composition are known quantities. More than that the feeding value must be there for an analysis will quickly reveal any deficiencies.

We Have Turned the Corner.

Through the smoke and turmoil of battle the people of the Allied nations fighting the Huns see brighter prospects and the promise of an ultimate but certain victory. Foch's offensive has partly revealed the power of the Entente Allies, while the steady and unflinching stream of the United States troops into France has restored the confidence of all but the incurable pessimist. The French High Commissioner to the United States has said that the dark days are over, but there are hard months ahead. Hoover told the British people that the corner has been turned in regard to the food supply. A better quality of bread is being discussed in England, and France is contemplating fewer meatless days. The submarine upon which Germany depended for success has failed to starve England or cripple transportation. It was felt the world over that the enemy's last chance must come this summer and if the entente allies could but hold the western line Germany was doomed. Paris and the Channel Ports are not yet within reach of the Kaiser while Foch has even taken the offensive and struck hard. Intervention in the East has partly re-established an Eastern line and when the people of Germany know the truth regarding their recent reverses they will begin to ask why. Austria's last offensive ended so disastrously that future effectiveness on the part of that nation is doubtful; Turkey and Bulgaria seem to be losing zest. However, there are hard months ahead but the resources of the nations arrayed on our side are adequate and the corner has been turned.

Differences of Opinion.

BY SANDY FRASER.

I wis over at Duncan McGregor's the ither day havin' a chat wi' the auld man and when I wis leavin' he says to me, "I hae a book here, Sandy, that ye might like to read tae the auld wumman, some evenin' when ye hae time. I ran across it the ither day when I wis in toon an' as there is some pretty guid things in it I got it wi' the intention o' passin it on to ye for yer benefit. It tells ye somethin' about women, baith guid an' bad, as ye will see. If ye're wise ye'll juist read what is guid tae yer wife an' what is no sae complimentary read it tae yersel', or ye may get the auld lady on her ear, an' I ken she's pretty sharp wi' the tongue."

"Oh, that's a richt," I replied, "If it's true it should dae her guid tae hear baith sides o' the question regardin' her sex. I'll tak' a chance she'll no' dae me ony bodily injury, an' as for her sharp tongue, I've lang since got used tae that."

Sae I took the book hame an' the next day bein' wet, I took the opportunity o' lookin' through it. It's made up o' what men, at different times in the world's history, hae had to say about the characteristics o' women, an' it's unco strange to see what a difference o' opinion there is about the one subject. It comes frae a difference in experiences, of course. Some o' the writers had lived wi' guid-natured women and the ither had maybe to pit in the time wi' women that were a wee bit cross-grained in their natures an' no' sae easy to get along wi' at times.

After I'd seen what the book wis like I says to Jean: "get yer knittin', auld wumman, and sit doon for a spell an' I'll read ye somethin' I hae here that will interest ye. It tells ye what men think about you women as a class an' whether it wis a mistake or not to hae had ye on the earth wi' us men all these years back."

That fetched her, as I kened it would, and she wisna lang in gettin' ready tae listen to what I had tae read.

"Noo Jean," says I, "dinna interrupt me gin ye can possibly help it. Mind it's no me that's sayin' onything, I'm neutral ye ken. We'll juist start at the beginnin' an' tak' them as they come. Here's the first, in the shape o' a piece o' advice to young men in general. 'Before going to war say a prayer; before going to sea say two prayers and before getting married say three prayers.' That's timely warnin' these days," says I, "I wonder if there's mair o' that." The next page or twa I read through pretty quick as I felt I wis walkin' on kind o' dangerous ground.

"If marriages were made in heaven we had few friends there." Wife and children are a kind of discipline for man. 'Woman's tongue is her sword which she never lets rust.' "As to that last," I says, "I ken o' some cases where it never seems tae wear oot either. But I mustna be interruptin' mysel', I went on. "Of all men Adam was the happiest. He had no mother-in-law.' 'When a man says he has a wife it means that a wife has him.' 'To make a pair of good shoes take for the sole the tongue of a woman. There's no wear out to it.' Very near what I said mysel' a meenute ago," I remarked. Jean said naething. I wis gettin' a wee bit afraid but I continued readin'. "There are only two good women in the world. One of them is dead and the other can't be found." "It says that this is a German proverb," said I, lookin' up. "I shouldn't wonder," says Jean, kind o' short. "But here's an Italian proverb an' I'm afraid it will be no' muckle mair to yer taste," I went on. "Trust not a woman even when dead." Weel, that's somethin' like the Dagoes too," Jean replied. "Go on Sandy, I ken ye're enjoyin' yersel'." "Not at all," says I, "it's here in the book an' I've always made it a rule never tae skip onything in my readin'. Maybe the next is no sae bad. 'In buying horses and in taking a wife shut your eyes tight and commend yourself to God.' 'A man should choose a wife by his ears rather than with his eyes.' 'How many women would laugh at their husband's funerals if it were not the custom to weep.' "And I couldna' find it in my heart to blame some of them, either," says Jean, under her breath. "I'm thinkin' Sandy," she continued, "that the men that wrote those things couldna' hae been vera much, when their women-folks were what they mak' them oot tae be. Is the hale book as flatterin' tae the women as what ye hae been readin'?" "I dinna ken," I replied, turnin' over a page, "we'll see. 'Second thoughts are best. God created man first. Woman was an afterthought.' 'A man never knows how to live until a woman has lived with him.' 'The test of his civilization is man's estimate of woman.' 'Civilization is the power of good women.' How is that agreein' wi' ye, Jean?" I inquired. "Go on wi' yer readin'," she replied, beginnin' tae look interested in spite of hersel'. "A richt" says I, lookin' doon the page a little ways. "God created woman to tame man." "No one that kens me will deny that one woman has fulfilled her mission, onyway," says I, wi' a kind o' a grin, "but here is somethin' that ye'll no' be likely tae quarrel wi'." I hurried on. "Luther said it is no more possible to do without a wife than to do without eating and drinking." Of course, as Luther wis a German," I commented, "ye may tak' that statement wi' a wee speck o' salt. But here's somethin' that we can maybe baith agree with. It's a guid one tae close an argument. 'A man can't possess anything worse than a bad woman or anything better than a good one.' Or as anither mon here puts it. 'Marriage with a good woman is a harbor in the storm, but with a bad woman it's a storm in the harbor.'"

"Weel," said Jean, lookin' up at last, "I'm not goin'

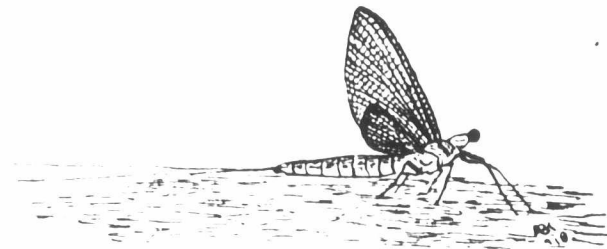
to deny that there is some truth in that. Mair than there wis in some o' what ye hae been readin'. There's generally twa sides to the story and I always liked to hear them baith told at the same time. I ken ye're no woman-hater, Sandy, because, leavin' mysel' oot o' the case a'thegither, ye've seen plenty o' good ones in yer time, an' ye understand as weel as onybody that if they are no' perfect, still they're measurin' up to a pretty high standard, considerin' the chance they've had. And noo that a better chance has come tae them in this Twentieth Century they'll show ye what kind o' a pace they can set for their husbands an' brithers, along moral an' mental or ony ither lines that ye like tae mention. They're no perfect," says Jean, takin' up her knittin' again, which she had laid doon, "but they're as good as there is goin' on this auld, half-finished airth. I'll say that." "Sure thing. Ye've said naething I wouldna swear to," I replied. "It's juist as anither o' the chaps in this book here says: 'those that always speak well of women do not know them enough, but those that always speak ill of them do not know them at all.'" "We'll let it go at that," says Jean.

Nature's Diary.

A. B. KLUGH, M. A.

Insects which are very abundant just now in localities which lie near large bodies of water are the Shad-flies. The adult insects, (see Fig 1) are distinguished by their extremely large front wings as compared with the very small hind wings, and the long slender filaments, two or three in number depending on the species, at the end of the abdomen.

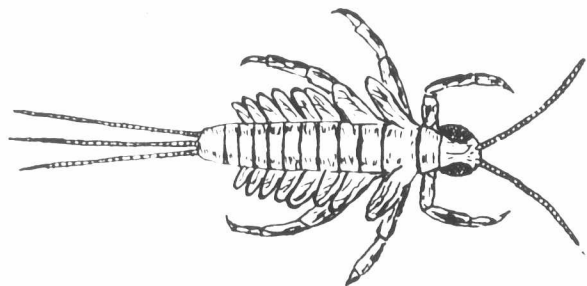
The young of the Shad-flies, termed nymphs, (see Fig. 2), live in the water and may be found either under stones, crawling about in the slime at the bottom, or swimming about among water plants. They are active creatures with long, strong legs, and they breathe by means of the tracheal gills which fringe the sides of the body. These gills enable them to breathe without coming



Shad Fly (Natural Size).

to the surface, as is the case with many aquatic insects. Each plate-like gill is a flattened sac, with upper and lower membranous walls. Inside this sac is an air-tube, or tracheal trunk, with numerous fine branches. An interchange of gases takes place through the walls of the sac, carbon dioxide passing out and oxygen, which is held in solution in the water, passing in.

The nymph lives for one, two or three years, depending upon the species, and in its later stages, that is after numerous moults, little wing-pads appear in the situation which will be occupied by the wings in the adult. When the nymph is mature it comes to the surface of the water, the skin splits down the back and the winged insect emerges and flies away. A very curious phenomenon occurs in the case of the Shad-fly which is not found in any other insect, -there is a moult after the winged stage has been reached. It emerges from the nymph in what is called the sub-imago condition and after



Nymph of Shad Fly (Enlarged).

it has flown away to the shore it moults and the imago or true adult emerges. These cast skins of the sub-imagos may be found in large quantities on trees, fences and buildings.

The adult life of the Shad-flies is short, lasting from one to four days, in fact these insects are called the *Ephemerida*, after the Ephemeres of Greek mythology, creatures that lived but a day, and from this root comes our common word, ephemeral. They do not eat at all in the adult stage and the mouth-parts are so reduced in size as to be functionless.

They fly mostly in the evening and where there are lights they continue their whirling dance most of the night. During the day they rest on tree-trunks, fences and other objects.

The eggs are laid in the water, the exact manner of depositing them depending upon the species. In some species the contents of each ovary is discharged in a mass, the eggs soon separating and sinking to the bottom. Other species deposit them a few at a time, the female alighting on the surface of the water, while in still other species the female creeps down into the water to lay her eggs on the underside of stones.

The Shad-flies, both in the nymph and adult stages, are important food of a good many species of fresh-water fishes.

The World's Wheat Situation.

The present and future position of wheat in the food economy of the world is a matter of vital importance to Canada. It is our big cash crop, upon the successful marketing of which individual and national prosperity largely depends. The war has given wheat a place of fundamental importance in assuring ultimate military success. The munitioning and arming of our soldiers at the front, contrary to the opinion of many manufacturers and traders, is a problem of no greater urgency than providing the troops and civil populations of the Allies with food. And, among breadstuffs, no commodity compares in value with wheat.

Before dealing with the conditions that confront Western farmers with respect to the wheat question, we may glance at some of the outstanding factors in connection with the growing of this crop. The most notable feature in the production of wheat is the world-wide extent of its growth. It is produced everywhere except within the tropics. Nevertheless, in certain parts of Italy and India, the grain is successfully cultivated, although these regions are sub-tropical in nature. This is made possible by the altitude and the consequent coolness of the climate. In addition to this feature of universality of cultivation, wheat shares with cotton leadership as an export crop. In normal years, owing to the steady demand and uniformity of supply, the price of wheat fluctuates but little. And yet, because it is used largely as a food for man, the demand is "inelastic"—that is to say, the demand is practically unvarying. With corn and other grains that are used for animal food, prices are controlled by the principle of substitution. This explains in part why wheat prices have reached such high levels since the outbreak of war.

A word may be said in passing, also, with reference to future markets for wheat grown on this continent. From time to time pessimistic articles have been produced, in the past, bearing upon the wheat situation; the opinion being expressed that the Prairie Provinces were concentrating unduly upon this staple crop, and that there were definite limits to the supply that could be produced and sold at a profit. Notwithstanding the undeniable fact that wheat production has increased amazingly during the past century, the demand has more than kept pace with the supply. At the outbreak of the Napoleonic struggle, the population of Europe was 175,000,000, while during the nineteenth century it increased so rapidly that, at the outbreak of war in 1914, it stood at 450,000,000. And, what is of greater significance, owing to economic transformation in the industrial life of Europe, the culture of wheat in some of the most progressive nations represents a dying industry. From the long-time point of view, there is no need to worry, therefore, over securing markets for the outlet of all the wheat we can grow.

The most important sections in the world for the production of this staple are that section of America stretching from Texas almost to the Arctic Circle, and from the Mississippi to the foothills of the Rockies; that part of Europe which embraces France, Austria-Hungary, Northern Italy and Russia; Northern and Northwestern India; the Argentine Republic, and Southeastern Australia. Even a superficial study of the countries covered discloses a vast range of climatic and soil conditions, under which wheat is produced without wide fluctuations in the world's supply from year to year. The varieties cultivated, the production of spring and winter wheat, the effects of rain upon wheat cultivation in humid and semi-arid regions respectively, and the wide ramifications of trade and commerce, all make for the elimination of variations in the world's normal supply of this basic foodstuff. When it is recalled that the wheat belt extends from the sub-tropical areas of Italy and Morocco to regions of long winters with severe climates in Russia and Canada, one begins to understand the reason why fluctuations in the supply of this staple, from year to year, are reduced to a minimum.

The great bulk of the world's wheat supply is grown in pioneer countries and upon semi-arid lands. France, Great Britain, the eastern parts of Canada and the United States grow wheat, and good wheat, it is true, but under unfavorable conditions of culture. Great Britain and France produce more bushels per acre than the Argentine or Canada, but less bushels per capita. Where land is scarce or dear, labor costs high, and competition of other crops keen, it becomes increasingly difficult to economically grow

BY W. W. SWANSON, PH.D., PROFESSOR OF POLITICAL ECONOMY, UNIVERSITY OF SASKATCHEWAN.

wheat. It is almost certain that Canada, the Argentine and Australia will gradually secure for themselves an increasingly important place in the wheat exchanges of Europe. As already remarked, in the United Kingdom, France and Germany, wheat cultivation is a dying industry. The business of wheat production needs to be carried on on a large scale to secure success. And, as Canadian farmers introduce more scientific methods of seed selection and tillage, and secure better drought-resisting varieties, the cultivation of wheat will be extended and increased. This, doubtless, is also true of the Western United States, and especially of the semi-arid regions of that country.

Owing to the fact that wheat is relatively easily transported, that it is handled mechanically, and that it is a world commodity, it is plain that no one country can dominate the wheat markets with respect to either supplies or price. Each month of the year an important part of the world's supply of wheat is being harvested. However impatient, therefore, we may be of facts and figures and statistical data, it is a matter of imperative

but the data presented in the following table may be regarded as approximately correct, being the estimate of the International Institute of Agriculture. The figures for the chief wheat-growing countries are alone presented:

Countries	1917 Bushels
United States	650,828,000
Canada	233,743,000
Argentina	218,628,000
France	144,151,000
United Kingdom	64,321,000
Italy	140,001,000
Portugal	7,440,000
South Africa	8,833,000
Australia	122,584,000
Belgium	9,000,000
Austria	36,500,000
Hungary	135,000,000
Germany	91,000,000
Bulgaria	34,000,000
Russia-in-Europe	550,000,000
Russia-in-Asia	86,000,000
Roumania	70,000,000

It is important to point out that in 1917 France produced 144,151,000 bushels as against 204,910,000 in 1916; Great Britain 64,321,000 as against 59,775,000; Italy, 140,001,000 as against 176,531,000; while Canada and the United States fell short about 45,000,000 bushels. Nevertheless, neglecting the estimate for the Central Powers, the total production of wheat in 1917 was 66,574,000 bushels greater than in 1916, or three per cent. more; 217,745,000 bushels, or nine per cent. less than the average for the five years 1911-1915; and three per cent. less, or 73,687,000 bushels than the average for the five years 1909-1913. The total world production of wheat in 1917, including the estimate of production in the enemy countries, was 3,349,978,000 bushels as against 3,401,043,000 in 1916.

Acreeage figures are unreliable, since, as every farmer knows, there is no parallel movement between acreage sown and crop harvested. The world acreage in 1917 was 161,661,000 as compared with 168,810,000 in 1916, while the yields were practically the same. The increased acreages in Argentina and India were more than offset by the decreases in the United States, Canada, France, Italy and Australia. Nevertheless, with the decreased acreage, in 1917, of 6,375,000, the United States produced nearly 15,000,000 more bushels of wheat than in 1916; while an increase of 1,787,000 acres in Argentina produced over 148,000,000 bushels more. In view of these facts one may expect a large crop will be harvested on the American continent this year with the increased acreage of winter wheat in the United States, and the increased spring wheat acreage in that country as well as in Canada.

The available data with respect to the acreage in winter wheat shows 3,293,000 acres sown in 1917-1918, as against 2,900,000 in 1916-1917. No accurate figures are at hand for some of the countries growing winter wheat, but Italy is presumed to have an area under crop about equal to that of 1917, with the prospect of a good harvest. England and Wales report an increase of 15 per cent. in this cereal. The outstanding fact is the great increase of wheat acreage in the United States and India, being 36,392,000 for the former country and 34,470,000 for India, as against 27,430,000 and 30,924,000 respectively for the preceding period of 1916-1917. The requirements of the Allies and the neutral nations of Europe must be met almost solely from the United States, Canada, Argentina, Australia and India. These countries, for the nine months

from August 1, 1917, to April 30, 1918, exported 324,583,215 bushels, which is far behind requirements. If exports were to continue at the same rate, they would scarcely reach 434,000,000 bushels, against estimated world requirements of 595,000,000 bushels, including Allied requirements of 497,000,000. There has been a heavy falling off in the exports of India and Australia; but the figures for Argentina may very well lead us to believe that the bulk of the 93,000,000 bushels bought by the British Government in that country will be shipped by August, 1918. This would require an additional 65,000,000 from the South American

Continued on page 1298.



Prospects for a Heavy Yield.

importance to every well-informed farmer to understand something of the conditions bearing upon the world's supply of this, his most important cash crop. And at this juncture, when the winning of the war depends largely upon speeding up food supply, it is scarcely less vital to understand just what the situation is, with respect to wheat, in the principal producing countries.

The nations at war produce at, or near, the battle-field, 37 per cent. of the world's normal supply of wheat, and consume 45 per cent. of that supply. It is plain, therefore, that a heavy responsibility rests upon Canada and the United States in furnishing wheat to the Allies, especially in view of the fact that France has recently lost additional wheat territory, and since no supplies can be drawn from the Ukraine or Russia. It is useless for Canadians and Americans to urge Britain and France to substitute other commodities for wheat. For some time, in the American press, there was an agitation to compel the Allies to substitute cornmeal for wheat, to relieve the situation at home. When it is recalled, however, that during the Irish famine shiploads of cornmeal were despatched to that stricken country, and that it was received as "hog feed," one can easily understand how difficult, if not impossible, it is to change national habits overnight.

Turning directly to the actual situation with respect to the wheat supply throughout the world, we find no reasons for being unduly pessimistic. It will be necessary first to glance at the figures of wheat production in 1917, since part of that supply is available for the market this year. It is not possible to get more than an estimate of the wheat production in enemy countries:



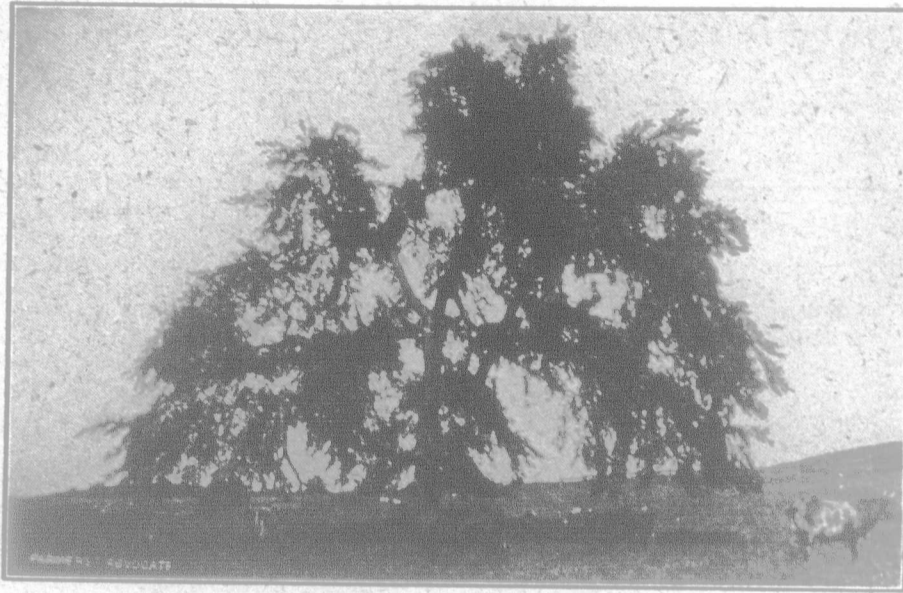
A Forty-five Bushel per Acre Wheat Field.

THE HORSE.

How to Show Horses.

The exhibition of high-class horses at high-class shows is practically a business in itself, and in most cases is conducted by those who thoroughly understand the game, hence to the exhibitors of this class we do not presume to dictate, as they are better posted on "the tricks of the trade" than we are, but a few hints to the ordinary horse owner, farmer or farmer's boy who exhibits only at small fairs may be seasonable. It would probably have been more correct to have entitled this article "How to Prepare Horses for Show Purposes." The showing of a horse is a comparatively easy matter if he has been properly prepared. Horses of all classes should receive sufficient education before being taken into the show-ring to enable them to perform the functions demanded from animals of their class in such a manner as to reflect credit upon themselves and their attendants. The exhibitor should always remember that the showing is not the place to train or educate his animal, whether he be shown in hand, in harness, or under saddle. Good manners on the part of both horse and exhibitor are necessary for success. The judge knows, (or is supposed to know) how a horse of any class should act on the halter, in harness or under saddle, and, other things being equal, the animal that most nearly comes up to his ideal in this respect is the one that will win the best place. Unfortunately, there is often seen an evident want of training or education of any kind, and this is especially noticed in the classes of young horses shown on the halter. Many exhibitors evidently think that so long as their colts can be taken into the ring in any way it is all right, and nothing further should be asked for. They are not taught to even stand to allow the judge to look them over carefully, and when the attendant is asked to walk or trot his entry the colt often refuses to move without urging (often rather forcibly) from behind, or will commence to rear and plunge in all directions, or in some cases will run around in a circle, the extent of which depends upon the length of the lead-rein, but positively refuses to go in a straight line either from or towards the judge at either a walk or a trot. Others go sideways or backwards, while some can with difficulty be induced to move at all. This provokes the judge, aggravates the audience and disappoints the exhibitor, especially in a case where his entry is really a better animal than the better-fitted and better-trained colt that wins. In such cases the judge is often severely criticized, and credited with either incompetency or dishonesty. He knows that the awards have not gone to the animals that, under more favorable conditions, would probably have won, but he is also aware of the fact that some trouble is necessary to fit and train the colt for exhibition, and that each animal must show his action and gaits in order to enable any person to judge correctly of his relative qualities. He should also thoroughly recognize the fact that his judgment of the animals before him must be influenced by what they are at the time, not what they would probably be under different conditions. The general appearance of the unfitted and untrained colt may indicate that if fitted and trained he would be a better individual, and have better action than those he selects for the awards. At the same time the colt is neither fitted nor trained, and he (the judge) also knows that a colt of good conformation, and with all indications of showing good action, is sometimes a great disappointment when moved, and as he is judging entirely by what he sees, not from what he probably would see under different conditions, he is practically compelled to give the prizes to the colts that show what they can do. Then again, the exhibitor who has spent time and money in training and fitting his exhibit so that he may appear at his best before the judge deserves some recognition over him who has taken no pains, trouble or expense to train his colts, often simply bringing them direct from the pasture field to the show ground to win some "easy money." Such an exhibitor takes no pride in his horses, but exhibits simply for the money he may win, and his winnings seldom reflect credit upon either himself or the

exhibition. Even nursing colts should be taught to lead and stand well before being taken into the show-ring. When this is done there is less danger of accident, it gives the judge a much better opportunity to judge correctly, and the animal a much better opportunity to show just how good he is. It will be noticed in this class that the colts that are trained to the halter usually win over those that run loose. In horses of all ages and all classes action is a most important factor, and in order that a judge may be able to correctly judge action he must see the animal go from him and come towards him in a straight line at any gait he may ask for. Hence the person who expects to exhibit colts, or horses of any age on the line, should teach them to go well in this way before taking them to the exhibition. Colts or older animals of the heavy classes should be taught to stand well to attention, allow themselves to be handled, and to walk and trot well. Of course, where convenient it is well to have two or more colts take lessons at the same time, in order to get them accustomed to company, but this is not always expedient, and we notice that the colt that has been taught to perform well when alone seldom



A Tree is an Asset in a Pasture Field.

causes much trouble in company. The too-common practice of teaching a colt to go around in a circle is of no use for show purposes. He should be taught to go straight, at any gait required. Colts of the lighter classes should, of course, be taught to show the peculiarity of action demanded in the class to as great a degree as possible. Especially in the heavy harness or carriage class, shoeing helps action, and it is often noticed that the colts that are properly shod generally win over those that are not shod, even though their general appearance does not indicate that they should.

In fitting and training horses to show in harness or under saddle the same remarks apply as to the necessity of training and fitting before the day of the show, in order that when the animal or animals are taken before the judge in the ring, he or they may be able to



A Shorthorn Steer which Was a Cup Winner at the Last Christmas Fair in England.

show the very best that is in them. In the heavy classes, in either single or double harness, a good walker is essential; hence they should be taught to walk well, go at a slow trot, stand well and back well. Many horses that look well while standing (probably out-look all others in the ring) have such a poor way of going, at all gaits, (in many cases largely due to want of training) that they must be placed behind their competitors.

Proper classification of heavy horses should be carefully observed. There are, of course but two classes, viz., draft and agricultural. The general type and characteristics of the two classes are identical, the difference being only in weight. Some agricultural societies make 1,600 lbs., and others 1,500 lbs., the minimum for a draft horse, and 1,300 or 1,350 lbs. the

minimum for an agricultural horse. The horse of draft type that is below the minimum for the agricultural class has no class for show purposes. He may be a serviceable and valuable animal, but is not "a show horse." Many claim that he is "a general-purpose horse," but this is a mistake. A general-purpose horse is a clean-limbed fellow, reasonably active, that will give reasonable service, and not look particularly out of place hitched to a plow, binder or other farm machine, a heavy wagon with a reasonable load, a carriage, buggy or cart, or under saddle; a horse, we may say of the heavy carriage, heavy road, or heavy saddle type, one that is not good enough to win in good company in the class for which he has been bred, but is good for general work. Under no process of reasoning can an under-sized horse of the draft type be properly called "a general-purpose horse."

In the lighter classes of horses we have the "heavy harness or carriage horse," the "light harness or road horse," the "saddle horse," and "hunter." In high-class shows there are other classes as the runabout, the combination horse, etc., but the classes first mentioned are usually all that are mentioned in the prize-lists of the smaller exhibitions. Proper classification of the light classes is as essential, and often more difficult, than in the heavy classes. In some cases action counts for more than breeding and general conformation in classifying between the heavy harness and the light harness horse. This is particularly noticeable in some standard-breds, which, of course, are by breeding and should by conformation and action be light harness or road horses, but they have the excessive action both fore and rear that is demanded in the heavy harness horse and undesirable in the roadster; hence for show purposes they must go in the carriage class. Some horses have the desirable action of each class to a limited extent, but that of neither marked to an extreme degree, hence the owner is at a loss to know how to classify them. Horses of this kind cannot be expected to win in good company in either class. Hence it is necessary for the prospective exhibitor to study the desirable characteristics, both as regards general conformation and action, of the different classes to enable him to properly classify his horses for show purposes, and then he should endeavor to intensify the action to as great a degree as possible before taking his exhibit to the exhibitions. He must also remember that in these classes manners count for a great deal; this particularly applies to the carriage horse, as he is essentially a pleasure horse. He must have good manners and act well under all conditions. He must stand well, back well, and show flash, high and straight action both fore and rear, and the faster he can go the better, provided he retains the quality of action.

The light harness horse or roadster should also have good manners. He should be a good walker, and when trotting should go straight and reasonably high, but the excessive action of the heavy harness horse is objectionable. He must show his ability to go fast, not necessarily at racing speed, but the faster he can go the better, but must require boots of some kind.

The saddle horse should be largely of the thoroughbred type, with good manners, the gaits required being the walk, trot and canter; all of which should be performed with a light, springy tread, and rather close to the ground, but not low enough to cause danger of stumbling. Many judges now want more flesh and height of action than the thoroughbred shows, but this must not be too well marked.

As regards the hunter, the nearer he approaches the thoroughbred in type and action the better, and in addition he must be able to carry weight according to whether he be a light, middle or heavy weight fellow, and be able and willing to negotiate obstacles of different kinds. He must be able to go fast over practically all kinds of ground, and stay and like other classes have good manners. A saddler or hunter should promptly obey the wishes of his rider, whether they be expressed by word, heels, knees or reins, and no horse of any class should bear too heavily on the reins, but at the same time go with a reasonably tight rein.

In a few words, the prospective exhibitor should know what is required in horses of different classes, and should teach them to perform the functions of their class in the highest possible degree, and when in the show-ring avoid getting them rattled or excited, in order that they may perform as they have been taught.

WHIP.

Replacing the Grade Stallion.

Some concern is being felt for certain districts of Ontario where the elimination of the grade stallion may interfere with breeding next spring. Grade stallions have been more numerous in a few sections of Ontario than elsewhere, and these districts will probably suffer a dearth of horses during the coming breeding seasons if something is not done to relieve the situation. The Horse Breeders' Association and the Live Stock Branch of the Ontario Department of Agriculture, are attempting to obtain information regarding stallions for sale anywhere in Ontario, and in the near future owners will be circularized asking them to submit information concerning pure-bred stallions they may have for sale. These will be catalogued and the list made available to the public and prospective purchasers. Time is passing and the Secretary of the Horse Breeders' Association is anxious to get an early reply to these enquiries in order that arrangement can be made for seasonable and adequate distribution of the horses which may change hands. The replies returned will place the owner of a stallion under no obligations, neither does the Association guarantee to sell the horses. This step is taken only that districts requiring suitable stallions may find out where to obtain them. Plans, however, are under consideration which may lead to some scheme that will bring buyer and seller closer together.

LIVE STOCK.

Don't forget to salt the sheep and cattle.

Using grade sires does not denote progress.

The calves are not able to fight flies so well as the older stock. It will pay to provide some protection for the youngsters.

There is believed to be a large number of grade bulls in service in Ontario. Are you using one? If so, what do you expect of your herd ten years hence?

The recent showers were welcomed. The drouth in many counties was seriously affecting the pastures. The root crop will also be materially benefited.

The stock in the stable relish green feed, such as corn and roots. These feeds take the place of grass, which is not usually available for cutting at this season of the year.

We know of several herds of pigs, turned on grass in the spring, that have made splendid gains and have finished rapidly and economically when confined to the pen for the last few weeks previous to marketing. It is believed that it will pay every farmer to have a paddock seeded to rape, clover, etc., for his growing hogs.

The clause relating to live stock in the Order-in-Council, covering details of the increases in freight rates which comes into effect this month, reads as follows: "Increase 25 per cent. but not exceeding an increase of 7 cents per 100 pounds where rates are published per 100 pounds, or \$15 per standard car when rates are published per car."

According to an address given by E. G. Gordon, of the Co-operative Branch at the Representatives' Conference, recently held, the fixed charges in the stock yards market are: Unloading, \$1.00 per car; yardage, 6 cents for hogs and sheep, 10 cents for calves, and 25 cents for cattle; insurance, 10 cents per car; commission, single deck hogs and sheep, \$8.00; double deck, \$13.00; cattle, \$13.00. The charges for feed vary.

According to our English correspondent, Canada imported 463 pedigreed Shorthorns from Great Britain in the year June, 1917 to 1918. In the same time the United States secured 478 head, and the Argentine 580 head. All told some 1,875 animals left Britain on official export certificate issued by the Shorthorn Society. This number has only been exceeded once since the Shorthorn Society of Great Britain came into existence.

J. C. P. Hughes, a Middlesex County farmer, recently marketed six hogs, 5 months and 24 days old, which averaged 230 pounds. This is a good weight, and indicates that the pigs had been properly fed and cared for from the time they were weaned. The pigs were started on shorts and skim-milk and later they were fed a ration of equal parts barley and oats, besides a small amount of tannage. The last four or five weeks the ration was two-thirds barley to one-third oats. These pigs were neither over-fed nor under-fed at any time.

Grass Cattle Weighing Light.

Middlesex is one of the Counties of Ontario where a considerable area is under grass, and large numbers of cattle are fattened off the grass annually. These grass lands are owned by farmers and drovers. The latter rely on securing feeders in the spring to put on grass, or, if the opportunity presents itself, they may purchase in the fall and let the cattle out for the winter at so much per head. The farmer very often keeps a number of cows to raise feeders for his grass land. As a rule, good gains are made on the grass, and some cattle are placed on the market in July, while others are kept until on in October. Steers which have been well wintered go off grass in prime condition, as a rule, in July. This year the gains have been rather disappointing as it is reported that cattle weigh from fifty to one hundred pounds lighter than usual. S. McDougall, a prominent farmer and stockman, attributes this partially to the flies tormenting the stock, and to the cold weather of June which somewhat affected the pastures. He also contends that the stockers did not do as well as usual last winter, owing to the severity of the weather, and consequently did not go ahead as fast as usual when turned on grass.

Many drovers report that their stock is so much bothered by the flies that it is restless and more or less wild. It is not uncommon to see the animals race around the field, apparently in an endeavor to escape from their tormenters. If small trees are growing in the pasture the cattle rush madly under them in order to free their bodies of the flies. Trees not only furnish shade but also protection to the stock. While trees growing along fences tend to reduce the yield of cultivated crops growing in the immediate vicinity, they make up for that loss by the shade they afford the stock when the field is in pasture.

How the Wool Prices Are Determined.

The 720,000 pounds of wool, which Ontario sheep raisers shipped to Guelph, have been graded and sold. When seen last week, R. W. Wade, Chief of the Live Stock Branch and Secretary of the Ontario Sheep Breeders' Association, said that the cheques would soon be mailed and shippers would receive the balance due them on their clip. The prices received for the wool were as follows: Fine medium combing, 76¼ cents; medium combing, 76¼ cents; medium clothing, 73½ cents; low medium combing, 73¼ cents; low combing, 67 cents; coarse, 60¼ cents; burry and seedy, 42 cents; cotts, 50 cents; dead, 50 cents; gray and black, 41 cents; tags, 16½ cents.

The selling charges will amount to approximately 3½ per cent., which will be taken from the above, and it will work out so the first six grades mentioned which



Mary and Her Little Lambs.

constitute the bulk of the wool will return the grower as follows: Fine medium combing, 74 cents; medium combing, 74 cents; medium clothing, 71 cents; low medium combing, 71 cents; low combing, 65 cents; coarse, 59 cents. The freight, of course, will have to be deducted and one dollar is being charged each shipper, which makes him a bona fide member of the Ontario Sheep Breeders' Association. It was this Association that took up the grading work in Ontario and utilized the assistance rendered by the Live Stock Branch, Ottawa. It is felt that all sheep raisers should take an interest in this organization and make it a live and strong association. When a grower has less than sixteen fleeces the charge made upon his statement will only be 50 cents. Anyone wishing to take stock in the Canadian Co-operative Wool Grower's Limited, may do so and have the amount deducted from the balance due him on his consignment. These are the items which will



A Typy Yorkshire Sow and Her Ten-day-old Litter.

appear on the statement received by the growers who shipped wool to Guelph, and if these statements and cheques are not in their hands by the time this appears, they probably will be very soon.

Last year 280,000 pounds of wool were graded and sold according to the co-operative scheme. The amount grew this year to 720,000 pounds, and if the system had not been well organized at Guelph, a greater delay would have occurred. Almost 30 per cent. of the sheep raisers in Ontario contributed this year, and the prices received will no doubt encourage them to support the Sheep Breeders' Association and the co-operative organization.

France has suffered a loss of 2,600,000 head of cattle since the outbreak of war, and the cattle which are left have lost in weight.—"Canadian Food Bulletin."

The Live-Stock Situation in England

EDITOR "THE FARMER'S ADVOCATE":

Never was an industry so flourishing as that of pedigree stock raising. Dairy Shorthorns are selling at public sales at an average of £200 apiece; Holsteins are averaging £300 each for high-class stock from recently imported parents; commercial Holsteins, i. e., pure yielders without any pretensions to show-ring honors, are worth £100 apiece; beef Shorthorns make all kinds of fancy prices, and the Argentine is still a big buyer, one exporter recently sending out thirty bulls upon which he must average £900 apiece, and one or two will sell at £2,000 each sure. Jerseys and Guernseys are doing a quiet yet select trade at remunerative prices, and Red Polls (a real dual-purpose breed) are making new friends chiefly on account of their reliable milk yields with fat of quality in it and not a lot of watery content. The Aberdeen-Angus jogs along quietly, and the Hereford keeps on shipping export stuff to South America, Australia, and South Africa. Brazil is asking for more and more beef cattle for foundation purposes.

There has been little doing in the sheep world it is true, but pigs have caught the high tide of success and floated out to remarkable prices. Commercial gilts to be used merely for raising porkers in our weekly markets have made £30 and £40 apiece. Pedigree gilts are worth £50, and sows make prices that would have delighted the heart of pedigree Shorthorn men before the war.

Wonderful as are the many breeds of pure-bred stock in England, we still have a tremendous lot of scrub cattle. As I write this in a train passing through Kent, a market is being held in a certain town. There are a hundred

beasts drawn up—store cattle for fattening, but nondescript, albeit principally Shorthorn-bred. One cow stands aloof from all the rest, by herself a solitary figure. She is a pure-bred dairy Shorthorn and nobody seems to want her, but there are crowds round the store cattle. Perhaps it is because she is "pedigree" that the farmers hold aloof. But it is not so in other counties. Farmers are increasing their interest in the Government's scheme of assisting the greater use of pure-bred sires of all kinds. They are buying more pedigreed dams than ever but the progress is not as fast as I should like to see it.

At Thornley-Hall, Northampton, Britain's record sale of milking Shorthorns was recently held by John Thornton & Co. Some 56 head averaged £228 3s. apiece and gave a general aggregate of £12,778 8s. This is the breed's highest average so far, but the world's record for a milking Shorthorn was fetched when Sir Gilbert Greenall, Baronet, paid 2,000 guineas for Thornby Premier, a red roan, May 30, 1917, bull calf by Drusus, and out of Dolphinlee Primrose, one of the grandest dairy cows in Britain to-day. He has milk ancestry on both sides. Drusus, his sire, combined the Darlington-Red Rose and Wild Eyes strains, through Darlington Cranford 5th, and his dam, the great cow Dorothy. ALBION.

The Personal Element.

An important truth was recently voiced by Dean Curtiss, a prominent figure in the United States Shorthorn circles, when he said in connection with the building up of high-class breeding herds that "the really great herds of live stock, of this and all other countries, have not only had good blood, superior individual merit, and skilful mating, but more than all else, they have been the product of intelligent, painstaking managers and caretakers. These men get to know their charges better than anyone else. They get to know animals in an intimate way. They are usually good judges of stock. They know, by their long experience, what it takes to constitute a good show prospect, and they know equally well what is essential in a breeding animal of real merit. Knowledge of this kind, combined with ability to bring animals to their highest excellence is not easily attained. It does not come without application, experience and hard work. The man who possesses it in a high degree has a valuable asset."

THE FARM.

The World's Wheat Situation.

Continued from page 1295.

republic. It is extremely difficult to decide at this time what supplies may be expected from India and Australia. Early estimates looked for only 80,000,000 bushels, as a maximum, from the United States, and 100,000,000 from Canada; but these figures will be exceeded. The figures just given are more easily understood if considered in connection with the following table, indicating wheat requirements of the Allies for the current year:

Country	Pre-war consumption	Normal import needs 1917-18	Estimated minimum needs 1917-18
	Bushels	Bushels	Bushels
France.....	361,364,000	217,214,000	180,000,000
Italy.....	236,614,000	96,614,000	80,000,000
Great Britain.....	275,693,000	211,629,000	180,000,000
Greece.....			20,000,000
Portugal.....			3,000,000
Belgium.....	64,000,000	55,000,000	24,000,000
Malta, Egypt, Mesopotamia, Jerusalem.....			10,000,000
Allies.....			497,000,000
European Neutrals.....			48,000,000
Outside of Europe.....			50,000,000
World's requirements, 1917-18.....			595,000,000

There are some, if present prospects hold, who look for 151,000,000 bushels from the United States and 185,000,000 from Canada. This estimate is based upon the following figures:

	Canada Bushels	United States Bushels
Production in 1917.....	234,000,000	651,000,000
Carry over August 1, 1917.....	26,000,000	22,000,000
Total supply of wheat.....	260,000,000	673,000,000
Food and seed, 12 months.....	190,000,000	161,000,000
Exports for 9 months, May 1.....	147,000,000	101,000,000
Balance for export and carry over.....	43,000,000	60,000,000

These figures may be compared with the following estimate of stocks of wheat in Canada on March 30, 1918, and comparative dates:

Wheat in	March 31, 1916 Bushels	March 31, 1917 Bushels	March 31, 1918 Bushels
Terminal elevators.....	26,063,316	24,441,799	4,140,357
Winter storage in vessels.....	2,447,386	89,245	2,882,141
Interior terminal elevators.....	5,716,498	5,168,242	1,098,610
Country elevators.....	43,996,131	30,549,209	10,459,466
Public elevators.....	3,326,417	2,516,461	1,935,639
Flour mills.....	5,277,196	4,884,825	4,802,236
Transit by rail.....	23,369,809	12,862,356	20,011,179
Farmers' hands.....	86,654,000	45,638,000	31,684,700
Total.....	197,050,753	126,150,137	77,023,328

The returns from the Department of Trade and Commerce, as published in its April Bulletin on agricultural statistics, place the exportable surplus of Canadian wheat at a considerably lower figure than that already given. It is stated that home requirements for the period ending August 31, 1918, may be placed at 48,000,000 bushels, consisting of 28,000,000 bushels for spring seeding and 20,000,000 bushels for food. This leaves approximately 30,000,000 bushels as a surplus available for export from April 1 to August 31, 1918. The net exports of wheat, and wheat flour expressed in terms of wheat, for the five months ended January 31, 1918, were 94,908,827 bushels. It is estimated, therefore, that the total exports of wheat for the crop year ending August 31, 1918, will be 148,000,000 bushels as compared with 170,804,000 bushels in 1916-1917, and 289,794,162 bushels in 1915-1916.

The returns from other countries, that have come to hand, indicate that the prospects in the world's wheat supply for the current year are better than in 1917. In England and Wales it is estimated that the area under wheat is 2,504,000 acres as compared with 1,725,000 acres for last year.

The Indian crop is reported as good, the acreage sown to wheat being 33,912,000, the highest on record. In France the crop conditions on March 1, 1918, were excellent. We quote the figures for the chief foodstuffs in view of the critical situation there. It should be observed that the French system of crop reporting is according to the following scale: 80, good; 60, fairly good; 50, fair.

Crop	March, 1917	February, 1918	March, 1918
Winter wheat.....	59	71	72
Rye.....	64	72	73
Winter barley.....	60	70	71
Winter oats.....	57	68	71

In the United States the crop is not as good as expected, although better than last year. The United States Department of Agriculture (April 9) reported that the average condition of winter wheat was 78.6 per cent. normal, as against 63.4 per cent. on April 1, 1917. The Department forecasts a harvest of winter wheat of about 569,000,000 bushels, in comparison with 418,070,000 bushels in 1917.

In surveying world conditions the conclusion must be drawn that prices will rule high not only for wheat, but for all food products, for a considerable time to come. The food situation for our European Allies is improved in the United Kingdom, in France and in Italy; but it must not be overlooked that a considerable part of the finest agricultural district of France has been recently lost to the enemy. While the submarine menace has been held under control, shipping facilities are still meagre for transporting wheat from the Argentine, Australia and India. A heavy burden, therefore, rests upon the farmers of this continent in supplying the Allied requirements.

It was confidently predicted by statesmen of the Central Powers, just after the downfall of Russia and the signing of the Treaty of Brest-Litovsk, that the food problem has been solved. Authentic information has come to London and Paris recently showing that Germany is bitterly disappointed with the results so far obtained. Famine, in fact, is stalking throughout European Russia; the farmers of the Ukraine have destroyed large supplies of foodstuffs and have reduced the acreage sown rather than come to the support of German autocracy; while the available supplies in Siberia have been held up owing to the military situation there. Hungary and Roumania, with the Ukraine, have been the principal granaries for wheat supplies for Germany and Austria. Nothing much is expected, as has been said, from the Ukraine; Roumania will fall far short of its normal production owing to the loss of man-power and the devastation of the country; while Hungary has placed an embargo upon further exports of food supplies for Austria. Economic pressure, therefore, no less than the resistance of our armies, still plays a large role in the winning of the war.

We may conclude that prices for wheat and other food products will remain high for a considerable time to come, not only because of depleted stocks in Europe, scarcity of shipping, ravaged territories and fearful loss of man-power, as well as depleted soils and industrial and political unrest, but much more on account of the monetary situation. This is a phase of the problem that is too often overlooked or ignored.

Economists have long since come to the conclusion that, just as important as the demand and supply of any particular commodity, is the value of the monetary medium in which prices are expressed. All the great modern commercial nations have adopted gold as the standard of value. The stock of the yellow metal in 1900 amounted, for the whole world, to not more than \$14,000,000,000; and since that time gold has been poured upon the markets of the world at the rate of— in round numbers—\$500,000,000 a year. Increase the supply of any commodity (other factors remaining the

same) and its value is bound to fall. This is precisely what happened to gold. Its value, relatively to other commodities, was lessened, and prices fell. This was the outstanding force making for higher prices in the decade preceding the outbreak of war.

An increase in the supply of the standard money commodity, then, or in the volume of the total amount of different kinds of money in circulation, makes for higher prices. The movement is accentuated when the money used as a circulating medium is not redeemable on demand in gold. And, since the outbreak of war, all the nations involved, with the exception of the United Kingdom and the United States, have gone on a paper-money basis—that is, suspended gold payments.

The dangers involved in such action are manifest. During the American Civil War only \$450,000,000 was issued in irredeemable paper money, and yet, in July, 1864—when it was plain that the South was powerless to win—it took \$2.85 in paper money to buy \$1.00 in gold. That is to say, prices had risen, in terms of the money in circulation, threefold.

Since the outbreak of the war the Allied Powers, exclusive of the United States, have increased their paper money issues from \$2,812,761,000 to \$15,645,492,000 up to December, 1917, and the Central Empires from \$1,124,783,000 to \$6,323,480,000. It seems clear that it will take a long time to make this paper money as good as gold, and hence prices must rule high everywhere in Europe, affecting trade and commerce throughout the whole world.

But that is not all. The combined debts of the belligerents, exclusive of Japan, stood at \$137,404,000,000 in December last, an increase of \$111,652,000,000 since the outbreak of war. For every month that the struggle continues \$5,000,000,000 must be added to the war debt of the world. This debt in itself is a potent factor in raising prices, since bonds are used to a considerable extent in effecting commercial settlements.

These facts should be borne in mind by those who, for selfish ends, accuse Canadian farmers of profiteering. Almost everything they buy costs more. Expenses of production have doubled, and seriously cut into the profits of farming; and especially of wheat, the principal cash crop. We cannot do more here than merely refer to this problem, a full discussion of which must be left for a later time. The farmers of the Dominion, and especially Western farmers, will do well to give this question of prices as full consideration as the problem of production itself.—The writer is indebted to the Agricultural Gazette and the Monthly Bulletin of Agricultural Statistics for data contained in this article.

Dr. Zavitz Looking For Seed Wheat.

For some time past Dr. C. A. Zavitz, Professor of Field Husbandry at the Ontario Agricultural College, has been inspecting the wheat crop in the Genesee Valley, in the State of New York. The purpose of this inspection is to ascertain where suitable seed may be obtained to fill the requirements in Ontario for the fall wheat planting this season. The varieties found there include Gold Coin, No. 6, and Dawson's Golden Chaff. Dr. Zavitz is of the opinion that the wheat grown in the Genesee Valley is quite suitable for Ontario conditions. The intention at first was to bring in 100,000 bushels for seed, but it is now thought that perhaps this amount will not be required. There are five or six counties in Ontario which will have a surplus out of this autumn's threshing, but fifteen counties, said Dr. Zavitz, will require seed.



A Scene on the Don River, Ontario, Where the Boys Have a Good Time.

Canada's Young Farmers and Future Leaders.

Community Action.

One of the most serious and fundamental problems which will face the farmer of to-morrow, and which is indeed facing the farmer of to-day, is that which concerns itself with the organization of the community. Perhaps more than most other classes of people, the farmer is individualistic in the carrying on of his business. There has been, in connection with the farmer's business, a certain independence which could scarcely be enjoyed in any other industry. It is becoming increasingly difficult, however, to adhere closely to the individualism of by-gone days. The complexity of modern life with its intense industrialism and rapid whirl of events has made it almost imperative that united action take the place, to some extent at least, of the old method of carrying on the farm business. When one considers the benefits to the individual, or to the community, there is really no comparison between communistic and individualistic ideals. It is true that human nature must be reckoned with in the former case and human nature, as we know it has many sides, making possible many different types of people and many different shades of action. All, however, are seeking better conditions and all are to some extent at least favorable to progressive ideas.

One cannot help but see that an enormous waste of energy and time and money is regularly taking place in many of our rural communities. Take for instance our schools—many of which can show no more than twenty or twenty-five pupils receiving their education under conditions which cannot possibly be for the best, but which represent the limit of practical possibility as gauged by the purses of the ratepayers. Sources of considerable waste can be found also in productive agriculture. Each small farm must have a considerable investment in fences, or horse power, or machinery; the latter perhaps being the most serious, since much of it can only be used for a very limited period during the year. It may be that these conditions are more or less inevitable and that it is impossible to bring about

a permanent agriculture under more favorable conditions. These things, however, present grave problems for the consideration of the younger men, because they are the ones who will have to begin the solution and upon their efforts will depend the status of agriculture in the future.

One cannot help but think, however, that much can be done in the way of improving the general condition of affairs as regards agriculture, by community or joint effort. Probably no one single remedy will be sufficient to bring about any general improvement. It would be possible to sit down and construct a policy for working over rural districts in the direction of better and more profitable living. Such a policy, however, could not help but be more or less Utopian and would lose light altogether of the fact that one must take men as they are in order to make progress in any kind of a practical manner. The development of good leadership, however, and the use of public action regarding the matters that are of general interest to the community can do a great deal in improving general conditions. Improved road schemes can be brought about, consolidated schools could be organized, libraries of practical and ethical value to the community may be established, facilities could be provided for community meetings, and other educational as well as social facilities might be procured for the members of the community; steps might also be taken to introduce a proper treatment of agriculture in the curriculum of the public and the high schools. Community action would be sufficient and effective in enlisting the aid of official or Governmental authority. These things might be brought about as of general welfare to the whole community.

There are many other ways by which groups of individuals in the community could band together to accomplish certain specific purposes. This has been done, fortunately, in many of the rural communities in Canada, the United States, and a few of the European countries. Mutual fire insurance companies could be established, co-operative associations for the development of specialized agriculture could well be organized, and could look after the marketing and the handling of the milk, cream, butter or cheese trade. Egg circles, fruit associations, wool marketing associations, or live stock

shipping organizations, are applicable to large numbers of our rural districts. Community action would make it possible to specialize in certain products which the soil or the climate of the community happened to be best fitted to produce. This movement, we believe, cannot spread too fast, although there is danger, and experience has shown it to be very real, that a short-lived enthusiasm may be sufficient to start an organization which may be lacking in vitality and soon succumb to a lack of interest. Such happenings are very frequent and the graves of the associations that are dead and gone mark the pathway of co-operation in every country in which this doctrine has been preached. These spasms of enthusiasm are perhaps more to be feared than honest opposition to the cause of organization itself.

That the results of co-operation in actual dollars and cents are appreciable, is, of course, beyond dispute. It is questionable, however, if the greatest result to be derived from community action is not to be found in an inevitable revolution in the social and individual character of the community and its members. The tendency of this joint action would be to make intelligence regarding all phases of community life and work available for everyone in the community, and the poor farmer would consequently be gradually brought towards the standard of the good farmer. All the problems of farm production are exceedingly complex. They involve a study of the most important sciences and an application of the highest art which is required when the laws and forces of nature are placed under control. We have in these modern days agricultural colleges and experiment stations as well as an increasing number of schools, where able and scientific men are making researches in every field, disseminating useful information as fast as conclusions are arrived at. At the present time the exceptional man in the community is the one who profits most from the work of our colleges and our experiment stations. Community effort and community progress, rather than individual effort and progress, would assist in the dissemination of information to everyone and some visible effect would surely be in evidence before long.

Automobiles, Farm Machinery and Farm Motors.

Timely Topics.

It is not a far cry back to the time when automobiles were only run during the summer seasons. When the machines were first introduced, and for some years afterwards, no one ever dared to operate them if the weather was at all cold. Probably the principal reason for this rested on the fact that the power plants were hard to start, and consequently motorists did not think that the difficulty of starting could be made up by subsequent operation in winter time. Improvements in the motor car came with great rapidity and soon automobiles were to be found running every day in the year, provided that the roads or pavements allowed for transportation. When the electrical starter was perfected it surmounted a great many inconveniences, but still there were occasions when a cold motor could not be readily made to fire. This difficulty seemed to result from the fact that very cold raw air was being taken into the carburetor. In order to remedy this trouble a number of automobile manufacturers connected the carburetor to the exhaust manifold with a piece of flexible tube. This device is sometimes called the "hot air stove." You can readily understand that by its use some of the hot gases are diverted from the exhaust manifold and passed through the jackets around the carburetor. The contrivance by heating the jackets warms up the chamber in the carburetor and this tends towards rapidity of vaporization; in other words the fuel instead of remaining dormant quickly approaches a vapor and is passed on to the intake manifold in such a condition that when thrown into the chambers it quite easily allows of combustion.

If you have one of these flexible tubes connecting your exhaust with the carburetor do not allow it to stay on the machine during the extreme heat of the dog days, because there is no occasion for it now. The extra heat that was required to vaporize the gas in low temperatures is not at present necessary, and if you continue to make use of it there can be only one result,—an over-heated mixture will perceptibly cut down the power of the motor. Before you take off the flexible tube, clean out carbon, soot or foreign matter that may have collected in the hot air jacket of the carburetor by forcing air into the jacket. The soot can be easily shot out.

What is true of the flexible air tube applies equally well to the chocker, with which practically every modern machine is supplied. Sometimes this device is at the bottom of the radiator and frequently it is upon the dash or the instrument board. You require its services very frequently in the winter time, but there should not be much occasion for its use in the summer. A great many motorists become so accustomed to pulling it out, however, that they forget such action is not required when the days are warm. You know of course, that when the chocker is pulled out a rich mixture of gasoline is supplied to the power plant. The constant use of the chocker is not economical, because there is no sense in burning up fuel that is not called for.

The dust this season of the year is being combated by the people of cities, towns and villages through the use of road oil. After this has been applied for some time it cannot be easily thrown upon the fenders and body of a motor car, but when it is freshly laid it rattles up on the machine in the most aggravating manner. If you can possibly avoid running through new oil on a road, do not fail to do so, but if no other course is open but to ride over it, then have your automobile thoroughly cleaned upon its return to the garage. Salty butter generally proves effective in removing the oil, but it must be applied as soon as possible after the oil has been deposited. Kerosene also produces excellent results. Pour some kerosene on a cloth and then rub it gently but steadily over each oil spot. If road oil is allowed to remain for any considerable length of time upon the metal parts of your car, you will find it extremely difficult to remove. Quick action is therefore the first essential.

We are now at the height of the automobile season and perhaps more than at any other time of the year, the roads are thick with motor cars and other vehicular traffic. This means that for maximum safety your lights should be as clear and distinct as possible. Sometimes the polished silver surface inside of the lamps becomes dull, brownish or spotted. If you allow the reflective power of the lamps to be greatly reduced in this fashion you may have a very great regret when an accident occurs. We are told on good authority that alcohol-soaked chamois dipped in powdered rouge will remove tarnish and dull spots from the head lamps: Do not use any rough cloth in cleaning out the dust or foreign matter, as you will certainly scratch the surface that you are endeavoring to make clean and smooth. AUTO.

Conservation of Gasoline.

In order to assist the United States Fuel Administration in the conservation of gasoline and thus to prevent interference with the consumption of this fuel for the ordinary purposes on motor car travel, the national organization of automobile manufacturers has issued a number of suggestions, with the request that they be adopted by every vehicle owner and driver. They are as follows:

- Do not use gasoline for cleaning mechanical parts.
- Studiously avoid spilling, leakages and evaporation.
- Do not let engine run when car is standing.
- Have carburetor adjusted to give largest possible mileage per gallon.
- Adjust brake bands so they do not drag; keep all bearings well lubricated and tires fully inflated.
- Keep spark plugs clean, have ignition correctly timed and drive with spark well advanced.
- Do not accelerate and stop quickly; avoid high speed; stop engine and coast long hills.
- Avoid aimless and unnecessary use of cars; do a number of errands in one trip; carry purchases home in the car to reduce deliveries by stores.
- Combine with neighbors and friends in use of cars.

Motor Cars.

There are, according to the latest compilation of the Automobile Chamber of Commerce, 5,000,000 motor vehicles in regular use in the United States. Assuming that each of these makes only 3,000 miles a year, which is a low estimate, the total annual mileage is 15 billion. Assuming also that each carries an average of three passengers, also a low estimate, the total passenger mileage is 45 billions.

It is when these statistics are compared with the passenger and mileage statistics of all the railroads of the country combined that the immensity of the traffic of motor vehicles is apparent. In 1915 the official railroad passenger mileage in the United States was 32,384,247,563 miles, or more than 12 billions less than that of the motor cars. In 1915 the railroads of the country carried 976,303,602 passengers; if the motor vehicles averaged only two passengers a piece and were used only 300 days in the course of a year, their passengers were three times as numerous as those of the railroads. At two cents a mile the value of motor transportation in a year would be \$900,000,000.

The total seating capacity of the 55,705 railroad cars in the United States is about 3,500,000 people; that of the 5,000,000 motor vehicles is figured at 25,000,000 people, or one-quarter the entire population of the United States. A surprising statement made by the Automobile Chamber of Commerce is that to carry the people now carried by motor an equal distance would require 60,000 new railroad passenger cars, costing \$660,000,000; 14,972 new locomotives, costing \$524,000,000, and duplication of passenger tracks, stations and number of employees at an expense impossible to estimate.

Banking and Drawing a Fire.

Some skill is needed in properly "banking" a fire in a steam engine. Fires are banked in order to keep the steam from rising when the fire is already hot enough or in order to hold the fire overnight, and banking consists merely in covering the glowing coals with fresh coal or ashes. When banking for the night the coals should be crowded to the rear and the front filled with fresh coal, leaving the damper sufficiently open to carry off the gases. Drafts should all be closed in order that the fire will gradually burn back towards the door, leaving a good bed of coals by morning and keeping the boiler warm. When a boiler is being used daily it is considered more economical to bank a fire than to rekindle it each morning. "Drawing" the fire is merely its removal from the engine, and is done whenever it is desired to cool the boiler quickly, or whenever the water is dangerously low. Before drawing, the fire should first be smothered with ashes, dirt or fresh coal, since if this is not done it would become for a short time much hotter than before being stirred. Water in a furnace may crack the grates and produce so much steam as to make it very disagreeable and sometimes dangerous to do further work.

THE DAIRY.

Factors Detrimental to Milk and Cream.

BY PROFESSOR R. W. BROWN, MANITOBA AGRICULTURAL COLLEGE.

Part One.

There are very few subjects about which more has been written than those of milk and milk products. At the same time, we believe it is safe to say that there are few, if any, subjects which present more complex and difficult problems, many yet to be solved, than are met with in connection with the dairy industry as a whole. This, however, is not surprising when we consider that for a length of time, extending from a number of days to a year or more, milk is the sole food of over two thousand species of animals, among which are the mouse and the elephant, the porpoise and the whale, and also the bat and the flying squirrel. Further, even in Canada, and the United States, where dairy products do not form nearly so large a part of the human diet as in Europe, about 18 per cent. of our food is of dairy origin. Two-thirds of the infants numbering 150,000 in Canada and 1,500,000 in the United States, are raised on cow's milk. Hence, it is not difficult to imagine the importance of milk in the economy of nature.

In the beginning, nature did not intend that the milk of one species of animals should be used as food by another species. The dairy industry began when man began using the milk of beasts as food. This industry can be traced for the past 3,000 years in Europe, and for 300 years in America. In different countries, the milk of different species of animals is used as human food. Besides cow's milk, that of the goat, the ewe, the mare, the ass, and the camel is used. The cow, through the process of domestication, effected by climatic conditions, breeding, feeding and selecting, has been developed into the greatest animal producer of human food. When we speak of milk in this country, we invariably mean cow's milk.

When the milk of a certain animal is used by its young only, the chief factors which spoil the quality of milk do not have an opportunity to come into play. This is evidently the most direct route to the consumer. Since, however, the milk of the cow is used so largely as food for man, we must needs study the factors which spoil its quality, if we would protect life and turn into profit what would otherwise be loss.

Bacteria Known for 250 Years.

Solomon said that there is nothing new under the sun, which may be true, but it is certain that people are continually finding new ways of doing old things, and new uses to which old things may be put to good advantage.

In January, 1908, at the convention of the Eastern Ontario Dairyman's Association, held at Picton, R. A. Pearson, then Professor of Dairying at Cornell University, Ithaca, N.Y., but now president of Iowa State College at Ames, and also Assistant Secretary of Agriculture at Washington, D.C., gave an address in which he said:

"I would like to impress one thought upon you, and it is this: that there is a great wave sweeping over the world that may be called the wave of sanitary reform. The good people are calling for more sanitary water for our cities, better ways of disposing of our sewage, and they are demanding more sanitary methods of plumbing, even the physicians now have to conform to certain sanitary requirements which were unthought of a few years ago, and along with all these sanitary requirements, they are asking for cleaner milk. We have heard a great deal about clean milk to-day, and we are going to keep on hearing about it; and you might as well try to stop the talk about clean milk and better sanitary methods as to go down to the Bay of Quinte and try to sweep the water out of it. It is coming, and if you want to blame somebody for it, I will tell you who to blame. Just keep going backward for 250 years, and back there you will find a Dutchman named Van Leeuwenhoek, and when you catch him, punish him; he is to blame. He had the habit of grinding glass into different shapes and forms. When he got a certain combination of lenses, and looked through them, he discovered that there were things to be seen that had never been dreamed of, and he is the man who is responsible first of all for our knowing something about bacteria."

This wave of sanitary reform, so far as milk is concerned, of which Dr. Pearson spoke in 1908, began about twenty-five years ago. The relative importance of the various avenues through which bacteria and dirt enter milk, and the influences which injure and spoil the quality of milk and cream, have been constantly under observation since 1893.

Since milk contains all of the various food elements necessary for growth, it is not only a suitable food for animals, but for bacteria as well, which are the smallest organisms known to exist, and are classified as plants. It has been known for many years that bacteria exist abundantly in nature and that certain kinds are always present in fresh milk in smaller or larger numbers. The point to be remembered, however, is the fact that there are what the dairymen call desirable and undesirable classes of bacteria.

The Souring of Milk.

Souring is induced by the growth in milk of bacteria. This class attacks the sugar of milk, using it as a food and producing acid as a by-product. This action is made use of in the manufacture of butter and cheese, the making of starter, and the production of fermented milk drinks. Thus it is seen that bacteria which causes

souring of milk are disease in its various forms, and those that accompany dirt and filth are always undesirable.

It is proposed in this article to discuss only those factors or influences which spoil the quality of milk and cream over which the producer has control. The producer should interpret the term "quality" as applied to milk and cream, to mean healthful, sweet, having good flavor, clean, by being as free as possible from both insoluble and soluble dirt, and in possession of a "good keeping period." By "good keeping period" is meant the ability to keep sweet for a reasonable length of time, when held under proper conditions.

We should emphasize the fact that milk or cream may be contaminated and spoiled by insoluble dirt that shows up on the strainer, and in the separator bowl; by soluble dirt; by bacteria; and by the product of bacterial growth. There is no way of treating milk to overcome this contamination. The dairyman's problems are to allow the entrance to milk of as few bacteria as possible and to hold the milk and cream under such conditions as to prevent the activity of the bacteria that have gained entrance.

It was formerly supposed that milk as it came from the udder was sterile. It is now well-known that there

source of spreading the trouble to other cows in the herd, and it accomplishes the desirable practice of discarding the first few streams from each teat. The fact that other communicable diseases are spread through milk is due to the organisms gaining entrance to milk from utensils of households where the diseases are present, or from persons handling milk who have lately had the disease, or are what are called "carriers."

Aside from healthfulness, the quality of milk and cream is largely dependent upon the cleanliness under which they are produced; the time which elapses between milking or separating, and the time at which the products are cooled to a low temperature (50 degrees Fahrenheit or below) and upon whether they are held at this low temperature until delivered.

We intend at this time to make brief mention only of the undesirable food, stable, "fly killer," and gasoline flavors which frequently spoil milk and cream.

Prevention the Only Cure.

There is no treatment by which these flavors can be eliminated. "Stink" or "French" weed and wild onions or garlic often give trouble in the spring and fall of the year. The only remedy in such cases is to prevent the cow's access to these weeds. In tests in which up to one pound of wild onions were fed at once to each cow, it was found that at least four hours must elapse between feeding and milking, to escape having the milk flavored, and even then the objection was slightly noticeable, especially in the cream, upon separating the milk. The writer has met with several cases where milk was badly tainted, due to a liberal use of fly killing solution which was not washed off the udders previous to milking. In such cases, the habit of wetting the hands is all that is necessary to wash the material from the teats into the milk. It is well known that milk or cream allowed to stand in a stable, refrigerator, or cellar in the presence of strong odors, will readily become tainted. The amount of absorption will be greater if the milk or cream is warm. The objection to placing the cream separator in one corner of the stable is, therefore, not difficult to understand.

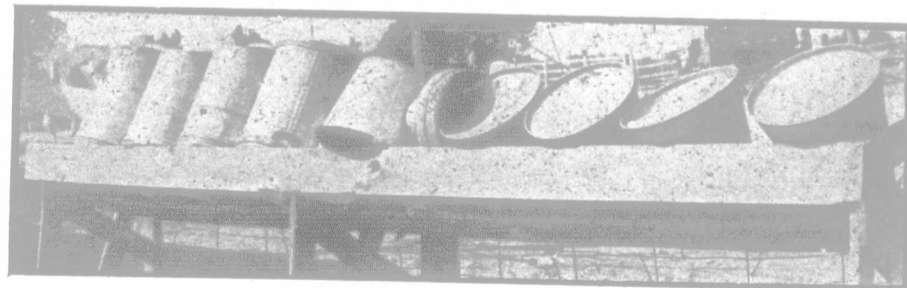


Cleanliness is Essential in the Production of Good Milk.

are on an average some four to six hundred bacteria per cubic centimeter (about 20 drops) normally present in milk as it is drawn from the teats. Some individual cow's milk normally contains from 3,000 to 4,000 bacteria per cubic centimeter upon being drawn. When it is important to produce milk with low bacterial content such as "certified," such cows are often eliminated from the herd. The larger percentage of bacteria in milk upon being drawn is found in the fore-milk. Hence it is the common practice of men interested in producing the best quality of milk to discard the first couple of streams from each teat. These udder types alone will spoil milk if allowed to develop, since the majority of them are gas formers. However, they are not of any great importance. The greatest reduction of bacteria of which the writer has knowledge, caused by discarding the first couple of streams was about four per cent.

Dirty Milk Spreads Diseases.

We do not find pathogenic or disease-producing organisms in freshly-drawn milk, unless the cow is herself diseased. If a cow is tubercular, the causal organism may get into the milk from the blood stream. Tubercular



Sunlight Kills Bacteria Quickly.

growths in the udder are rare, but when they do occur they are a prolific source of the disease germ in the milk. The principal source of this germ in milk is from particles of manure from an infected animal. When cows are suffering from inflammation of the udder due to injury, or the disease known as mastitis or garget, the organisms accompanying these conditions will be present in large numbers in the milk, and have been known to cause septic sore throat and intestinal disturbances; the latter among children especially. A large milk company supplying some of the best milk obtainable in New York City follows the practice of drawing the first stream or two from each teat into a cup in which a fine wire sieve is set. This practice serves several purposes. It detects at once any udder trouble, such as garget, in which case the milk should not be used for any purpose; but thrown away; it prevents milking the causal germs upon the floor of the stable which is a

and, in order not to lose any of it, each head should be picked over as it shows white, it being necessary to go over the plants every few days. The plants can, however, be pulled and hung up to dry.

HORTICULTURE.

Grow Seed From the Garden.

While rigid selection from year to year is necessary for most kinds of vegetables when grown for seed; and while to keep them pure the different varieties have to be grown some distance apart, yet most of the seed grown in the home garden is likely to give quite as satisfactory results or even better than that which is bought. Some seed may be difficult to obtain next year, and it is recommended for each person who has a garden to let a few plants or specimens ripen, from which seed can be saved. It is better to mark the best plants and save the seed from them rather than to save the seed which remains after the plants have been cropped.

The following minimum number of feet, plants or specimens to be saved is suggested as being sufficient to supply enough seed for the home garden in 1919: Beans, 5 ft.; corn, 1 ear; cucumbers, 1; lettuce, 3 plants; melons, 1; peas, 5 ft.; radishes, 3 plants; spinach, 3 plants; squash, 1; tomatoes, 3.

Either reserve a few feet of the row of beans, or, better still, mark a few productive plants free from disease.

The seed stalks of lettuce are thrown up after the heads are full grown. The seed ripens rather unevenly,

If some radishes are left unpulled, after being ready for use, they will soon throw up stalks, and good seed will develop. For best results the plants should be at least six inches apart.

Spinach, if thinned to six inches, will produce an abundance of seed.

In saving home-grown seeds, it is important to dry them as soon as possible after they are ripe, then clean them, and keep them dry until needed the following spring.

Peas and beans will soon be spoiled for seed if they do not dry rapidly in the pod after being harvested.

As corn sometimes has to be pulled before it is quite hard, it is desirable to see that there is a good circulation

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CURE.

Garden.

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of air around each ear. A good plan is to husk the ears and then stick each one separately on nails driven into a board and far enough apart so that the ears will not touch.

The seed of tomatoes for home use should be saved from the plant bearing the largest crop of early and best fruit. Where a quantity of seed is saved, the tomatoes may be cut in half and the pulp pressed out into some vessel, adding about one-third its volume of water. Put in a dark room until fermentation sets in, which will be in about two days, when the seed will separate readily from the pulp. Wash out and dry where the sun does not shine on it.

Following are the quantities of seed which one might expect: Beans, 1 or more oz. per plant; corn, 300 to 600 kernels per ear; cucumbers, 1/8 to 1/4 oz. per specimen; lettuce, 1/4 oz. per plant; muskmelon, 1 to 1 1/2 oz. per specimen; onion, one-eighth oz. per plant; pea, 4 oz. per 3 ft. of row; pepper, one-sixteenth to one-eighth oz. per specimen; radish, 1 oz. per plant; spinach, 1 1/4 oz. per plant; squash, small seeded, 2 1/2 oz. each; squash, large seeded, 3 oz. each; tomato, 50 to 500 each; watermelon, 2 to 3 ozs. each.—Experimental Farms Note.

Some Constitutional Diseases of the Potato.

The following article is a paper read at the recent Conference of Agricultural Representatives at Guelph by Paul A. Murphy. Mr. Murphy is in charge of Potato Disease Investigation under the Dominion Department of Agriculture, and is a recognized authority:

It is not necessary to study statistics of potato production to see that potato growing is not, on the whole, a very successful or profitable line of farming in Ontario. This is particularly so if one is familiar with the potato industry in other parts of the Dominion. The statistics, however, amply bear out this contention. Turning to the average yield per acre for the last ten-year period we find that the highest yields are obtained in British Columbia, namely, 206 bushels per acre, and that the figure drops more or less gradually as one comes east through the Prairie Provinces. The next highest yield after British Columbia is obtained in the Maritime Provinces, where it averages about 190 bushels during the same period. In Quebec the figure comes down to 140 bushels, and in Ontario it reaches 123 bushels per acre, the lowest in the Dominion.

The reason for this gradual decline in yields from both coasts is probably not a simple one, but a partial explanation is not far to seek. It is now known that a number of very serious diseases are more or less widespread in Ontario-grown potatoes while they are absent, or present in less virulent form, in those parts where the yield is high. This is known to be true in the Maritime Provinces taken as a whole, and it is also presumably true for British Columbia. It is known that these diseases begin to appear in aggravated form in Western Quebec, and the fact is significant that it is about here we first meet with lower yields. It might be suggested that the climatic conditions are really responsible for the reduction in the crop. This is no doubt true, but only indirectly, as will be shown. The fact, now so well known to experimenters and many practical growers, that good seed imported from New Ontario or the Maritime Provinces at first yields just as well even in districts reputed poor potato sections as in its original home is sufficient to show that climate is not directly responsible.

The principal disease which is prevalent in many parts of Old Ontario, and which is apparently responsible more than anything else for reducing the yield of potatoes, is Leaf Roll. Plants attacked by it are considerably dwarfed in size, and of a lighter green color than normal. They are stiff and upstanding in appearance and the lower leaves in particular become thick and tough to the feel, and curl up at the sides instead of being flat. They afterwards become spotted and begin to wither, particularly near the tips. It should be remarked that this rolling is on the lowest leaves, and is not to be confused with the curled up and limp appearance of plants suffering from drought and heat which is now so general.

Leaf Roll plants give about one-third of the normal yield. The potatoes tend to be small, and they are attached close to the stem as a rule. There is no sign of the disease on the tubers. These potatoes, if planted, invariably give rise to a diseased crop, with the same symptoms and same yielding capacity. This is the principal way in which the disease is perpetuated, but it can also spread short distances in the field from affected plants to neighboring healthy ones. The latter look normal the first year, but the tubers produced by them give rise to a crop which is largely diseased.

It also appears clearly from some experiments carried out by Dr. C. A. Zavitz at Guelph that climatic conditions induce Leaf Roll in potatoes which were previously healthy. The author has observed in importations of the same strain of potatoes which have been made year by year from New Brunswick and Northern Ontario that there is no Leaf Roll in the stock the first year they are grown at Guelph but that it then appears and increases rapidly, as shown in the following table:

Leaf Roll Record of the Same Strain of Potatoes After Being Grown;

1st year at Guelph—	0%	Leaf Roll
2nd " " "	—15%	"
3rd " " "	—24%	"
4th " " "	—63%	"
6th " " "	—89%	"

Another important disease which reduces the potato crop in Ontario is Mosaic. It is recognized by the fact

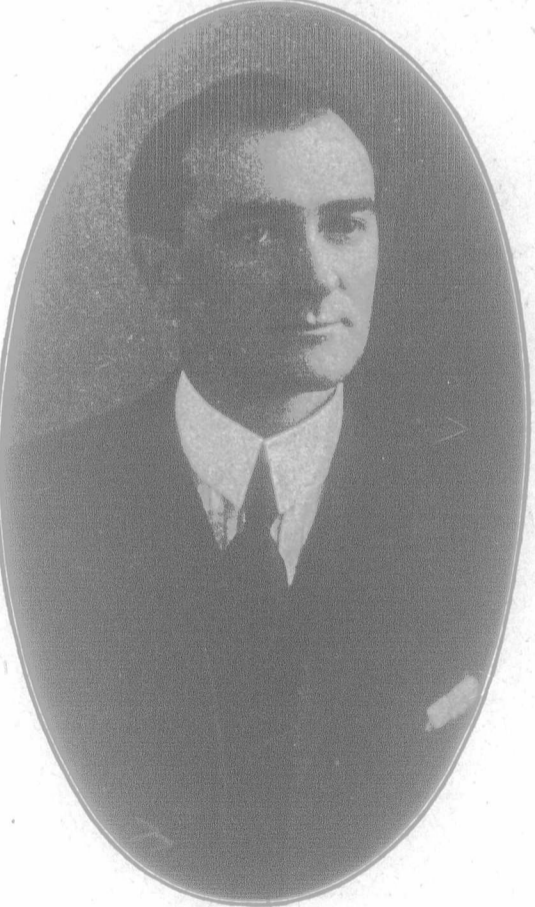
that the leaves are corrugated or puckered all over and mottled with faint, light-green spots. It is most prevalent on Green Mountains and is most readily seen during dull, cool weather, such as we had in June. Diseased plants may not be much reduced in size unless the attack is severe, but they are less vigorous and less well able to withstand drought and tip-burn. The yield is not reduced to the same extent as in Leaf Roll, but it seldom exceeds two-thirds of the normal. The eating or keeping qualities of the potatoes are not affected, and there is no sign by which diseased tubers may be recognized.

The trouble is spread by the use of seed from affected plants as in the case of Leaf Roll. It is not known definitely if it spreads in the field or if the climatic conditions of Ontario induce it in healthy potatoes, but both may occur. It certainly often appears in a much more aggravated form in Ontario than in the Maritime Provinces for instance.

The control of Leaf Roll, Mosaic and some similar but less common diseases can be readily deduced from what has been said above. It consists of the periodical introduction of healthy seed from districts in which Leaf Roll at least is naturally absent. Such districts as these may be found in Northern Ontario and the Maritime Provinces. This course is being followed with success by many growers and the experiments now being conducted by the Ontario Department in every county in the Province, to compare New Ontario, New Brunswick and Old Ontario seed will show to what extent it should be extended. The Dominion Department of Agriculture is also making a comprehensive survey of Old Ontario to determine to what extent these diseases are present. This information is needed before comprehensive control measures can be suggested. The importation of healthy seed is the only course open, but fortunately it gives a perfect control of the disease if the seed is imported sufficiently frequently. The selection of healthy plants from partly diseased crops in Old Ontario with a view to using their product for seed is not recommended.

It also follows from the fact that none of the diseases mentioned can be detected in the tubers that the only guarantee possible to the man who buys seed is a knowledge of what the growing crop looked like the previous year. The Dominion Government maintains an inspection service in the principal seed-growing districts for this purpose. The crops are inspected before and after harvest, and tags are supplied to growers who have potatoes fit for seed purposes to mark their stock with.

FARM BULLETIN.



The late Donald Johnson.

Fruit Commissioner Succumbs at His Old Home.

Donald Johnson, the Dominion Fruit Commissioner, passed away suddenly at his old home, near Forest, on Sunday, August 4. His health had not been good for some time so he returned about a month ago to the Johnson farm at Forest to recuperate, but his condition was not considered critical until near the time of his death. The news came as a shock to his personal friends, and fruit growers generally will share in the sad bereavement with his family and relatives.

For many years the late Donald Johnson was an active and progressive fruit grower at Forest, Ontario, where, in conjunction with his brother, James Johnson, he operated on an extensive scale. All this while he took an active part in public affairs concerning his chosen industry and his activities in this regard date from the time he was sixteen years of age. About fifteen years

ago Mr. Johnson became interested in the co-operative movement and took a leading part in the organization of the Forest Fruit Growers' Association, one of the first in the Province. For six years he was President and Manager of this Association. He was also President of both the Co-operative Fruit Growers of Ontario and the Ontario Fruit Growers' Association, and always identified himself with any movement for the extension or improvement of the industry. His rare qualifications marked him as a successor to the late Alex. McNeil, and in the spring of 1914 he reluctantly accepted the Commissionship and assumed new and responsible duties at Ottawa. The late Commissioner proved himself quite as popular as an administrative head of the Fruit Branch as he had in affairs of more local importance, and the recently enacted amendments to the Inspection and Sales Act are evidence of his leadership and administrative ability. Earnestness and sincerity to a marked degree were characteristics of the late Commissioner, and for him the routine of Governmental office had little attraction. He presided over the affairs of the industry for the good he might do his fellow growers, but in his work prejudice was not allowed to make his rulings or the administration of the Act bear unjustly on the producer or consumer. Fruit growers will regret the death of such a staunch character and warm personal friend.

Niagara Peninsula Holstein Excursion.

Eight cars full of interested breeders of Holstein-Friesian cattle, members of the Niagara Peninsula Holstein-Friesian Club, made a very interesting excursion through the dairy districts of Brant and Oxford Counties, on Thursday and Friday of last week, under the direction of E. K. Hampson and D. Elliott, agricultural representatives for the Counties of Welland and Lincoln, respectively. The party was guided through the Counties of Brant and Oxford by R. Schuyler and G. R. Green, agricultural representatives for these Counties. The primary purpose, of course, was to study type and breeding in pure-bred Holstein cattle, and some of the very best herds in these two Counties were inspected. The party was accompanied by W. A. Clemons, Secretary of the Holstein-Friesian Association, St. George, Ontario, and many points of practical value were picked up during the course of the trip. Only three stops were made in Brant County, the herds of Messrs. Smith and E. C. Chambers being visited, as well as that of W. G. Bailey & Son. Needless to say, excellent individuals were seen in the herds of each of these men, and much interest was evidenced by members of the party in the milk records of individual animals and their winnings at past shows. Friday morning the herds of W. Rivers & Son, Ingersoll, and R. J. Kelly, Culloden, were inspected. The former does a great deal of yearly test work, while the latter has a 300-acre farm upon which 107 acres of oats, 25 acres of wheat and 12 acres of barley are being grown this year, together with 14 acres of Wisconsin No. 7 corn for the silo. One hundred and fifty-two loads of hay were drawn in this year, and of this number it was noticeable from Mr. Kelly's record that thirty-eight loads had been drawn in after supper during a period of twenty days.

In the afternoon the farms of Wm. Bell, M. L. Haley and M. H. Haley, Springford, were visited. Mr. Bell has about fifteen head of grades during the winter and is milking about twenty head now, the milk from the herd being sent to Toronto. From sixty to seventy head of hogs are bought in and fed each year for market. The farm is 200 acres in size. M. L. Haley is gradually reducing the size of the herd kept on his farm of 120 acres. At present he has about thirty-five cows, but the labor situation has made it necessary to cut down somewhat in his dairy operations. His brother, M. H. Haley, is evidently a believer in the small farm, since he manages to keep a herd of from forty to fifty head on no more than 100 acres of land, and is able to grow all the roughage he needs. Further, Mr. Haley stated that he sometimes thought he had a little too much land. From this farm the party broke up and the various cars full of pleased visitors took their different routes homeward. The trip was very successful and was made more pleasant by the hearty welcome extended by the Oxford and Brant County breeders. At two places on the second day the party was given light refreshments, which were much appreciated in each case. It is planned, if possible, that the Oxford County breeders will return the visit sometime this season, provided that some suitable time can be found when the farm work will not suffer.

Dr. Creelman Will Visit England.

Dr. G. C. Creelman, Commissioner of Agriculture and President of the Ontario Agricultural College, intends to visit England in the near future, where he will make a study of the khaki universities which are conducted at many military camps throughout England and France. The curriculum and the manner of teaching adopted at these institutions have a direct relation to the work carried on at the O. A. C., for many of the men returning to Canada will wish to complete their courses here and finish their agricultural training commenced in the Old Country. Dr. Creelman also intends to visit returned men who have been placed on the land in England. He will study the system under which this has been done and ascertain how the soldier-settler views the proposition and how he is progressing as a farmer. A study will also be made of live stock conditions in Great Britain so our future policy may be determined.

Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending August 1.

Receipts and Market Tops.

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

	CATTLE						CALVES					
	Receipts		Top Price Good Steers (1,000-1,200)				Receipts		Top Price Good Calves			
	Week Ending Aug. 1	Same Week 1917	Week Ending July 25	Week Ending Aug. 1	Same Week 1917	Week Ending July 25	Week Ending Aug. 1	Same Week 1917	Week Ending July 25	Week Ending Aug. 1	Same Week 1917	Week Ending July 25
Toronto (Union Stock Yards)	4,439	2,577	4,857	\$14.75	\$11.00	\$14.50	1,050	570	1,002	\$16.75	\$14.50	\$15.50
Montreal (Pt. St. Charles)	1,050	598	640	12.50	10.50	12.60	734	717	1,513	15.00	13.00	15.50
Montreal (East End)	766	866	583	12.50	10.50	12.60	473	347	1,076	15.00	13.00	15.50
Winnipeg	5,686	3,837	6,738	14.00	8.25	14.00	299	301	437	13.50	11.00	14.00
Calgary	3,346	937	3,396	14.25	8.50							
Edmonton	777	656	1,479		7.75	11.75	113	25	299		12.00	

	HOGS						SHEEP					
	Receipts		Top Price Selects				Receipts		Top Price Good Lambs			
	Week Ending Aug. 1	Same Week 1917	Week Ending July 25	Week Ending Aug. 1	Same Week 1917	Week Ending July 25	Week Ending Aug. 1	Same Week 1917	Week Ending July 25	Week Ending Aug. 1	Same Week 1917	Week Ending July 25
Toronto (Union Stock Yards)	4,252	5,563	4,318	\$20.00	\$17.00	\$19.25	1,713	1,024	1,919	\$23.00	\$16.50	\$22.00
Montreal (Pt. St. Charles)	1,213	645	1,404	20.15	16.25	19.50	1,180	944	1,776	18.00	15.50	21.00
Montreal (East End)	769	444	1,095	20.15	16.25	19.50	950	461	962	18.00	15.50	21.00
Winnipeg	6,372	4,848	6,683	19.50	15.65	19.15	426	179	851	16.00	12.00	17.00
Calgary	2,591	2,031	2,863	18.50	15.25	18.10	738	1,176	936		13.00	
Edmonton	1,973	327	1,570	18.00	15.10	17.75	96		168			

Market Comments.

Toronto (Union Stock Yards.)

While good butcher steers and heifers, weighing ten hundred pounds and upwards, were in demand at an advance of about 25 cents per hundred, bulls, cows and light-weight butcher cattle were slow of sale all week at a decline of 25 to 50 cents per hundred and many were difficult to dispose of. As the Allied Governments require cattle dressing five hundred pounds and over, the lighter cattle are unsuitable for this trade, also local demand for light beef is limited due to a combination of causes, including beefless days and high prices, with the result that light cattle are selling lower in proportion than are the heavier classes. Too much of this class of stock is being received at present, as in addition to supplies coming from Ontario points, receipts during the week were augmented by shipments of about thirty carloads that went direct to local plants. It looks as though it would be a good policy on the part of farmers to hold their cattle until they have reached a weight in excess of ten hundred pounds, together with a good finish. A few loads of heavy cattle were on sale during the week and the best of these were purchased by a Detroit firm. Two head of heavy steers weighing fourteen hundred pounds sold at \$15.50 per hundred; a load of twenty head weighing twelve hundred and thirty pounds sold at \$15.25 per hundred, the top price for a straight load; another load of equal weight sold at \$14.90, and a load averaging thirteen hundred pounds per animal was marketed at \$14.65; other good sales of steers in these weights were made from \$14 to \$14.75 per hundred. Of steers weighing from ten hundred to twelve hundred pounds, one load of eleven hundred and seventy pounds sold at \$14.50; another load at \$14.40, while several loads were weighed up from \$14 to \$14.50. Medium to good cattle in these weights went to the scales at \$13 to \$13.75 per hundred. For steers and heifers under ten hundred pounds, \$13 was about the top price, a number of head realizing that figure, while most of those of good quality sold from \$12.25 to \$12.75, medium steers and heifers from \$10.50 to \$11.50, and common cattle from \$8 to \$10. Bulls and cows of good quality were in demand but common lots were hard of sale. Choice cows sold from \$10 to \$10.50, good from \$9 to \$9.75, and common \$7 to \$8. Bulls moved at about equal prices with the cows. Cannery and cutters sold from \$6 to \$6.75 per hundred. Stockers and feeders were in fair demand, good feeders realizing from \$10 to \$11, and good stockers from \$9 to \$10. There was little change in the calf market although common calves were slow of sale; choice veal is moving from \$16 to \$16.75 per hundred, medium from \$12 to \$14, and common from \$9 to \$11. Receipts of cattle for the week totalled slightly under forty-eight hundred.

Lambs were lower at the beginning of the week, \$19.50 per hundred being the ruling price for tops. On Wednesday, a sharp advance was noted with choice lambs selling up to \$21.50. The market closed with a steady undertone with one deck selling at \$23. Sheep were weighed up at prices unchanged with those prevailing at the close of the previous week.

CLASSIFICATION	No.	TORONTO (Union Stock Yards)			MONTREAL (Pt. St. Charles)		
		Avg. Price	Price Range Bulk Sales	Top Price	No.	Avg. Price	Price Range Bulk Sales
STEERS							
heavy finished	142	\$14.75	\$14.25-\$15.00	\$15.25			
good	217	13.70	13.00-14.00	14.75	11	\$12.50	\$12.50-\$12.50
1,000-1,200 common	23	12.25	11.50-12.50	13.00			
STEERS							
good	611	12.97	12.00-13.25	13.50	87	11.40	10.40-\$12.50
700-1,000 common	322	10.43	9.50-10.75	11.50	166	9.25	8.75-9.75
HEIFERS							
good	418	13.22	12.50-13.50	14.00	11	9.75	9.50-10.00
fair	364	10.39	10.00-11.50	11.50	34	9.00	8.50-9.25
common	36	9.07	8.50-9.75	10.00	127	8.25	8.00-8.50
COWS							
good	517	9.75	9.25-10.50	10.50	55	9.60	9.00-9.75
common	746	7.88	7.50-8.50	9.00	225	8.00	7.75-8.50
BULLS							
good	50	10.00	9.75-10.50	10.75	2		
common	96	8.04	7.50-8.50	9.75	249	7.90	7.50-8.50
CANNERS & CUTTERS	132	6.50	6.00-6.75	6.75	54	6.25	6.00-7.00
OXEN							
veal	1,045	14.28	13.00-16.00	16.75	2	9.00	9.00-
grass	5	8.00	7.00-9.00	9.00	706	9.00	7.50-13.00
STOCKERS							
good	252	9.75	9.50-10.00	10.00	28		
fair	213	8.68	8.00-9.00	9.50			
FEEDERS							
good	213	10.75	10.50-11.00	11.00			
fair	87	10.25	10.00-10.50	10.50			
HOGS							
selects	3,825	19.59	19.00-20.00	20.00	953	20.10	20.10-
heavies	99	19.36	19.00-20.00	20.00	53		
(fed and watered) lights	161	18.44	17.00-19.00	19.00	53	19.75	19.75
sows	161	16.73	16.00-18.00	18.00	93	17.00	17.00-
stags	6	15.60	15.00-16.00	16.00	7		
LAMBS							
good	1,306	20.12	19.00-23.00	23.00	332	16.10	16.10-
common	55	17.85	17.00-19.00	19.00	679		
SHEEP							
heavy	106	11.04	10.50-12.00	12.50	76	13.00	13.00-
light	152	13.60	12.50-15.00	15.00	93	11.75	11.00-12.00
common	94	8.42	7.00-10.00	10.00			

Hogs sold on Monday at \$19 per hundred, fed and watered, and advanced 25 cents, 65 cents and 10 cents per hundred on Tuesday, Wednesday and Thursday, respectively, the market closing on the latter day at \$20 per hundred.

Of the disposition from the Yards for the week ending July 25, Canadian packing houses purchased 564 calves, 82 bulls, 139 heavy steers, 3,200 butcher cattle, 4,490 hogs and 1,403 sheep. Local butchers purchased 247 calves, 291 butcher cattle, 117 hogs and 354 sheep. Canadian shipments consisted of 52 calves, 54 milch cows, 244 stockers, 194 feeders and 5 hogs. Shipments to United States' points consisted of 169 calves, 54 butcher cattle, 50 stockers and 111 feeders.

The total receipts from January 1 to July 25, inclusive, were: 145,056 cattle, 39,963 calves, 213,285 hogs and 23,352 sheep; compared to 133,273 cattle, 31,950 calves, 280,508 hogs and 22,151 sheep received during the corresponding period of 1917.

Montreal.

Trading in cattle although a little slow was quite steady and the offerings which amounted to about six hundred more than those of the previous week were all sold. Good quality steers of medium weight were not in strong demand as the packing houses are paying more

attention to canners, bulls and common cows for boning and freezing and seem willing to purchase considerable numbers of these classes. Buyers are expecting very heavy receipts during late summer and fall. There was a fair market for fat cattle of good weights, irrespective of breeding, at prices ranging from \$9 to \$10 per hundred. One straight load of steers averaging about ten hundred and seventy-five pounds sold at \$12.50 per hundred, being possibly weighed up at 50 cents per hundred less than were animals of equal quality the previous week. Twenty-six head of steers averaging nine hundred and ten pounds sold at \$10.75, and practically all the remainder of the cattle offered were weighed up at \$9.75 or under. The top price for medium quality light steers was \$9.75 per hundred, one mixed load of steers, heifers and cows selling at that price, while most of the light, common steers sold at \$8.75 and \$8.80. A number of fairly fat cows sold at from \$9 to \$9.75, one load of five head averaging slightly under eleven hundred pounds selling at the latter figure. Of cows grading between good and canner, the majority sold from \$7.75 to \$8.50. There were no bulls of better quality than good, strong bolognas offered and the best of these sold at \$9. Among those selling at that figure were, one weighing seventeen

hundred and thirty, one weighing fifteen hundred and thirty, and three weighing together a total of forty-one hundred and eighty-five pounds. Most of the sales of those of lesser quality were made from \$7.50 to \$8.50, at an average price slightly below \$8. The run of calves was the lightest of the present season. Sales were made from \$7.50 to \$15. A good demand still exists for calves of quality.

Lambs were subject to a cut of \$4 per hundred, nearly all sales being made at \$16. Sheep sold at unchanged prices. Hogs were further advanced in price during the week, short-run selects selling at \$20.25 per hundred off cars, on Monday. The market held firm during the remainder of the week under light receipts and a good demand.

PT. ST. CHARLES.—Of the disposition from the Yards for the week ending July 25, Canadian packing houses and local butchers purchased 1,352 calves, 39 canners and cutters, 150 bulls, 407 butcher cattle, 1,404 hogs and 1,776 lambs. Canadian shipments consisted of 161 calves, 26 cattle, and 18 milch cows. There were no shipments to United States points during the week.

The total receipts from January 1 to July 25, inclusive, were: 19,352 cattle, 47,773 calves, 361,459 hogs and 11,022 sheep; compared to 20,721 cattle, 41,521 calves, 49,166 hogs and 8,196 sheep,

Markets

Agriculture, Live
Intelligence Division

Week Ending

July 25	\$15.50
July 26	15.50
July 27	15.50
July 28	14.00
July 29	14.00
July 30	14.00

Week Ending

July 25	\$22.00
July 26	21.00
July 27	21.00
July 28	17.00
July 29	17.00
July 30	17.00

Top Price

July 25	\$12.50
July 26	12.50
July 27	9.75
July 28	10.00
July 29	9.25
July 30	8.50

Top Price

July 25	9.75
July 26	8.50
July 27	9.75
July 28	9.00
July 29	7.25
July 30	9.00

Top Price

July 25	15.00
July 26	13.00
July 27	12.00
July 28	20.15
July 29	19.75
July 30	17.00

Top Price

July 25	13.00
July 26	12.00
July 27	15.00
July 28	18.00
July 29	13.00
July 30	12.00

Top Price

July 25	15.00
July 26	14.00
July 27	13.00
July 28	18.00
July 29	13.00
July 30	12.00

Top Price

July 25	\$19.50
July 26	19.50
July 27	19.50
July 28	19.50
July 29	19.50
July 30	19.50

Top Price

July 25	\$19.50
July 26	19.50
July 27	19.50
July 28	19.50
July 29	19.50
July 30	19.50

INCORPORATED 1885

The Molsons Bank

invites farmers to discuss their financial requirements at any of their many branches.

If reasonable accommodation will enable them to increase production, they should apply to the local manager for it.

Savings Department at every Branch.

Interest at Highest Current Rate.

received during the corresponding period of 1917.

EAST END.—Of the disposition from the Yards for the week ending July 25, Canadian packing houses and local butchers purchased 962 calves, 548 butcher cattle, 1,095 hogs and 962 lambs. Canadian shipments consisted of 35 cattle. Shipments to United States points were made up of 114 calves.

The total receipts from January 1 to July 25, inclusive, were: 18,057 cattle, 26,234 calves, 22,866 hogs and 9,503 sheep; compared to 22,287 cattle, 33,133 calves, 27,468 hogs and 9,571 sheep, received during the corresponding period of 1917.

Buffalo.

Cattle.—Another pretty liberal run of cattle at Buffalo last week, and considering the general class of stuff offered—which were grassers and running in the main to the medium and commoner grades—a fairly satisfactory market was had. Canada supplied around seventy-five to eighty loads, mostly steers and heifers, steers running to the medium to fair grades and selling full strong to fifteen cents to a quarter higher than the previous week. On the general run of lighter, commoner grassy butchers, trade looked a full quarter lower. Stockers and feeders were in light demand by reason of the dry weather, around a dozen loads being out of Winnipeg. Bulls sold a quarter lower generally, and a good, strong trade was had on milk cows and springers. Best native steers sold at \$17, best Canadians at \$16, although choice, heavy grades were quotable up to \$16.50, while in the handy butchering steer line from \$15 to \$15.50 took the best; general run of good butchering heifers ranging from \$11.50 to \$12. Offerings for the week totaled 5,350 head, as against 6,550 head for the previous week, and as compared with 5,575 head for the corresponding week a year ago. Quotations:

Shipping Steers, Natives.—Choice to prime, \$17 to \$17.50; fair to good, \$16.50 to \$16.75; plain and medium, \$13.50 to \$15; coarse and common, \$11.50 to \$12.50. Shipping Steers, Canadians.—Best, \$15.50 to \$16.25; fair to good, \$14.25 to \$15.25; common and plain, \$11.50 to \$12.50.

Butchering Steers.—Choice heavy, \$16.50 to \$17; fair to good, \$15.25 to \$16; best handy, \$14.75 to \$15.25; fair to good, \$12 to \$13.50; light and common, \$9.50 to \$10.50.

Cows and Heifers.—Best heavy heifers, \$13 to \$13.50; fair to good, \$11 to \$12; good butchering heifers, \$10.50 to \$11.50; very fancy fat cows, \$11 to \$11.50; best heavy fat cows, \$9.50 to \$10.50; good butchering cows, \$9 to \$9.50.

Bulls.—Best heavy, \$11 to \$11.50; good butchering, \$10 to \$10.50.

Stockers and Feeders.—Best feeders, \$9.50 to \$10; common to fair, \$8.25 to \$9; best stockers, \$9 to \$9.50; fair to good, \$8.25 to \$8.75; common, \$7.50 to \$8.

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

Hogs.—Receipts continued to run very light last week, and prices struck the highest level in the history of the Buffalo yards. Monday a few handy hogs sold at \$19.70, with a deck of pigs \$19.75, but the general range was from \$19.50 to \$19.65. Roughs, \$17 to \$17.25, and stags \$13 down. Sharp advances were noted

the next four days. Friday, which was the high day, top was \$20.70, bulk sold at \$20.60 and \$20.65, roughs ranged up to \$17.75 and \$18, and stags \$14 down. The past week's receipts totaled 11,700 head, as compared with 9,220 head for the week before, and 15,800 head for the same week a year ago.

Sheep and Lambs.—Last week started with top lambs selling from \$16.50 to \$17, culls went from \$14 down, best yearlings moved at \$14 and \$14.50, and ewes, which made up the bulk of the sheep receipts, ranged downward from \$13. The balance of the week saw sheep selling steady and lambs were higher. Tuesday and Wednesday best springers were quoted at \$17 and \$17.25; Thursday's top was \$17.50, and Friday choice lots reached up to \$18, with culls going from \$15.50 down. For the past week receipts were 2,000 head, being against 2,618 head for the week previous, and 2,150 head for the same week a year ago.

Calves.—Best veals on the opening day of last week sold generally at \$17.50, culls ranged from \$15 down, weighty fat calves, which were hard to sell, ranged from \$10 to \$12, and the rough kinds brought from \$6 to \$9. The next two days the trade was about steady, Thursday the bulk moved at \$18 and Friday the general price for choice handy veals was \$19. Cull calves on the fifth day of the week sold up to \$16, and weighty calves, owing to the limited supply, also sold to better advantage. The past week's receipts totaled 2,700 head, as against 3,532 head for the week previous and 1,950 head for the same period a year ago.

Toronto.

Live stock receipts at the Union Stock Yards, West Toronto, on Monday, August 5, consisted of 133 cars, 2,188 cattle, 175 calves, 1,112 hogs, and 1,443 sheep and lambs. Active market. Good, heavy steers 25 to 50 cents higher; medium steers, 15 to 25 cents higher; common cattle steady; cows 15 to 25 cents higher; bulls, stockers, feeders, and milkers and springers, steady. Lambs \$4 lower; top \$19 per hundred. Sheep and calves steady. Hogs, \$20.00, fed and watered.

Breadstuffs.

Wheat.—Ontario (basis in store Montreal). No. 2 winter, per car lot, \$22.22. Manitoba wheat (in store, Fort William, including 2½c. tax)—No. 1 northern, \$2.23½; No. 2 northern, \$2.20½; No. 3 northern, \$2.17½; No. 4 wheat, \$2.10½. Oats—Manitoba (in store, Fort William) No. 2 C. W., 86½c.; extra No. 1 feed, 84½c.

Oats.—Ontario, No. 2 white, 85c. to 86c., nominal; No. 3 white, 84c. to 85c., nominal, (according to freights outside).

Rye (according to freights outside)—No. 2, nominal.

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

Peas (according to freights outside)—No. 2, nominal.

Barley (according to freights outside)—new crop, \$1.20 to \$1.22.

Buckwheat (according to freights outside)—nominal.

Flour.—Ontario (prompt shipment). War quality, \$10.65, Montreal; \$10.65, Toronto. Manitoba flour, (Toronto, new bags) war quality, \$10.95.

Hay and Millfeed.

Hay.—No. 1, per ton, car lots, \$16 to \$17; mixed, \$14 to \$15.

Straw.—Car lots, per ton, \$8 to \$8.50. Bran.—Per ton, \$35; shorts, per ton, \$40.

Hides and Wool.

Prices delivered, Toronto: City Hides.—City butcher hides, green, flat, 13½c.; calf skins, green, flat, 30c.; veal kip, 22c.; horse hides, city take off, \$6 to \$7; sheep, \$3.50 to \$5.50.

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

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

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

Country Produce.

Butter.—The butter market kept practically stationary in price, selling as fol-

The Farmer-Banker Alliance



You go to your lawyer for legal advice; to the doctor for medical advice; why not to The Merchants Bank for financial advice?

If you want a loan to buy cattle, hogs or equipment—if you want information as to how to invest money—come to those who make a business of financial matters, and are in a position to give you sound and impartial advice.

THE MERCHANTS BANK

Head Office: Montreal OF CANADA Established 1864. with its 102 Branches in Ontario, 32 Branches in Quebec, 19 Branches in Manitoba, 21 Branches in Saskatchewan, 53 Branches in Alberta, and 8 Branches in British Columbia serves Rural Canada most effectively. WRITE OR CALL AT NEAREST BRANCH.

lows on the wholesales: Creamery, fresh-made pound squares, 46c. to 47c. per lb.; creamery solids, 45c. to 46c. per lb.; dairy, 40c. to 42c. per lb.

Oleomargarine, 32c. per lb.

Eggs.—New laid also sold at unchanged prices during the week, selling as follows, wholesale: New-laid No. 1, 48c. to 49c. per doz.; selects, 51c. per dozen.

Cheese.—New, 25c. per lb.; new twins, 25½c. per lb.

Poultry.—Spring chickens, 40c. per lb.; roosters, 18c. per lb.; fowl, 3½ lbs. and under, 21c. per lb.; fowl, 3½ lbs. to 5 lbs., 24c. per lb.; fowl, 5 lbs. and over, 26c. per lb.; ducklings, 30c. per lb.; turkeys, young, 30c. per lb.; turkeys, old, 25c. per lb. These quotations are for live weight, now being paid to the producer.

Wholesale Fruits and Vegetables.

Apples.—Home-grown apples are gradually increasing, the 11-qt. baskets selling at 50c. to 75c., and \$1 to \$1.25 for 11 qt. lenos.

Blueberries.—Prices declined and then advanced, closing at \$1.25 to \$2.75 per 11 quarts.

Cherries.—Sour cherries command high prices, selling at 85c. to \$1 per 6 qts., and \$1.50 to \$1.85 per 11 qts.

Currants.—Red currants have gone steadily upward, selling at 16c. to 20c. per box; 90c. to \$1 per 6 qts., and \$1.75 to \$2.25 per 11 qts; blacks selling at \$2.75 to \$3 per 11 qts., and \$1.50 to \$1.75 per 6 qts.

Gooseberries.—Receipts were very light with the price advancing to \$2.25 to \$2.50 per 11-qt. basket.

Peaches.—Home-grown peach receipts have been light, and quality only ordinary, selling at 50c. to 65c. per 6 qts.

Plums.—Plums are gradually increasing selling at 60c. to 85c. per 6 qt. flats, and \$1 per 6-qt. lenos.

Raspberries kept about stationary, selling at 26c. to 30c. per box.

Tomatoes first declined and then firmed, selling at 60c. to 85c. per 11 qts. for outside grown, and hot-house at \$1 to \$1.50 per 11 qts.

Beans.—Receipts were heavy and prices about stationary at 30c. to 40c. per 11 quarts.

Corn is gradually increasing; now selling at 25c. to 30c. per dozen.

Cucumbers declined, selling at 30c. to 50c. per 11-qt. basket.

Eggplants are beginning to come in, selling at \$1.50 per 11 qts., and \$2 per 16 qts.

Potatoes.—Receipts are increasing rapidly, the price materially declining; now selling at \$2 to \$2.25 per bag.

Chicago.

Hogs.—Butchers', \$19.30 to \$19.75; light, \$19.40 to \$19.80; packing, \$18.30 to \$19.20; rough \$17.90 to \$18.25; pigs, good and choice, \$18 to \$18.75.

Cattle.—Calves steady. Beef cattle good. Choice and prime, \$17.50 to \$18.75; common and medium, \$10.50 to \$17.50; butcher stock cows and heifers, \$7.50 to \$14.25; canners and cutters, \$6.35 to \$7.50; stockers and feeders, good, choice and fancy, \$10 to \$13; inferior, common and medium, \$7.75 to \$10; veal calves, good and choice, \$16.50 to \$17.

Sheep.—Washington lambs \$17.90; best natives, \$17.25; good feeding wethers, \$12; lambs, choice and prime, \$17.25 to

\$18; medium and good, \$15.50 to \$17.25; culls, \$12 to \$14.20; ewes, choice and prime, \$13.25 to \$13.75; medium and good, \$11 to \$13.75; culls, \$4.50 to \$9.

Cheese Markets.

Alexandria, 22¼c.; Montreal, finest easterns, 22½c. to 23c.; Iroquois, 22¼c.; Cornwall, 22¼c.; Napanee, 22¼c.—no sales; Mont Joli, Quebec, 21¼c.; New York, specials, 25½c. to 26c.; average run, 25c. to 25½c.

Thousands of Men Required for Harvesting in Western Canada.

Thousands of men are required to help in the work of harvesting the Western crop. The C. P. R. has completed arrangements to transport to the West this great army of workers.

For those going from points in Ontario to Manitoba, Saskatchewan and Alberta extra trains will be operated through to Winnipeg (the distributing point) without change.

Going trip West, \$12 to Winnipeg. Returning trip East, \$18 from Winnipeg.

Consult C. P. R. Agents regarding transportation arrangements west of Winnipeg.

Going date: August 20th and August 29th—All stations in Ontario, west of Smith's Falls, up to and including Toronto, on Lake Ontario Shore Line, and Havelock—Peterboro Line, also from stations Kingston to Renfrew Junction, inclusive, and from stations on Toronto-Sudbury line. From stations on Sault Ste. Marie branch. From stations on main line, Beauceau to Franz, inclusive. From stations, Bethany Junction to Port McNicoll and Burketon-Bobcaygeon.

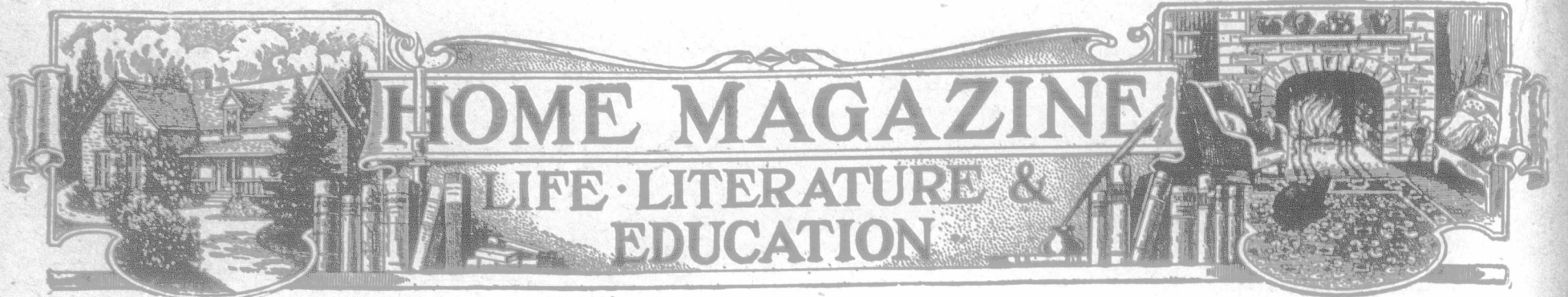
August 22nd and August 29th—From stations west and south of Toronto, up to and including Hamilton and Windsor, Ont., on Owen Sound, Walkerton, Teeswater, Wingham, Elora, Listowel, Goderich, St. Mary's, Port Burwell and St. Thomas branches, and stations Toronto and north to Bolton, inclusive.

Further particulars from any C. P. R. Ticket Agents, H. J. McCallum, C. P. A. London, Ont., or W. B. Howard, D. P. A. Toronto, Ont. Advt.

Standard Live Stock Feeds.

A good deal of interest is being shown by Ontario Farmers in an announcement of the Department of our last issue in connection with "Standard Dairy Cattle and Hog Feeds for Ontario Farmers" which the Ontario Department of Agriculture is projecting with the assistance of the Agricultural section of the Organization of Resources Committee. In order to avoid confusion farmers should take note that the proper party to write to for prices, deliveries, etc., is Mr. F. C. Hart, Director of Co-Operation and Markets Branch, Ontario Department of Agriculture, Toronto.

It has been suggested by a Canadian officer who was formerly the owner of a Western ranch, that after the war the thousands of tanks without occupation may be utilized as tractors to draw specially devised ploughs and harrows in the first rough cultivation of the destroyed crater areas.



Purple Asters.

I had a garden when I was a boy
Wherein I planted fondly many a flower,
And watched it grow until I felt the joy
That every gardener feels, as Nature's
power
To make rare perfumes burst from stalks
of green
And dash rich colors o'er dull earth is
seen.

In that old garden, bright with varied
bloom
From early tulip time till winter fell,
It seemed as if no sombre growth or
gloom
Had any place, or could desire to dwell;
Yet o'er one corner wildness still held
sway,
And there, I always felt, a shadow lay.

In that strange spot pale purple asters
came.
When earth wore gorgeous colors on her
breast.
And fields were ripe, and autumn's flood of
flame
From scarlet maples swept from east to
west;
They bore no wealth of royal purple
bloom,
But seemed meet products of great Nature's
gloom.

They tell us there are gardens always clad
With summer's richest robes, awaiting
men
Beyond the stars, where hearts at once
grow glad,
And never to low levels sink again:
Perhaps even such light lands may need to
see
The purple asters of despondency.

ARTHUR W. H. EATON.

The Moon.

EDITOR "THE FARMER'S ADVOCATE":

I thought it would interest some of your readers to know something of what the development of the telescope has revealed to those interested in the celestial bodies. The nearest of these is the moon, which to the naked eye is by far the most beautiful. It is little more than one-quarter the diameter of the earth, or in bulk about forty-nine times smaller.

The moon not only demands our attention because of its nearness to us, but also because of the scenery which its surface reveals through the telescope. When studied carefully craters are seen upon it, which is evidence of extensive volcanic action which has long since ceased. Astronomers have also discovered cracks running from twenty-five to five hundred miles along its surface, which as yet have no explanation. These can be plainly seen in the landscape accompanying this article.

Any interested observer, even with the unaided eye, will notice that the moon always presents the same appearance. This is accounted for by the fact that it makes one rotation on its axis in exactly the same time as it takes to complete its circuit around the earth, holding the same hemisphere always towards us. This is never hidden from our view by clouds covering its surface, proving the absence of moisture or water of any description, and, therefore, there can be no atmosphere, no vegetation to adorn its slopes, no peaceful farms to relieve the landscape, and no animal life to enliven its valleys. Again in the absence of an atmosphere there can be no twilight, no diffusion of the sun's rays, but a sudden leap from day to night. And during the long days of three hundred hours the sun pours down torrents of unqualified light and heat, until the temperature rises higher than anything we ever experienced here, while during an equally long night

the heat is radiated into a clear sky until the temperature partakes of the other extremes. This crumbles the rocks, which are continually falling to lower levels.



Last Quarter.

If there is no atmosphere there can be no sound, neither the warning roar of the approaching avalanche nor the pleasing hum of industry. A solitary silence so great could not but excite a momentary interest, but the death-like stillness, the rugged scenes and harsh contrasts would soon fill us with awe, and make us hasten from a sight so weird.

SAM PAGE.

Some Conservation Hints.

Doing Without Sugar.

ALL of the fruits, it is well to remember in case of temporary sugar scarcity, may be canned without sugar and will keep just as well as with it. When time to serve—next winter or spring—sugar may be added, or the fruit may be sweetened with honey or corn syrup.

Another scheme to avoid using sugar at the present time is to dry the fruit. Prepare apples, peaches, pears and quinces by peeling and cutting in slices. Next put the slices in a cheesecloth bag or wire basket and blanch by dipping into boiling water about 3 minutes. This will prevent them from turning black. Next spread on screens and dry in the oven (with the door partly open), over the stove, or out of doors in the hot sun. A cover of wire netting will keep off

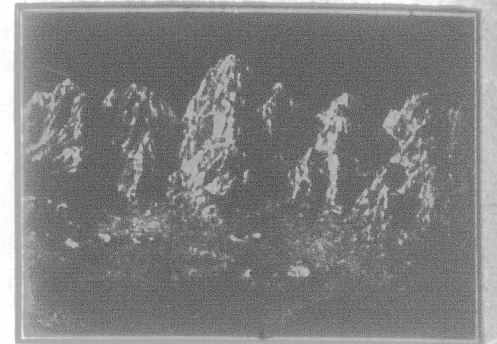
the insects. Store in old glass sealers, crocks or bags. Examine from time to time to see if free from insects. If one is discovered heat to 140 degrees in the oven and keep at that temperature for 2 hours.

Soft fruits, elderberries, raspberries, etc., dry very well but do not require blanching.

Drying Fall Vegetables.

Green beans, corn, peas, squash, cauliflower, cabbage and spinach may be dried precisely in the same way, the harder vegetables requiring 6 to 10 minutes blanching to remove acid tastes and odors. Always take the vegetables that are young and tender, and clean perfectly before drying. To dry corn boil it in salted water for 5 minutes

possess the advantage, in limited quarters, of requiring very little space for storage. A warm, perfectly dry attic is an ideal place for any kind of dried products,



Typical Lunar Landscape.

but they should be absolutely protected from mice.

Salted Vegetables.

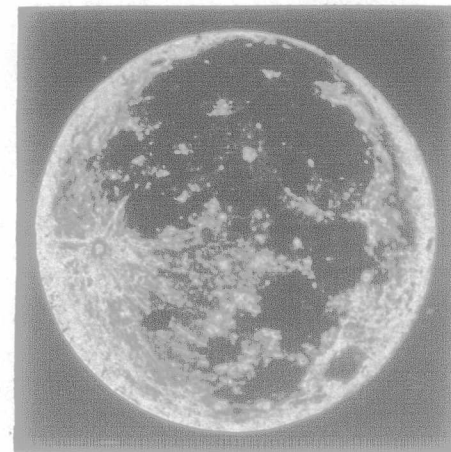
Some people like salted vegetables. The process is very simple, requiring only some good crocks and plenty of salt. To salt green beans, wash them and cut into inch-long pieces. Put in a perfectly clean crock, using first a sprinkling of salt, then an inch-deep layer of beans, then more salt and so on until the crock is full. One pound salt will be required for every 4 lbs. beans. Finally put a little extra salt over the top, cover with a clean white cloth and a board cover that will fit inside. Put a weight on top. After 24 hours raise the lid and cover with melted paraffine.

To salt corn, boil the cobs for 10 minutes, then cut off the kernels and pack the same as for beans.

Peas, greens, etc., may be put away for use in this way.

To prepare for the table soak long enough to remove the surplus salt, then drain, put on fresh water and cook as fresh ones.

Remember, hard as the task may be, it is an act of mercy humanely to put to sleep a hopelessly sick or injured animal.—Our Dumb Animals.

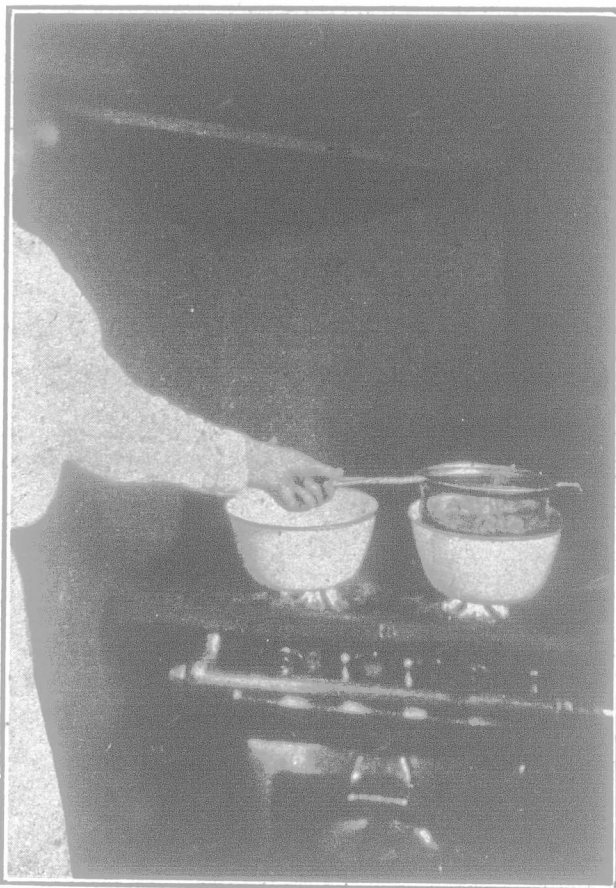


Full Moon.

then cut from the cob and dry, first in the oven, then in the sun, keeping it out for 3 days to a week.

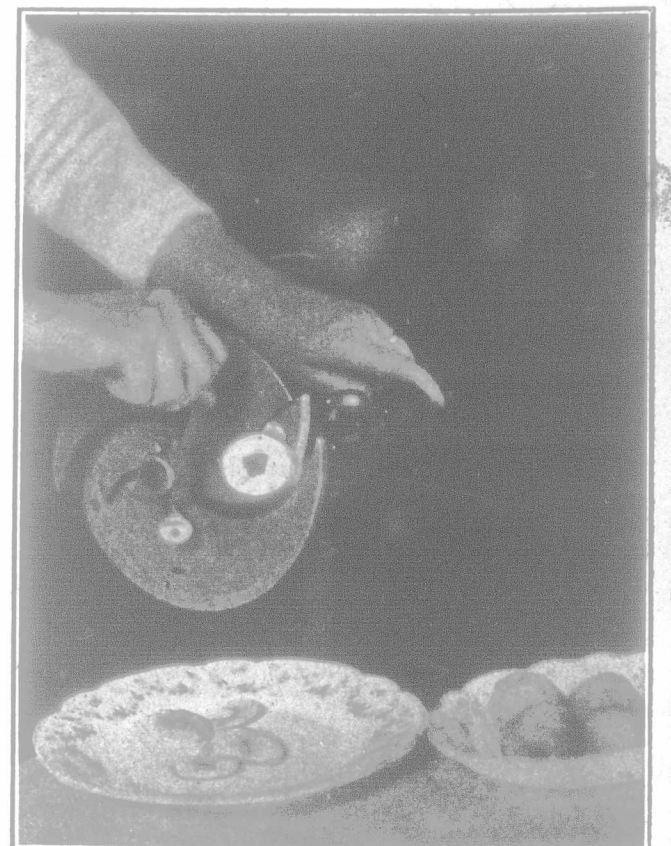
If one has no better drier an old sheet spread on a hot roof will do, but it should be taken in every night. Indeed this precaution should be observed with every kind of fruit or vegetable.

To prepare dried food for the table, wash it well, then soak in fresh water over night and finally cook slowly until tender in the same water. Dried fruits are, as a rule, excellent. Dried vegetables are not as good as canned ones, but



"Blanching."

After blanching in hot water, the products are dried.



A Rotary Slicer.

Used to prepare fruits and vegetables for drying.

The Ingle Nook.

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

DEAR Ingle Nook Friends—For our first paragraphs, this morning, I have chosen the subject "Seasonings and Flavorings,"—a good kitcheny subject, that, is it not? Yet August seems to bring with it—to the house-keeperish mind—thoughts of little else but canning and preserving, and cookery in general.

The subject was brought up before I left for the den this morning, by the remark of someone that, since fruit is so especially scarce and dear this season, people will have to take recourse to making jams and preserves of such homely things as tomatoes, squash and carrots; someone else adding that "anything can be made good to eat if you add just the right flavoring."

Possibly the observation has been made thousands of times; but have you ever stopped to think how very true it is, or how true the words of the chef who said that "the touch of flavoring makes the difference between a good cook and a bad one?"—For the atom too little leaves a dish "flat", and the atom too much makes it too strong.—Verily, realizing this, we have need to look well to the flavorings, and, of course, to their very important cousins, the seasonings.

Now for a few examples: Cook up ripe tomatoes with sugar and the result is an eatable but not especially delicious preserve. Add the right number of oranges to the mixture, however—about four to the kettleful of tomatoes, rind and all, put through the chopper—and the result is a very fine conserve, "fit to set before a king." Or, possibly, you may like lemons better than oranges. But in either case do not omit the rind, as much of the flavor is contained in it.

Similarly, lemon or orange juice and rind will transform all such "flat" fruits, as citron and elderberries, while, mixed with chopped carrot, the result is a very good marmalade, much cheaper—if not quite so delicious, as the fruit put up by itself. Indeed, all too few people know the virtues of these fruits—lemons and oranges—and especially of the grated rind. Add a little of it—grated before the fruit is cut—to bread pudding, rice, or anything else that seems insipid, and an entirely new dish is the result.

Speaking of elderberries—they combine splendidly with blue plums to make preserve or marmalade.

But have you ever experimented with combinations? If not, try these: Mix red currant juice with apple juice when making apple jelly and note the improvement. If you have no apples early enough, or currants late enough to fit in, melt a little pure currant jelly with the apple jelly before taking it off the fire.

Rhubarb, raw or canned, combines splendidly with any fruit you can think of in making preserves or marmalades, greatly reducing the expense if one has to buy fruit. The result may not look quite so attractive, but it will taste just as delicious, as the rhubarb seems to take up the flavor of anything it is cooked with. Try it with oranges, pineapple, berries, currants, gooseberries, plums, grapes, etc. Apples, also, combine extra well for jelly, with grapes, raspberry juice (which may be "put down" for the purpose), plums and grapes.

To come back, however, to the especial question of flavorings and seasonings:

Have you ever tried the effect of a little grated cheese mixed with mashed potatoes and cream, and baked? It makes a fine supper dish. Put the mixture in a baking dish that can be placed on the table. An old table-napkin may be pinned about the dish if it is not very attractive, but a pretty dish of brown or green needs nothing to cover it, while pyrex is, of course, the material *par excellence* for placing upon the table. Every house should possess an asbestos mat to protect the table from these hot dishes.

In all plain cakes the little dash of flavoring, either in the cake or its filling,

makes all the difference between an uninteresting "common" cake, and one that is deliciously unique; hence every house should have a shelf containing flavorings always ready for this purpose—vanilla, almond and lemon extract, nutmeg, cinnamon, caraway seed, etc. With these—and but one good plain cake recipe, one can have a great variety in cake. The flavorings are useful also, of course, for puddings and pudding-sauce.

FOR stews, meat-pies, croquettes, meat loaves and soups the *seasoning* is very important. As a rule a mixture of seasonings in one dish is not advisable but endless variety may be secured by adding, with the inevitable pepper and salt, a dash now of sage, now of thyme, or summer savory, chives, onion, celery, or even celery salt. As tastes differ one must experiment until one has secured the "just right" effect.

For fish stuffings almost any of the above seasonings may be used; but many people like a dash of nutmeg always with fish-sauce, while the fish themselves seem to demand sliced lemon, catsup or cucumbers as an accompaniment.

Just one word more: Have you ever kept on your pantry shelf a bottle of paprika? It looks like red pepper but is very much milder, and looks much prettier, as a rule, when sprinkled over a dish, than black pepper. Indeed, many of the best cooks refuse to use any other than white pepper and paprika for "hot" seasoning. If one likes curry-powder many dishes may be made with it—provided one has especial recipes—for curry-powder will brook no mistakes.

I have mentioned but a few of the flavorings and seasonings. Experiment will give the key to many more.

Fireless Cooker Uses.

DO you know that, provided the fireless cooker is cold when things are put into it, it will keep them cold, as well as it will cook things that are put into it hot? Of course, if it is to act as a refrigerator the things put into it must be cold; butter must be cold and firm, milk or cream cold, ect. It will keep ice-cream in good condition for a long time, especially if put in with ice around it.

The principle is the same, whether the cooker is used to cook, or as a refrigerator. The packing of the cooker keeps the heat in when boiling hot things are put into the cooker; it will also keep warm air out when cold things are put in. In other words, the cooker will neither let heat in nor out.

Now here are some recipes for cookery that can be very well carried out in the fireless:

Chicken Goulash.—Take a chicken, 6 large tomatoes, 6 onions, 1 green pepper if you have it, salt and pepper to taste. Prepare the chicken and let boil a few minutes over a flame, then finish cooking in the fireless. If a soapstone is used it will cook more quickly. Take out and when cool remove the bones and cut the meat in bits. Put these back in the liquor, add the peeled tomatoes, onions, chopped pepper and seasoning. Heat to boiling over a flame and put in the cooker for 2 hours, using one hot stone. The chicken may be cooked one day and made into goulash the next.

Smothered Chicken.—Wash the chicken and cut in pieces, sprinkle with flour, and seasoning and brown in hot drippings over a flame. Pour in $\frac{1}{2}$ cup boiling water and put in cooker between 2 hot stones $1\frac{1}{2}$ hours.

Meat Rolls.—One and one-half lbs.



The Girls at Laf-an-toil Cottage.

Who "work for Tom Carpenter," near Winona, Ont.

JUST a bit of personal experience to close:

Animated by the spirit of war-time economy, I invested, this summer, in some pairs of Woolworth's stockings. Now, perhaps some people can wear Woolworth's stockings without doctoring them. I find I can't—always at least. There is sometimes a ridgy seam across the toe, and it hurts me so that I have had to cut it off and put a patch on, herring-boning it down flat.

The point is this: that my little experiment shows the great necessity for perfect smoothness in the feet of socks made for soldiers. Soldiers can't sit down to remove shoes and "move" a seam or a knot if it presses too hard, and, moreover, their shoes are not always the best fit; a little knot under a point of pressure of a shoe, after hours of marching may cause intense agony. They should be spared this. It was a fine mind indeed that devised the "Kitchener" toe.

Do you remember the old-fashioned sock, narrowed off and drawn up into a tight little knob at the toe? That was all right provided one could fit the shoes carefully and choose those that left plenty of room for the knot; but I foretell that from this time forward it will take its place with the dodo and all the other things that have dropped into the limbo of the past.

JUNIA.

War-Time Cookery.

The following recipes have been sent out from the office of the Canadian Food Controller:

Potato Bread.—One lb. mashed potatoes; 1 quart water, or milk and water mixed; 1 oz. sugar; 1 oz. salt; 1 ounce fat; $\frac{1}{2}$ ounce yeast; 3 lbs. flour. Boil the liquid, add yeast to $\frac{1}{4}$ cup of it, cooled to lukewarm. Dissolve sugar, salt and fat in rest of liquid. When lukewarm add yeast and mashed potatoes. Beat well. Add flour and knead thoroughly. Let rise until doubled in bulk. Mould into loaves. Let rise again and bake.

Potato Scones.—One-half lb. mashed potatoes; 1 tablespoon flour; $\frac{1}{2}$ teaspoon baking powder; 1 egg; a little milk if needed; a little salt; dripping for frying. Mix salt and baking powder with the flour. Work potatoes in thoroughly. Beat the egg until frothy, then add, and beat well, also the milk if necessary. The mixture must be soft enough to spread slightly when put in the pan. Use either a griddle or thick iron frying-pan. Heat it, grease, and when beginning to smoke put in small tablespoons of the mixture. Cook moderately, and when brown on one side turn and brown on the other. Spread each, as finished, with butter and keep on a plate in the oven until ready to serve.

Potato and Tomato Pie.—One-half lb. cooked potatoes; $\frac{1}{2}$ lb. tomatoes; 1 tablespoon chopped onion; 2 tablespoons chopped parsley; 1 cup cheese sauce, egg sauce or brown sauce; 1 tablespoon chopped nuts or browned crumbs; 1 tablespoon dripping; seasoning to taste. Grease a pie-dish and fill with layers of thickly sliced potatoes and tomato, the chopped onion and parsley. Season well, pour the hot sauce over and sprinkle the nuts or crumbs over the top. Put a few scraps of dripping here and there over the top and bake until well browned.

Creamed Cabbage.—Boil the cabbage and serve with plain cream sauce, or a cream sauce to which has been added some grated cheese and a little cayenne pepper.

Carrot Rissoles.—Two cups mashed and seasoned carrots, 1 beaten egg, grated onion to taste, 2 tablespoons boiled rice, $\frac{1}{2}$ cup milk. Mix well place in hot water, covered, until set. Turn out into a shallow dish, and when cool enough to handle form into rissoles and fry.

Creamed Onions.—Slice onions in thin pieces, cover with a thin white sauce, and cook in the oven until the onions are tender when pierced with a fork. Remove from the oven, cover with buttered breadcrumbs and return to the oven to brown.

Onions and Fish.—Slice and cook until just tender some onions. Put in layers in a baking dish with equal quantities of onions and cooked fish. Sprinkle with pepper and salt, and add a few bits of butter.—Pour a white sauce in to almost cover. Sprinkle buttered breadcrumbs over the top and brown in the oven.

Fried Summer Squash.—Wash and cut in half-inch slices. Sprinkle with salt and pepper, dip in crumbs, then in egg, and in crumbs again. Fry in hot fat.

Rolled Oats Bread.—Two cups rolled oats, 2 cups boiling water, 1 tablespoon salt, 1 tablespoon butter, 1 cup molasses, 2 cups potato water. Pour boiling water over rolled oats and let stand 1 hour. Add molasses, salt and butter. When lukewarm, add potato water, and proceed as for white bread.

Entire Wheat and White Flour Bread.—One quart potato water, 1 tablespoon salt, $\frac{1}{4}$ cup sugar or $\frac{1}{2}$ cup molasses, white flour to make a batter, entire wheat flour to stiffen into dough. Proceed as for white bread.

Corn Flour Bread.—Two and one-half lbs. standard flour, $\frac{1}{2}$ lb. corn flour, 1 tablespoon brown sugar, 2 tablespoons salt, $\frac{1}{2}$ oz. yeast, 1 tablespoon fat, 3 cups water. Dissolve yeast in warm water. Mix well with all ingredients, keeping temperature at 80 degrees. Let stand 3 hours to rise. Punch down and let rise again $3\frac{1}{2}$ hours. Knead again and allow an hour before placing in the pans. Let rise $\frac{3}{4}$ hour and bake in a quick oven 35 minutes.

Brown Bread.—Two and one-half lbs. standard flour, 6 ozs. bran, 2 tablespoons molasses, 1 tablespoon shortening, 2 tablespoons salt, $\frac{1}{2}$ oz. yeast, two and one-third cups water. Use same method as for corn flour bread, only allow one rising of 3 hours before kneading

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and putting in the pans. Bake in a sharp oven 35 minutes.

Cornmeal Gems.—One-half cup cornmeal, 1 cup flour, $\frac{3}{4}$ cup milk, 1 egg, 1 tablespoon melted dripping, 1 tablespoon sugar 3 teaspoons baking powder, $\frac{1}{2}$ teaspoon salt. Mix and bake in hot greased muffin pans.

Oatmeal Muffins.—One cup cooked oatmeal, $1\frac{1}{2}$ cups flour, 2 tablespoons sugar, 4 teaspoons baking powder, $\frac{1}{2}$ teaspoon salt, $\frac{1}{2}$ cup milk, 1 egg, 2 tablespoons melted butter or substitute. Mix and sift dry ingredients. Add the beaten egg mixed with the milk and cereal, and beat thoroughly. Next add the shortening. Bake in buttered gem pans about 30 minutes in a moderate oven.

Chocolate Potato Cake.—One-quarter cup fat, $\frac{1}{2}$ cup sugar, $\frac{3}{4}$ cup dry mashed potatoes, 1 egg, about $\frac{1}{4}$ cup milk, $\frac{1}{2}$ teaspoon salt, 1 square chocolate, 3 level teaspoons baking powder, $\frac{3}{4}$ cups white flour. Beat the fat (butter, dripping, etc.), to a cream. Add the sugar and potatoes, then the egg. Beat all well and add the flour with the salt and baking powder and enough milk to make a dough. Cook for 35 minutes in a moderate oven.

Syrup Icing.—Two cups maple or corn syrup, 2 teaspoons shortening, 1 egg white. Boil the syrup until it spins a thread; add shortening. Pour slowly over beaten white of egg. Beat until stiff enough to spread on cake.

Cut This Out.

Cut this out, paste it on a neat sheet of paste-board, and hang it in your kitchen near the work table.

Handy Measures.

One small teacupful flour equals about $\frac{1}{4}$ lb.; 1 small cupful soft sugar equals about $\frac{1}{4}$ lb.; 1 small cupful sifted sugar equals about 6 oz.; 1 small cupful grated cheese equals about 3 oz.; 1 small cupful breadcrumbs equals about 2 oz.; 1 tablespoonful flour equals about 1 oz. 1 dessertspoonful butter equals about 1 oz. $\frac{1}{2}$ pint liquid equals about 1 breakfast cupful or 2 small teacupfuls; 4 teaspoons liquid equals 1 tablespoonful; 3 teaspoons dry material equals 1 tablespoonful; 4 teacupfuls equals 1 quart.

How Much to Use.

Use 1 teaspoonful soda to 1 pint sour milk. Use 1 teaspoonful soda to 1 cup molasses; use 3 teaspoonfuls baking powder (level) to 1 quart of flour; use $\frac{1}{2}$ cup yeast or $\frac{1}{4}$ cake compressed yeast to 1 pint liquid; use 1 teaspoonful extract to 1 loaf cake; use 1 teaspoonful salt to 2 quarts flour; use 1 teaspoonful salt to 1 quart soup; use 1 scant cupful of liquid to 2 full cups flour for bread; use 1 scant cupful of liquid to 2 full cups flour for muffins; use 1 scant cupful liquid to 1 full cupful flour for batters; use 1 quart water to each pound of meat and bone for soup.

Needle Points of Thought.

"The labor movement does not discount the service to civilization rendered by intellectual ability."
 —Samuel Gompers.

"The big job of constructing a League to Enforce peace or some equivalent, is foreseen as an after-war necessity by all prophets."
 —The Independent.

"To exult in the courage of a man is a more humane mood than to be doleful about the peril that surrounds him."
 —Wilson Follett.

The Scrap Bag.

Planting Seed in August.

If the seed of Canterbury bells, larkspur, perennial phlox, foxgloves and hollyhocks, is planted this month they will bloom next year. This month, also, cuttings may be started of fuchsias, geraniums, coleus, heliotrope and other soft-wooded plants. Start in sand, keep in a shaded place, and water freely.

Liquid Manure.

Apply weak liquid manure to the roots of chrysanthemums from time to time. It may also be applied to the roots of lettuce if it appears to be growing too slowly to be crisp. Keep aphid off plants with tobacco powder.

Late Peas.

After early beets, etc., have been

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removed work in some well-decayed manure into the soil and sow some quick growing garden peas. This may be done as late as August.

Lettuce.

Start the August lettuce bed in a shady place, then transplant to a rich place in the open and keep well watered.

Onions.

If the onions are not developing well at the base in August, add a little nitrate of soda to water, and water the onions freely in the evening.

Use for an Old Boiler.

An old boiler may be made to serve as an oven on the oil stove. Place it on its side, place the article to be baked in it, then put on the lid.

Timing an Oven.

Set the alarm clock to go off at the time bread or cake should come out of the oven,—that is, if you are very forgetful and subject to burning things.

Bottle Bluing.

Bottle bluing, if you can get it, is the nicest bluing of all. If it pours too quickly tie four thicknesses of old muslin over the mouth.

To Scale Fish.

Pour boiling water over the fish, then take it out quickly and plunge at once into cold water. The scales will rub off more easily.

Fastening Knife Handles.

To make loose knife-handles fast, fill the cavity in the handle two-thirds full of resin and powdered bath-brick mixed. Next heat the shaft of the knife until very hot and press into the handle. The resin will solidify and when it hardens the handle will be firm.

Jelly Pulp.

Don't throw away the pulp left in the jelly bags after the clear juice has drained out, says the United States Department of Agriculture. Although federal laws prohibit the use of this substance for commercial purposes, because it might masquerade as a whole-fruit product it is thoroughly wholesome, and there is no reason why it should not be put to family use. Fruit paste, for instance, is a most satisfactory product that can be made from the fruit pulp.

Fruit paste is a type of confection or dessert and may be made from apricot, quince, gooseberry, apple, cherry, plum, kumquat, guava and other fruits. For apricots, gooseberries and other acid fruits use 1 pound of powdered sugar to 1 pound of fruit pulp; for quince use 3/4 pound powdered sugar to each pound of pulp; and for apples 1/2 pound powdered sugar for each pound of fruit pulp. If desired, pulp from several kinds of fruits may be mixed. If acid fruits predominate in this mixture, use approximately 1 pound of sugar to 1 pound of fruit mixture; if sweet fruits predominate, use less sugar.

Rub the fruit pulp through a puree strainer and weigh it. Add the sugar, put the mixture over a slow fire, and cook until it is very thick, so that when a spoon has been passed through it the mass does not run together immediately. Pour the paste in a half-inch layer on flat dishes, marble or glass slabs, which have been rubbed with a cloth dipped in a good salad oil. Expose the dishes to draft for a couple of days and then cut the paste into figures. If the paste is well boiled down, it is dried more easily. The paste also can be cut with a common knife or with a fluted vegetable knife, or it can be cut in round cakes, the center of which is again cut with a smaller circular cutter; there will thus be both rings and small round cakes.

Senator Martin of New Jersey tells of a farm-hand who philosophizes. One morning, when the Senator was wandering over the farm, he came upon his man feeding the chickens. Alexander stopped him with: "Good mawnin', seh! I been thinkin' this mawnin', and I made up my mind, suh, as I's lookin' at these heah chickens, that they's the usefulest animal they is. You c'n eat 'em 'fore they's bo'n, and aftah they's daid!"

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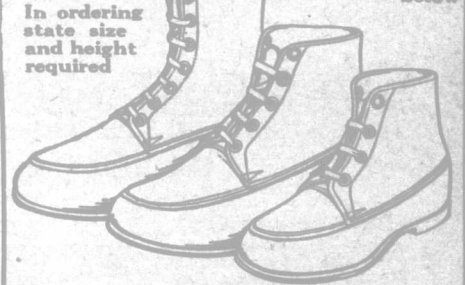
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Preparatory grades for young boys.

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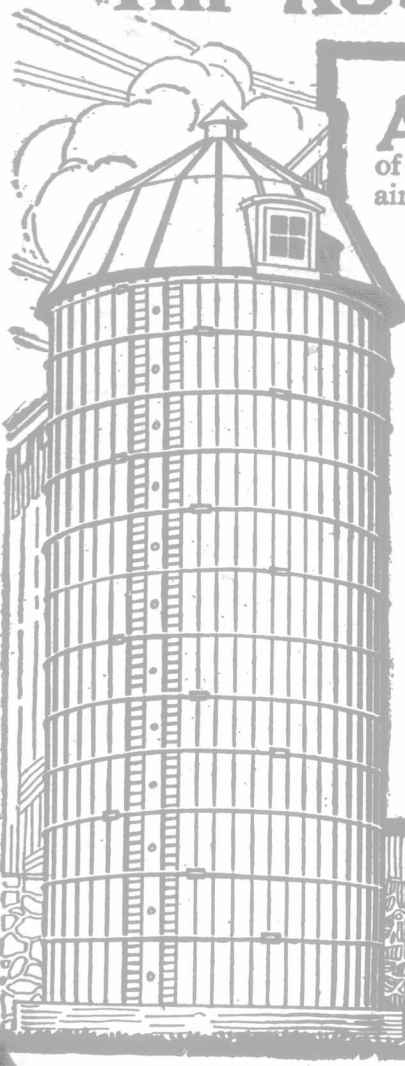
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A TORONTO Silo has outstanding merits, the most exclusive of which are—extra capacity and airtight construction.

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Ontario Wind Engine & Pump Co., Limited
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The Windrow

The war is costing Britain nearly \$25,000 a minute.

Gen. Sir W. H. Mackennon has been appointed Director of the Military Draft in the Dominions and Great Britain. He was formerly commander of the Canadian Light Horse troops.

Architect Electus D. Litchfield has been given the job of building a whole town practically overnight, to house the thousands of workers who are to build ships near Camden, N. J. for the defeat of Germany. The town is to be well-built and beautiful, and will be known as "Yorkship", after the New York ship-building Corporation. At present over 3,500 workmen are on the job.

The famous "hunger stone" in the River Elbe, near Tetschen, which, according to popular belief in Germany, predicts a famine when seen, is now visible for the first time since the beginning of the war. The stone lies in the bed of the river and has never been visible save at exceptionally low tide. On the stone is chiseled in old German: "When ye see me ye will weep."

A despatch from Cape Town says that the circulation of Prince Lichnowsky's memorandum in regard to the war has solidified South Africa against Germany.

Lord Shaughnessy, President of the C. P. R., will open the Exhibition at Toronto in place of Lord Reading, who may come at a later date.

The British Women's Party, with Mrs. Pankhurst at its head, have outlined their platform, which includes the following aims especially for women: Equal pay for equal work. Equal marriage laws, including equal conditions of divorce; equality of parental rights, the interest of the child in every case to be supreme. Age of consent to be raised. Equal opportunity of employment. Equality of rights and responsibilities in regard to the social and political service of the nation.—Other clauses deal with maternity, state recognition of the mother's rights, education, housing, etc.

Mrs. Gladstone was ever on the alert to save her husband worry and fatigue. "Everyone who has held any kind of public office knows the pain incurred in shaking hands with hundreds of people. Mr. Gladstone used to stiffen his hand and to place his thumb against the palm so that people could not grasp it; but, even so, when his wife thought he had gone through enough fatigue of the kind, standing close behind him, she would thrust her hand forward in place of his, and no one noticed the exchange."

The centenary of the death of Jane Austen has brought forth an abundance of anecdotes relating to her and her work. "Everyman" tells this of "Northanger Abbey," her first book, written when she was a mere girl, but not published until after her death:—

"Northanger Abbey," was bought in 1803 by a Bath bookseller for the sum of £10. But he repented of his bargain, and kept the manuscript for thirteen years, although the anonymous writer had asked for its publication and had offered to send another copy if the original had been lost. At last, Miss Austen's brother, Henry, undertook to try to recover the book. He found the purchaser very willing to receive back his money; when the bargain was concluded, and the money paid, but not till then, the negotiator had the satisfaction of informing him that the work which he had esteemed so lightly was by the author of "Pride and Prejudice."

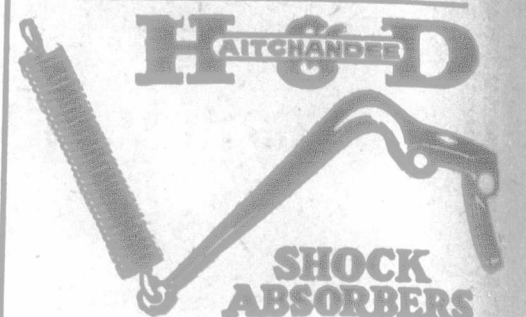
The story—possibly apocryphal—is told of a well-known novelist, that one day a lady wished to consult him about some thefts.

"My detective powers," he is reported to have replied, "are at your service."

"Well," said the lady, "frequent and mysterious thefts have been occurring at my house for a long time. Thus, there disappeared last week a motor horn, a broom, a box of golf balls, a left riding boot, a dictionary, and a half-dozen tin pie plates."

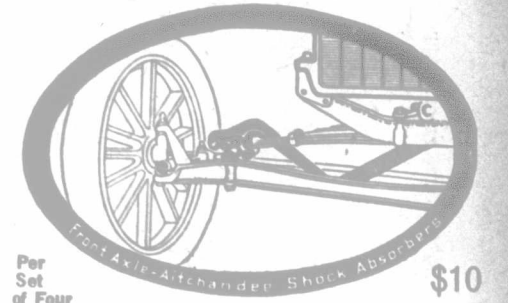
"I see it," said the author. "The case is perfectly clear. You keep a goat."

"Make Rough Roads Smooth"



4 IMPORTANT H. & D. MERITS

1. They make the car ride easy by preventing jars, jolts, and side-sway.
2. They prevent springs breaking.
3. They save the engine from the effect of sudden jars.
4. They increase tire mileage at least a third. This is confirmed by 200,000 H. & D. users. The saving on tires alone, through eliminating the hard road thrusts, soon pays for a set of H. & D's.



Per Set of Four \$10

Remit by Money Order or Postal Note. Put them on and use them for thirty days. If you are not satisfied with them, take them off and send them back and we will refund your money.

Easy to attach. No holes to bore. Weight per set, 30 pounds.

RICHARDS-WILCOX CANADIAN CO.
LONDON Limited ONTARIO



SEALED TENDERS addressed to the undersigned, and endorsed "Tender for Temporary Barracks, London, Ont.," will be received at this office until 12 o'clock, noon, on Wednesday, August 14, 1918, for the construction of temporary barracks, Carling Heights, London, Ont.

Plans and specification can be seen and forms of tender obtained at the office of the Chief Architect, Department of Public Works, Ottawa, the Caretaker, Post Office Building, London, Ont., and of the Clerk of Works, Public Works Office, Postal Station, "F", Toronto, Ont.

Tenders will not be considered unless made on the forms supplied by the Department and in accordance with the conditions set forth therein.

Each tender must be accompanied by an accepted cheque on a chartered bank payable to the order of the Minister of Public Works, equal to 10 per cent. of the amount of the tender.

By order,
R. C. DESROCHERS,
Secretary.

Department of Public Works,
Ottawa, July, 30, 1918.



MAIL CONTRACT

SEALED TENDERS, addressed to the Postmaster General, will be received at Ottawa until noon, on Friday, the 13th of September, 1918, for the conveyance of His Majesty's Mails, on a proposed Contract for four years, six times per week, on the Petersburg No. 1 Rural Route (New Dundee and Petersburg) from the Postmaster General's pleasure.

Printed notices containing further information as to conditions of proposed Contract may be seen and blank forms of Tender may be obtained at the Post Offices of Petersburg and New Dundee, and at the office of the Post Office Inspector, London.

CHAS. E. H. FISHER,
Post Office Inspector
Post Office Inspector's Office, London,
August 2nd, 1918

DO YOU NEED FURNITURE?

Write for our large, photo-illustrated Catalogue No. 7—It's free to you.
THE ADAMS FURNITURE CO., Limited
Toronto, Ontario



Wanted! Thousands of Farm Laborers for Harvesting in Western Canada

"Going Trip West" \$12 to Winnipeg

"Return Trip East" \$18 from Winnipeg

GOING DATES	TERRITORY
August 20 and August 29	From stations in Ontario West of Smith's Falls to and including Toronto on Lake Ontario Shore Line and Havelock-Peterboro' Line. From stations between Kingston and Renfrew Junction, inclusive. From stations on Toronto-Sudbury direct line. From stations on Sault Ste. Marie branch. From stations on Main Line, Beaucage to Franz, inclusive. From stations Bethany Junction to Port McNicoll and Burketon-Bobcaygeon.
August 22 and August 29	From stations in Ontario West and South of Toronto to and including Hamilton and Windsor, Ont. From stations on Owen Sound, Walkerton, Teeswater, Wingham, Elora, Listowel, Goderich, St. Mary's, Port Burwell and St. Thomas branches. From stations Toronto and North to Bolton, inclusive.

SPECIAL THROUGH TRAINS FROM TORONTO TO WINNIPEG

Full particulars from Canadian Pacific Ticket Agents.

W. B. HOWARD, District Passenger Agent, Toronto

Two Obligations

confront every man responsible for the welfare of others.

The one is to carry Life Insurance according to his means. The second is to arrange that Life Insurance in such a way that it will be of permanent benefit to his family.

This permanent benefit may best be secured under the Monthly Income Policy issued by The Great-West Life. The beneficiary receives a regular income for twenty years, or for life, as may be arranged—paid monthly, as she has been accustomed to receive her household funds. Thus the hazard of unwise investment or loss of the money left for her support is removed.

Full details on request.

The Great - West Life Assurance Company

Dept. "Z"

Head Office: Winnipeg

Luther Burbank is subjected to constant annoyance by inquisitive strangers. He was walking on the street in San Francisco when one seized his arm. "How are you, Burbank?" he inquired effusively. "What miracle are you working on now?" "Well, it's a secret," replied the expert; "but I don't mind telling you. I'm grafting milkweed on egg-plant!" "Yes—yes? What do you expect to produce?" "Custard."—Saturday Evening Post.

Paddy, the hodman, was a new arrival on the job. Having gone to the top of the building and failed to return the foreman shouted up: "Come on, Paddy; what's keeping ye?" "Sure," cried Paddy, "I can't find my way down." "Well, come down the way ye went up," shouted the foreman. "Faith, an' I won't says Paddy, "for I came up head first."

Current Events

Contracts have been placed for the construction of 20 wooden ships in Victoria, B. C.

Field Marshal von Eichhorn, German Commander in the Ukraine has been killed by a bomb.

Again during the past week Foch renewed his offensive with the result that the Ludendorff's forces have again received the worst of it, his lines having been driven back beyond the Ourcq. On August 1st alone the advance of the Franco-American forces was 2 miles. The fighting has, of course, been heavy, as may be judged from the fact that the village of Sergy alone changed hands nine times, finally remaining to the Americans, who subsequently captured also the villages of Seringes, killing or capturing every man in it. Indications are said to be increasing of an approaching battle farther north, in which case the British forces will again be engaged. In Russia the Czecho-Slovak forces still advance in the Volga River region, and they have also captured several cities in the Caucasus and a port on the Black Sea where they seized two warships held by the Bolsheviki. The Italians are said to have suffered a reverse in Albania.

Captain von Beerfelde, who was recently prosecuted for spreading the Lichnowsky memoirs in Germany, but for some mysterious reason was set free, has sent a remarkable petition to the Reichstag indicting the German leaders in 1914 of "criminal forgery and abominable swindle," and demanding the arrest of Bethmann-Hollweg.

Investigations by the Bureau of Entomology are reported to have shown that insects cause more destruction of timber of a commercial size than do forest fires. Another reason, if additional reasons were needed, for conserving the bird life of the country—especially the insectivorous members of the feathery tribe.



Fertilizers the Necessary Gear

Fertilizers are responsible for the success of many wheat fields this summer. The quickly available plant-food of fertilizers applied last fall gave the young Fall Wheat crop the strength that brought it through winter, and gave it a vigorous start in spring. With

Fall Wheat

at \$2.20 per bushel it pays handsomely to fertilize!

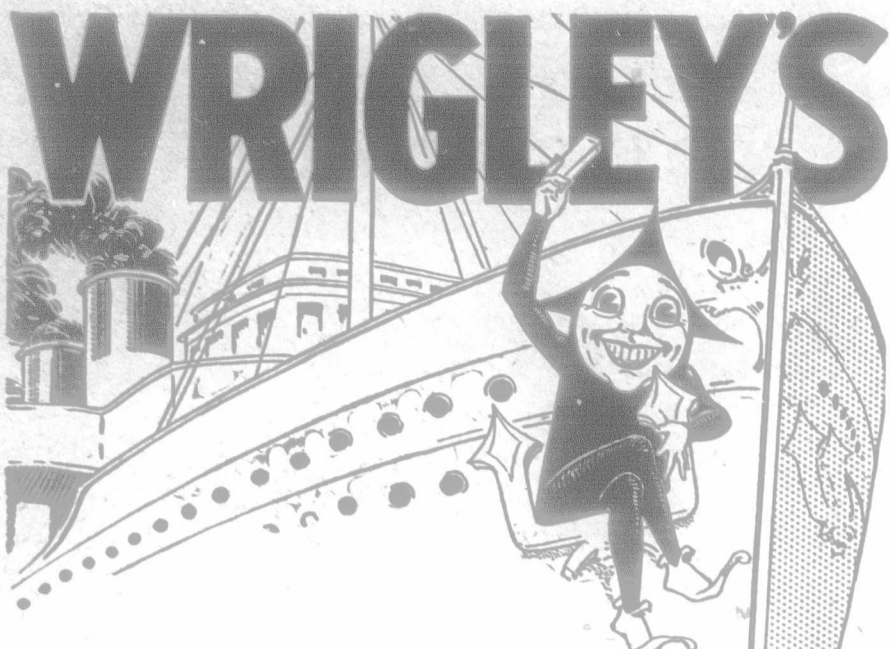
Civilization needs all the food we can grow.

The last opportunity to help in 1918 is to make certain that conditions are nearest right for bumper crops of fall wheat—by fertilizing.

Write for free bulletin on Fall Wheat Production.

The Soil and Crop Improvement Bureau of the Canadian Fertilizer Association 1111 Temple Building, Toronto

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Everybody thinks of WRIGLEY'S when chewing gum is mentioned. This is the result of years of effort to give mankind the benefits and enjoyment of this low-cost sweetmeat.

WRIGLEY'S helps appetite and digestion—allays thirst—renews vigour.



HELP SAVE WESTERN CROP

\$12.00 TO WINNIPEG

From all stations, Sudbury, Milnet, Ont., south and east in Ontario and Quebec.

Plus half a cent per mile beyond. Returning, half a cent per mile to Winnipeg, plus \$18.00

Comfortable Trains and Through Service; Special Accommodation for Women, Lunch service at moderate prices, and a Scenic Route when you travel C. N. R.

Through tickets by all lines. For further particulars see your nearest C.N.R. Agent, or write General Passenger Dept., 68 King St. E., Toronto, Ont. Ask for "Harvesters' Work and Wages" leaflet.

CANADIAN NORTHERN RAILWAY

LIVE POULTRY

We are open to handle large quantities of live spring chickens or live poultry of any kind; highest market prices paid according to quality. Write us for quotations; Prompt returns
Henry Gatehouse & Son, 348 Dorchester St. W., Montreal

Canadian Soldiers Visit the King's Farms.

EDITOR "THE FARMER'S ADVOCATE":

"By Jove! I wish my father could be here and see this!"

Such was the enthusiastic remark of a Canadian soldier as he gazed upon a 3,000-guinea bull on the Royal Farms at Windsor, one bright Saturday afternoon in June.

This boy had been in the trenches and being severely wounded had been rendered unfit for further service in the field. He is now employed in one of the military offices in the London area. Even on the King's farm his thoughts were thousands of miles across the sea with his "ain folk" in Canada.

And so it was with the whole party of over 50 men who formed the Agricultural Class of the Canadian Khaki College in London. During the winter these men have been studying field and animal husbandry from a theoretical standpoint in the class-room at University College, London. By means of lectures illustrated with lantern slides they have learned the sound principles upon which the practice of agriculture should be based. A brief but comprehensive course in soils and their management, the cultivation of field crops, and instruction in the more important phases of animal husbandry have been covered in the class-room.

But theory must ever be preparation for the practical. And throughout the whole course the minds of the men were constantly turned to the land, and they were taught to look with keen enthusiasm to the time when by the application of their knowledge they should be able in some part of the great Dominion to transform a homestead into a productive farm.

However, it is of the Royal Farms that we must write. And yet this visit of the class to Windsor was but a part of a whole course. During the summer months the work of the class-room has been suspended in order that the men may visit various well-known farms and stables and there have practically demonstrated the value of science as applied to agriculture.

On arrival at Windsor the Canadian boys were met by Mr. MacWilliam, the manager of the King's farms, at whose invitation the trip was undertaken. He had arranged that experts should accompany the class to the various departments.

Wherever Shorthorn cattle are bred the fame of the Royal herd at Windsor is known, and so the first enquiry was to see some of these wonderful animals of which all had heard. Many were the remarks of satisfaction and delight as "Windsor Norseman," (No. 134385 British Shorthorn Herd Book), a magnificent, deep, red bull, the present head of the Royal herd, was led out for the inspection of the class. Few present had ever seen such a fine specimen of the Shorthorn breed, and their interest was increased by the fact that an offer of 3,000 guineas had just been refused for him.

The temptation to hold forthwith a class in amateur stock judging could not be resisted by the instructor. He was compelled to admit that even in the showing in Canada he had never seen a more perfect animal. The broad, smooth back, deep loin and splendid typical beef conformation were commented upon.

Then the females of the herd were inspected. One in particular came in for special notice. This was "Windsor Gem" the only female who had ever won the championship at both the Royal and Smithfield Shows (1916).

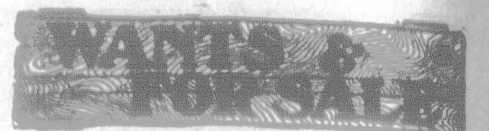
Numerically the herd was not large, but the lecturer rather significantly remarked that, judging it from the standpoint of cash value, there was enough money represented in a dozen of them to purchase a good modern farm for every man present.

From the cattle barns the party were conducted to a nearby paddock where were assembled some score of splendid Clyde, cross-bred Clyde, and Shire work horses. These were made the subject of a discussion on the points of draft horses, and the comments of the men were a revelation of the extent they had profited by their class-room work.

"What a neck and shoulders!" said one of the boys, as a 2,000-pound Shire almost tramped on his feet.

"What a set of legs and feet," said another, looking at a dark brown Clydesdale, such as is seldom seen except at some of the best-known shows.

After the draft horses came the sheep, several hundreds of which were enjoying a



Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted and Pet Stock.

TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

FOR SALE—PURE-BRED SCOTCH COLLIE pups. R. G. Rose, Glanworth.

FARM FOR SALE—A HUNDRED-ACRE farm in the County of Prince Edward, three and one-half miles west of the village of Wellington suitable for stock, grain or truck farming. Large brick house and a frame tenement, large basement barn, silo, and outbuildings. Buildings worth \$6,000. Terms reasonable. Apply to: T. G. Raynor, Seed Branch, Dept. of Agriculture, Ottawa.

FOR SALE OR EXCHANGE—TWO LOTS, 40 feet by 120, known as Victoria Heights, Brandon (clear deed). Will exchange for horses, cattle, sheep, pigs or poultry. What have you to offer? Apply: H. Hart, Thorncliffe Farm, Todmorden P.O., Toronto, Ont.

MARRIED MAN WANTED, ABLE TO MILK and plow; small or no family, wife to help little in house. Dairy farm where milking machine and modern equipment is used. Good comfortable cottage, 6 months' fuel; garden, milk, etc., good wages. Permanent situation to right man. Open Aug 25th. Send references to: W. T. Davidson & Son, Meadowvale, Ont.

PUPS FOR SALE—SABLE AND WHITE, bred from excellent cattle drivers; males \$4, females \$3. Eara Stock, Woodstock, Ont.

WANTED TO HEAR FROM OWNER HAVING farm for sale. Mrs. Booth, Pulaski, Iowa, U.S.A.

WANTED—BY SEPT. 1ST. FOR A RESIDENCE for women students—a good plain cook-country woman preferred. Apply The Housekeeper, Annesley Hall, Queen's Park, Toronto.

WANTED—MARRIED COUPLE WITHOUT children for country residence. Man for general farm work and take care of small herd Shorthorn cattle. Woman as cook and light housework in family of three adults. Permanent position. References required. State wages. N. S. Robertson, Arnprior, Ont.

WANTED—A MAN FOR AGRICULTURAL journalism, must be well educated, good writer, thoroughly practical and well experienced in Field Crop husbandry and the management of dairy cattle. Apply stating qualifications and salary expected, to: R. B. Faith, Editor, Ottawa Farm Journal, Ottawa.

Wanted—An experienced farmer as manager to start a 350-acre stock farm. Begin work next October. Farm has good house and is near school. High wages to capable man. Write, giving full particulars of previous experience, to
Box 539, London, Ontario

Patent Solicitors—Fetherstonhaugh & Co. The old-established firm. Patents everywhere. Head Office: Royal Bank Building, Toronto. Ottawa Office: 5 Elgin St. Offices throughout Canada. Booklet free.



Choice Eggs for hatching, from free range flocks—S.-C. White Leghorns (Barron's 288-egg strain), Bred-to-lay S.-C. Brown Leghorns, (O. A. C. and Gull's strains), Barred Rocks—\$2 per 15, \$10 per 100. Fawn I. R. Duck eggs, \$3 per 10; Mammoth Bronze Turkey eggs, \$5 per 9 (show stock). Also choice Yorkshire Hogs, all ages. T. A. KING, MILTON ONT.

WANTED Live Fowl

WALLER'S, 702 Spadina Ave., Toronto
WRITE FOR PRICE LIST

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Harvest Help Excursions

\$12.00 to Winnipeg

Plus 1/2c. per mile beyond

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From all stations between Lyn, Ont., and Toronto, Weston, Meaford and Palgrave, inclusive, also from stations north of Toronto to and including Huntsville.

AUGUST 22nd and 29th

From Toronto and all stations west and south thereof in Ontario.

For further particulars apply to any Grand Trunk Ticket Agent or C. E. HORNING, District Passenger Agent, Toronto.



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SCOTCH COLLIE worth.

HUNDRED-ACRE Edward, three and village of Wellington truck farming. Large ment, large basement. Buildings worth apply to: T. G. Rayno culture, Ottawa.

GE-TWO LOTS, Victoria Heights. Will exchange for poultry. What H. Hart, Thorn Toronto, Ont.

ABLE TO MIL family, wife to help where milking machine. Good comfortable den, milk, etc., good to right man Open to: W. T. Davidson

LE AND WHITE le drivers; males 4 stock, Ont.

OWNER HAVING Pulaski, Iowa, U.S.A.

ST. FOR A RESH good plain cook. Apply The House Park, Toronto.

UPLE WITHOUT ence. Man for gen of small herd Short and light house ts. Permanent pos State wages. N. S.

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g. from free range c. White Leghorn g-to-lay S.-C. Brown (d strains), Barred. Fawn I. R. Duck Bronze Turkey egg. choice Yorkshire. MILTON ONT.

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RAILWAY SYSTEM

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Lyn, Ont., and To-
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Be Sure of Your Weight

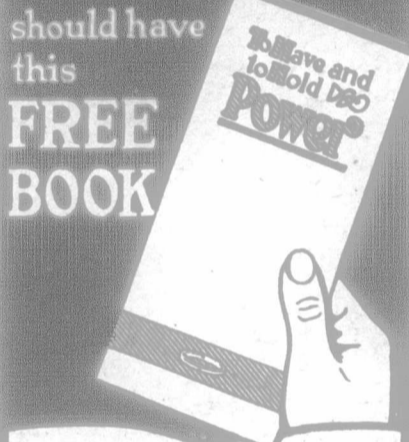
Be certain the goods you buy and sell are correct weight. Accurate weight is assured by

Fairbanks Union Scales

They are the most convenient size scales for general light weighing anywhere. They replace the old time spring balance scales condemned by the Canadian Government. Complete with tin scoop, 10 1/2" x 13 1/2" platform, single brass beam and extra weights. The scoop capacity of Fairbanks Union Scales is 30 pounds by half ounces — the platform, 240 pounds by quarter pounds. Write our nearest branch for information and prices.

The Canadian Fairbanks-Morse Co., Limited Quebec, Montreal, Ottawa, Toronto, Hamilton, Windsor, Winnipeg, Calgary, Saskatoon, Vancouver, Victoria. 74

Every Engine Owner should have this FREE BOOK



It shows the important part piston rings play in producing power, saving gasoline and oil. Tells how you can have a clean, dependable motor. It will enable you to judge for yourself the claims of all types of piston rings. For your own satisfaction, profit and protection — send for your copy today. Manufactured by McQuay-Norris Mfg. Co., St. Louis, U. S. A. Canadian Factory: W. H. Banfield & Sons, Ltd., 374 Pape Ave., Toronto.

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or stuttering overcome positively. Our natural methods permanently restore natural speech. Graduate pupils everywhere. Free advice and literature. THE ARNOTT INSTITUTE KITCHENER, CANADA

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PEDIGREED LIVE STOCK

of all descriptions. Speciality made of draft horses beef and dairy breeds of cattle, show and field sheep. Illustrated catalogues and testimonials on application. All enquiries answered with pleasure. Now is the time to import. Prospects were never better, and insurance against all war risks can be covered by payment of an extra 1% only.

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SHIPPER! Consign your loads to The E. L. RICHMOND CO. DETROIT The Old Reliable Firm. In business a quarter of a century. References—Any Bank.

Small Quantity Stationery

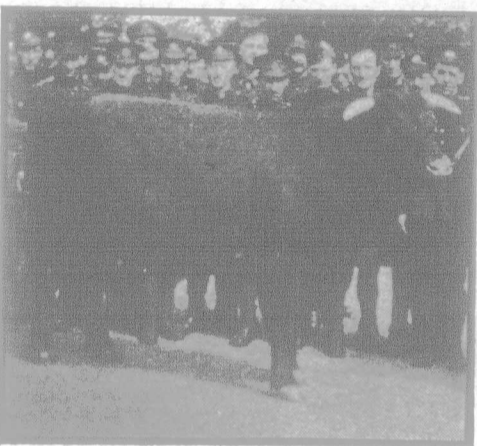
100 sheets of letter paper, 8x11; 100 envelopes—printed with name and address and business; in Ontario \$2.25, other Provinces, extra postage 25 cts. Cash with order.

FARMERS' PRINTERY, Beaverton, Ontario

sort of sheep's heaven in a beautiful tree-dotted English pasture. True to the old saying—"Wherever you find Clydesdale horses, Shorthorn cattle, or steam boats there the Scotchman will be," the foreman in charge of the Royal herd was a grizzled son of Old Scotia.

Then came the dairy farm. Much to their regret the party were just too late to see the milking done by an up-to-date milking machine. However, their admiration was unbounded as they looked over the modern barn in which the herd of Jersey cows, that furnish the dairy produce for the Royal Household, are accommodated. The cows themselves having gone out to the pasture, the party followed and an interesting discussion took place while the lecturer pointed out the leading characteristics of the dairy type. It was highly diverting to see how quickly groups of admirers gathered round various members of the herd, keenly upholding the one of their choice as the champion.

The last place visited was the dairy building erected by the late Prince Consort during the reign of Queen Victoria. To those accustomed to Canadian methods it was difficult to realize that this beautiful building was a dairy, for the stained glass windows and the art panelling of the interior reminded one more of a private chapel than a farm building. But its serious utilitarian purpose was soon apparent. Side by side with the earthen



Windsor Norseman.

The Canadian soldiers in the picture are members of an agricultural class at London Khaki College.

bowls in which, during the good Queen's reign, the cream was skimmed by the old-time gravity method, were modern cream separator, churn and butter worker and refrigerator. The boys were keenly interested in the preparation of the cream and butter for use on the King's table on the following morning. The can of cream was held up for the admiration of the crowd, and the little pats of golden Jersey butter with the Crown stamped upon them reminded the men of the quartermaster's badge.

Here in this almost classic dairy ended the serious side of the visit to the Royal farms, and the enthusiastic appreciation of the men was shown in the volume of thanks which they accorded to the charming Cornish dairymaid who had smilingly conducted the party through her domain.

Once more in the open and with an hour to spare before the return train, the men rested under the shadow of the Royal Castle at Windsor, and one young Newfoundland boy, who had accompanied his Canadian cousins on the expedition and who went from school right into the army where in the service of his country he had lost one of his eyes, remarked that it was the happiest day he had spent since leaving home.

And indeed it was a happy day and one which will long be remembered by the men when they have ceased to wear the khaki and find themselves once again among their own people. And the enjoyment, the service, the instruction brought to the men through this little excursion is but a small part of the great work being done among the Canadian soldiers by the Canadian Khaki College in London, or by any of the other Khaki Colleges in England, all of which are maintained by the Canadian National Council of Y. M. C. A., working in conjunction with the Chaplain Service. Behind the whole enterprise the one desire is to help the men and to prepare them for the coming days of peace, so that they may the more efficiently exercise their functions as citizens of the Canada that is to be.

H. B. CROW.

Alloway Lodge Stock Farm

Angus - Southdowns - Collies

SHOW FLOCKS

Rams and ewes. Heifers in calf to Queen's Edward 1st prize, Indiana State Fair.

Robt. McEwen, R. R. 4, London, Ont.

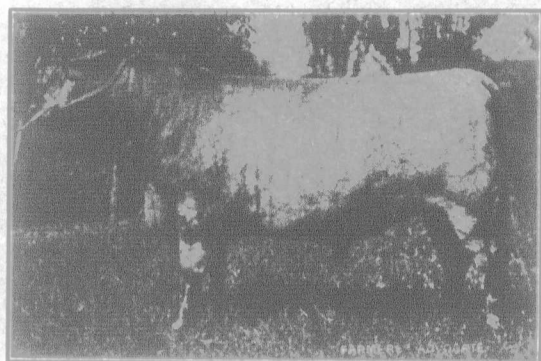
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A FEW YOUNG BULLS READY TO WEAN

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P. O. and Phone Oakwood, Ontario

Railway Connections—Lindsay, G.T.R. & C.P.R.

HILLCREST HEREFORDS

Choice young bulls of show quality. Also a few young cows with calves at foot.

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Dr. Bell's Veterinary Medical Wonder, 10 000 \$1.00 bottles FREE to horsemen who give the Wonder a trial. Guaranteed for Colic, Inflammation of Lungs, Bowels, Kidneys, Fevers and Distempers, etc. Send 25c. for mailing, packing, etc. Agents wanted. Write address plainly.

DR. BELL, V.S. Kingston, Ontario

Harnelbel Shorthorns

Herd headed by Gainford Supreme, son of the great Gainford Marquis and Jealously the Fourth.

All my cows and heifers are bred to this young bull. Inspection invited.

SAM'L TRUESDALE, Farm Manager Islington, Ont.

HARRY MCGEE, Proprietor

61 Forest Hill Road - - TORONTO

THE MANOR STOCK FARM---SHORTHORNS

Bulls all sold. Have Wimples, Rosemarys, Minas, Roan Ladys, etc., for inspection.

JOHN T. GIBSON

DENFIELD, ONTARIO.

MAPLE HALL SHORTHORNS

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

Dual-Purpose Shorthorns

—CROWN JEWEL still heads the herd. Present offering is 5 bulls, from 18 to 18 months. Prices from \$200 to \$250. Also some good breeding emales, either bred or with calves at foot. All registered and priced to sell.

JNO. ELDER, HENSALL, ONTARIO

GLENGOW SHORTHORNS

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

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

Robert Miller, Stouffville, Ontario

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

Write for anything in Shorthorns. One hour from Toronto.

IMPORTED SCOTCH SHORTHORNS

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

SHORTHORN BULLS Will. A. Dryden

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

SALEM SHORTHORNS

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

Shorthorns

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

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

PLEASANT VALLEY FARMS

Present offering—A number of good young Scotch cows with calves at foot and rebred to (Imp.) Newton Grand Champion; also a number of 2-year-old heifers bred to same sire. Suitable for good herd foundations; priced to move them. Inspection invited.

GEORGE AMOS & SONS, Farm 11 miles east of Guelph, C.P.R. MOFFAT, ONTARIO

SPRING VALLEY SHORTHORNS

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

BLAIRGOWRIE SHORTHORNS

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

ESCANA FARM SHORTHORNS

Five Bulls for Sale. One roan senior yearling; one choice twelve months white calf; by Right Sort (Imp.); one select, dark roan, ten months calf; one roan yearling, by Raphael (Imp.); one roan red yearling, for grade herd. Farm 3/4 mile from Burlington Jct., G.T.R.

J. F. MITCHELL, Limited BURLINGTON, ONTARIO

Elm View Stock Farm—Scotch Shorthorns and Oxford Down Sheep—Present offering: Two-year-old stock bull, Early Prince 107659, straight-bred Rose Bud family, sired by Roan Prince 80859; 25 yearling and 2-year-old ewes; 10 1-year-old rams—a choice lot. Orders taken for ram and ewe lambs for later delivery; all bred from best foundations obtainable. Hold back nothing. Prices reasonable. Visit or write.

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No matter how old the bluish, how lame the horse, or how many doctors have tried and failed, use


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Use it under our guarantee—your money refunded if it doesn't make the horse go sound. Most cases cured by a single 45-minute application—occasionally two required. Cures Bone Spavin, Ringbone and Sidebone, new and old cases alike. Write for detailed information and a free copy of

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A recognized germicide and disinfectant that protects cattle, horses, pigs and hens. Write for free circular with full particulars.

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

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FACTORY DISTRIBUTORS CANADA

Mardella Shorthorns

Herd headed by **The Duke**, the great, massive, 4-year-old sire, whose dam has 13,599 lbs. of milk and 474 lbs. of butter-fat in the R.O.P. test. I have at present two exceptionally good young bulls ready for service, and others younger, as well as females all ages. Some are full of Scotch breeding, and all are priced to sell. Write or call.

Thos. Graham, R.R. No. 3, Port Perry, Ont.

Evergreen Hill R.O.P. Shorthorns

Herd headed by the R. O. P. bull, St. Clare. Nothing for sale at present.

S. W. Jackson, R. R. No. 4, Woodstock, Ont.

GLENFOYLE SHORTHORNS

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

PLASTER HILL HERD

Dual-Purpose Shorthorns
Six young bulls, from four to thirteen months. Size, quality and good milking strains.

F. Martindale & Son, R. R. 3, Caledonia, Ont.

Spruce Lodge Shorthorns and Leicesters

Herd headed by the Butterfly-bred bull, Roan Chief Imp. =60865=. Young bulls, cows, and heifers of all ages, of good breeding and quality.

W. A. DOUGLAS, CALEDONIA, ONTARIO

Please mention this paper

Gossip.

Mardella Dual-purpose Shorthorns.

Of Ontario's many splendid pure-bred herds of milking Shorthorns, there are but few that measure up closer to the correct type of dual-purpose cow than does the Mardella herd, owned by Thos. Graham, of Port Perry. Here, since the foundation of the herd in the early eighties type and milking qualities have been very much in sympathy one with the other, with the result that to-day we find in the Mardella herd cows that are around the 10,000-lb. mark, and yet, with very few exceptions, has there been sacrificing in Shorthorn type and character. In numbers the herd at present runs around 50 head, thirty of which are breeding females and these are headed by the three-year-old bull "The Duke," that is a big, thick, fleshy fellow and commanding an exceptionally good appearance. He is got by that good breeding bull "Star of the North," while his dam, Lily of Archer by Archer, has a semi-official record of 13,599 lbs. of milk and 474 lbs. of butter-fat for the year. The majority of the 1918 calves are got by this sire and, as stated above, he is now the chief service sire in the herd. The year-old bulls advertised elsewhere in this issue are got by the former Butterfly-bred herd sire Benholm Butterfly. These youngsters are an exceptionally choice lot, fairly well grown, and furnish the best of evidence to the sterling worth of the former sire. Their dams, in most every case too, are Mr. Graham's best milking cows; cows that carry the blood of all the good milking families that have made the Mardella herd popular. In getting down to the youngsters, in females we noted, among others, several extra good things which were descendants of the old imported Henriettas, several more from the famous Lady of Athelstane, a number from the English-bred bull Duke of Cicely's Pride, and one two-year-old heifer by Mortimer, a son of the great Director (imp.). The dam of this heifer is Mimosa (imp.), which is a daughter of the English milking-bred sire Conjuror, that is probably one of the most noted sires of milking Shorthorns in England to-day. For sales list and full particulars regarding the entire herd write Mr. Graham at the address given above, and mention this paper.

Poisons For Tobacco Pests.

The first brood of tobacco horn worms will make their appearance in the next week or two. As they did considerable damage last year, an effort should be made to control them this year. Dusting the plant with arsenate of lead or Paris green, instead of spraying, has the following advantages according to H. A. Freeman, the Tobacco Inspector: 1, "When the tobacco reaches a fair size, as it usually does before the horn worm appears, it is difficult to get over the field without bruising or breaking a number of the leaves of a large plant; 2, a large quantity of solution must be made up, which requires more or less labor; 3, the application of these poisons in the powdered form can be very rapidly and effectively done; 4, it is not necessary to handle a large quantity of material, as in the case of the hand sprayer or the knap-sack sprayer." For spraying the plants, five or six pounds of dry powdered arsenate of lead, or ten to twelve pounds of the arsenate of lead paste should be used to 100 gallons of water. If applying the arsenate of lead in the dry, powdered form, with a dust machine, four and a half to six pounds will be sufficient. The lead should be thoroughly mixed with an equal weight of wood ashes or air-slaked lime, before applying it to the tobacco with the dust-gun. Adding about three pounds of wood ashes or lime when Paris green is used, is also advisable.

Questions and Answers.

Miscellaneous.

Cost of Feeding Horses.

What is it worth to keep a team of working horses for a year? R. H. H.

Ans.—It depends a good deal on how the horses are fed. If given 3 gallons of oats per day, besides three feeds of hay, it would cost upwards of \$140 for feed alone at present prices. Of course, if a horse is not working it will not require three gallons of oats per day.

You've no time to waste

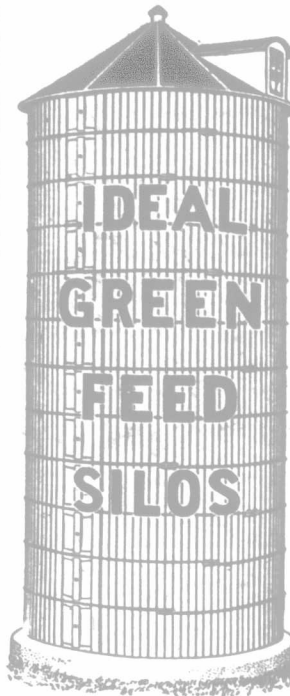
If you expect to get your silo erected in time to take care of your 1918 corn crop, don't put off placing your order a day longer.

With the railroads congested with war traffic, no manufacturer can guarantee prompt deliveries very far ahead.

Be forehanded. Allow for freight delays and uncertainties. Give yourself time to erect your silo properly.

Plan to Install an IDEAL GREEN FEED SILO Right Away

The Ideal is the most economical silo you can buy, because it not only produces the best silage but will pay its own cost the first year and will last from 20 to 30 years.



Just ask any Ideal user how he likes his silo. He'll tell you that you can make no mistake in buying an Ideal—that the sooner you get it on your farm, the better off you'll be.

Write today for our illustrated catalogue.

THE DE LAVAL CO., Ltd.

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Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Butterworkers. Catalogues of any of our lines mailed upon request.

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50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER



Milking Shorthorns

The herd is composed of individuals with high milk records and of splendid beef conformation. Several bulls of breeding age, sired by Dominator 10629, one of the best bred bulls for milk in Canada, are now being offered. They are out of cows with records ranging from 8,000 to 11,000 pounds of milk in one lactation. Prices right.

Weldwood Farm, Farmer's Advocate, London, Ontario

Lake Marie Farm Shorthorns

Herd Sire—Golden Hope, an Orange Blossom by the great Archer's Hope. We have several young bulls by him and four other 8 months calves by the R. O. P. sire St. Clare. All are priced to sell. We are also pricing a few fresh Dutch Belted cows and heifers. This breed although not well known in Canada are extra heavy milkers. Correspondence solicited.

LAKE MARIE FARMS, KING, ONT.

SIR HENRY PELLATT, Owner

THOS. McVITTIE, Manager.

SHORTHORNS LANDED HOME

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

SPRUCE GLEN FARM

Herd headed by Nonpareil Ramsden =101081—and Royal Red Blood =77521=. At present we have nothing to sell but we have some very good ones coming on. James McPherson & Sons, Dundalk, Ontario.

GERRIE BROS.' SHORTHORNS

Herd headed by Gainford Matchless, one of the very best sons of the great Gainford Marquis. Our breeding cows are Missies, English Ladys, Duchess of Glosters, etc. Present offering of young bulls are by our former herd sire, Master Missie, Junior Champion at Brandon last summer.

GERRIE BROS., ELORA, ONT.

Sprucedale Dual-Purpose Shorthorns

I am offering my herd sire, Braebur Prince; dam, Bessie of Low Banks 2nd, 11,636 lbs. of milk in R.O.P. Good individual, sure and right. Also a few calves by him, as well as some nice young litters in Berkshires. FRANK TEASDALE, (Concord G.T.R. Station, 100 yards) CONCORD, ONTARIO

SOVEREIGN STOCK FARM

The home of Baroness Madoline; 34.48 lbs. butter in 7 days, 1,043.75 lbs. in 335 days, over 87,200 lbs. milk in 47 months. We are offering a few of her grandsons up to 6 months old.

WM. STOCK & SON, Phone Innerkip 3, on line 25. R.R. No. 1, TAVISTOCK, ONTARIO

BURNFOOT STOCK FARM

We are now offering an 18 mos. old Shorthorn bull with R.O.P. records of over 13,000 lbs. on both sire and dam's side. This is a good opportunity for anyone who wishes to improve the milking qualities of his herd. S. A. MOORE, (Farm one mile north of Caledonia) CALEDONIA, ONTARIO.

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r Sons, Dundalk.

rd Marquis. Our
of young bulls are

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rthorns

of milk in R.O.P.
young litters in
RD, ONTARIO

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, over 87,200 lbs.

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0 lbs. on both sire
milking qualities
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Fire,
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PEDLAR'S OSHAWA SHINGLES

THERE'S positive protection for the house that is roofed with these well-known galvanized steel shingles. The most violent wind storm cannot loosen them. The fiercest lightning will not damage them. Nothing can set them on fire. They cannot rust or decay. Why put on a risky roof when Pedlar's "Oshawa" shingles are available?

Write for Roofing Booklet "L.P."
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THE Viking Cream Separator costs you less but gives you more for your money. It has greater capacity than any other separator of equal rating. It skims to a mere trace. The Viking is easy running and simple to clean, strong and durable. Write today for the Free Separator Book.

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WAREHOUSES
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Steel Rails

for Reinforcing Bridges
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CUT ANY LENGTH

JNO. J. GARTSHORE

58 Front Street West Toronto

Holstein Bulls

Ready for service and younger. Cows and heifers bred to ORMSBY JANE BURKE, whose two nearest dams average 38.82 lbs. of butter in 7 days. The three nearest sires' dams and his dam's records average 35.69 lbs. for 7 days, and 112 lbs. milk for one day.

R. M. HOLTBY, R. R. 4, PORT PERRY, ONT.

KING SEGIS PONTIAC DUPLICATE
A 1/4 brother to the \$50,000 bull is the sire of our young bulls offered at present. Two of these are ready for service. Write us also for females.
R. W. Walker & Sons, Manchester Station,
G.T.R., Port Perry, Ontario

Twenty-five Years Breeding REGISTERED
JERSEYS and BERKSHIRES

We have bred over one half the world's Jersey champions for large yearly production at the pail. We bred and have in service, the two grand champion Berkshire boars. If you need a sire for improvement, write us for literature, description and prices.
HOOD FARM, LOWELL, MASS.

LAKESIDE AYRSHIRES
A choice selection of young bulls for sale from Record of Performance dams, imported and Canadian bred.
SIRE: Auchenbrain Sea Foam (Imp) 35758 many times grand champion.
Fairfield Mains Triumph (Imp.) 51137 a son of the noted Hobsland Perfect Piece.
Write for catalogue.
Geo. H. Montgomery, Proprietor, Dominion Express Building, Montreal. D. Macarthur, Manager, Phillipsburg, Que.

JAS. B. ROSS, MEADOWVALE, ONTARIO,
for high-producing, show-yard AYRSHIRES.
Herd headed by SNOW KING 47376, first-prize two-year bull at Toronto, 1917. Write me also for anything in Yorkshires.
Meadowvale P.O., Streetsville Station

Questions and Answers.
Miscellaneous.

Killing Ground-hogs.

What will smother ground-hogs?
J. R. B.
Ans.—Moisten a rag with carbon-bisulphide and put it in the burrow in the evening. Carbonbisulphide forms a gas which is heavier than air and it will gradually settle to the bottom of the burrow, destroying all life within. This material is inflammable, consequently care should be taken not to handle it around buildings, or where there is fire of any nature. It is poisonous and should be handled with care.

Tuberculosis.

My hens are dying. They appear lifeless for a few days, get thin, and then succumb. What is the cause?
O. C.
Ans.—From the symptoms given we are inclined to think that your flock is affected with tuberculosis, for which there is little that can be done. The healthy birds should be kept separate from the diseased ones, and the pens and yards should be thoroughly disinfected. If the birds are badly affected they had better be killed, as if left in the flock there is danger of them spreading the disease. They should be buried or burned. Care must be taken to have the pens thoroughly disinfected, if the disease is to be stamped out.

Heaves.

I have a ten-year-old horse which I drive on a mail route in the winter-time, but let him run on pasture during the summer. Last spring he contracted a cough, for which I administered medicine which gave relief, but during the summer he has apparently developed heaves, although they show very little and he does not cough. Will he stand the road this winter? How should he be fed?
H. B.

Ans.—If the horse has the heaves, it is doubtful if a cure can be effected, but the symptoms can be alleviated by feeding small quantities of bulky food and using grain in proportion to the work performed. Dampen all food given with lime water, and, if possible, avoid driving after a heavy meal. By following these precautions the horse may be able to stand the road.

Itchy Legs—Unthrifty Colt.

1. A nine-year-old mare was affected with grease leg last winter, but she apparently got all right. However, she stamps her hind feet and rubs them as though they were itchy. What treatment do you advise?
2. I have a yearling filly which although well fed is in poor condition. I treated her for worms with some success. Her throat and mouth swell when on grass, but when in the stable the swelling disappears. She still retains a portion of the old hair and appears lifeless.
F. H.

Ans.—1. The mare should be fed on good hay, with a little rolled oats and bran and a cupful of linseed meal daily. Administering 6 drams of hyposulphite of soda three times daily may help the system. If there are raw spots on the legs, dress with a lotion made of one ounce each of acetate of lead and sulphate of zinc in a pint of water. Dressing the legs with a solution of corrosive sublimate, 30 grains to a pint of water, at a temperature of 105 degrees Fahrenheit, will aid in removing the itchiness. It may be advisable to administer a purgative, as 8 drams aloes and 2 drams ginger.
2. It is possible that the colt's teeth require dressing. However, the symptoms point somewhat to constitutional disorders. It is rather unusual for the throat and mouth to swell when on grass, and become all right when she is in the stable. It would be advisable to have your veterinarian examine the colt to see if he can locate any cause for this occurrence. If the teeth are all right, and there are no sores in the mouth, the colt should improve in flesh if well fed. A tonic for a horse is made up of the following ingredients: Mix equal parts of sulphate of iron, gentian, ginger and nux vomica, and give a teaspoonful three times daily.

PEERLESS PERFECTION



For Those Broad Acres

Put up a fence that will last a life time—a fence that can't sag or break down—that will hold a wild horse—that hogs can't nose through—that can't rust—a fence that stands rough usage by animals or weather and is guaranteed. PEERLESS PERFECTION Fencing is made of Heavy Open Hearth Steel Wire with all the impurities burned out and all the strength and toughness left in. Heavily galvanized. Every intersection is locked together with the Peerless lock. The stiff stay wires keep the fence rigid, therefore fewer posts are required. Send for Catalogue and literature. It's attractive. It will interest you. It's a well worth a stamp. Send today. Best Dealers throughout Canada handle our complete line. THE SANWELL-ROXIE WIRE FENCE CO., Ltd. Windsor, Manitoba Hamilton, Ontario

FIELD TILE

If considering draining your farm or orchard, we can supply all sizes, best quality Hard Burned Clay Tile, and will guarantee prompt shipment. Write for prices

National Fire Proofing Company of Canada, Limited
Drainage Dept., Dominion Bank Bldg., Toronto

HET LOO PIETERTJE

THE \$12,750 HEIFER

Sold at the great Milwaukee Sale, was only one of the many daughters we have of our senior sire, Pontiac Korndyke of Het Loo. We also have sons—brothers to this world's champion heifer; and for the next few weeks, these, along with several other young bulls of serviceable age, are priced exceptionally low. Let us hear from you if interested—at once.
W. L. Shaw, Roycroft Farm Farm on Yonge St., Toronto & York Road, 1 1/2 hours from Toronto. New Market, Ont.

Manor Farm Holstein-Friesians

If it's a herd sire you want, write me. I have sons of both my senior and junior sires, King Segis Pontiac Poch and King Korndyke Sadie Keyes. All are from good record dams. Choice bull calves at present to offer—average for two nearest dams, up to 34.71 lbs. butter in seven days. Correspondence solicited, visitors welcome.

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

Hospital for Insane, Hamilton

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

—Apply to Superintendent

DUMFRIES FARM HOLSTEINS

Cows for sale, bred to Plus Evergreen, son of Evergreen March.
S. G. & ERLE KITCHEN Bell 'phone. ST. GEORGE, ONTARIO

SILVER STREAM HOLSTEINS

Present Offering—six extra well bred bull calves, sired by bulls with 34-lb. backing, and from tested dams, individually as good as their breeding. For fuller particulars and prices, write, or better come and see them.
J. MOGK & SON, R. R. 1, TAVISTOCK, ONTARIO

Cloverlea Dairy Farm Holsteins

Present offering consists of three choice young bulls ready for service. Will be priced right for quick sale. For price and particulars apply to GRIESBACH BROS., COLLINGWOOD, ONTARIO.

Choice Grandson of Queen Butter Baroness

I am offering a Choice 14-months bull from a 21-lb. junior two-year-old daughter of Louis Prilly Rouble Hartog, and sired by Baron Colantha Payne, a son of Queen Butter Baroness, the former 33-lb. Canadian champion cow. Also have others younger. T. W. McQUEEN (Oxford Co.) TILLSONBURG, ONT.

WALNUT GROVE HOLSTEINS

I am offering a choice lot of bull calves, all sired by May Echo Champion, who is a full brother to the world's champion, May Echo Sylvia. All are from R.O.M. dams and good individuals. Also have the usual offering in Tamworth swine.
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We bred and owned the dam, and imported the sire of the champion R.O.P. butter cow of Canada. We own the champion four-year-old R.O.P. butter cow of Canada. To make room for 1918 importation, expected to arrive in May, we are making special offerings of females and bulls, all ages.

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Six cows at \$200.00 each; bulls from \$50.00 to \$100 each. T. HETHERINGTON, c.o. 451
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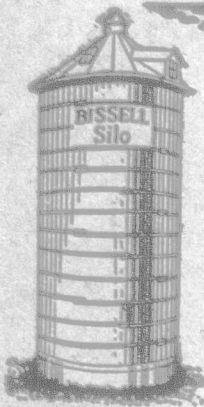
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CHOICE BULLS AND FEMALES. We have six young bulls of serviceable age, all from R.O.P. dams. Three are by our senior sire, Brampton Dairy Farmer, and three are by our junior sire, Brampton Bright Togo. Write for records. We also have females.
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Headed by Burnside Lucky Master Swell, a combination of blood so hard to equal, being of the Masterpiece and Lucky Girl families, a combination which means quality, production and constitution. Ninety head to select from. Special offering—20 yearling heifers and 3 bulls. Inspection invited



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

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Besides my regular offering of ram and ewe shearlings, I have the three-year Clydesdale stallion, Cairnbe Heir 18299. Write quick, don't wait.

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

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

TAMWORTHS

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

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

Sunnyside Chester Whites and Dorsets. In Chester Whites we have both sexes, any age, bred from our champions of many years. In Dorsets we have ram and ewe lambs by our Toronto and Ottawa champion, and out of Toronto, London, and Guelph winners. **W. E. Wright & Son, Glanworth, Ont.**

I have a choice offering of **Sows, 3 to 5 months old** a few boars 3 months old and a good year-old hog. Priced to sell. **G. W. Miners, R. R. No. 3, Exeter, Ont.**

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When writing please mention "Advocate"

Questions and Answers.

Miscellaneous.

Oil Lease.

Can a township lease a road to an oil company for oil purposes? S. M. Ontario.

Ans.—No.

Weeds.

What are the names of the enclosed samples of weeds? S. L.

Ans.—1, Swamp Milkweed; 2, Stinkweed, or Penny Crest; 3, Common Evening Primrose; 4, Tall Buttercup; 5, not sufficient plant to identify; 6, Heal-All; 7, Cinquefoil; 8, Tumbling Mustard; 9, Canada Fleabane or Horseweed; 10, Wormseed Mustard.

Blue Weed.

How does the blue weed spread, and what is the best method of eradicating it? H. B. K.

Ans.—The blue weed is a biennial plant which ripens its seed in August. It is spread chiefly by seeds blown by the wind during the winter. It is most common by roadsides and in waste places, chiefly on limestone or gravelly or poor soil. Continued close cutting from year to year, when the plant is in early bloom, will suppress it in waste places and pastures. Spudding below the crown of the root will kill it. A rotation of crops will keep it under control on cultivated land.

Description of Weed.

Kindly describe the enclosed weed, giving its name and stating the best means of controlling the same. S. A.

Ans.—The plant submitted to this office has a fine, smooth stem and alternate, finely-dissected leaves, suggesting a weak example of a carrot gone to seed. As received it lacks flower or fruit, but the parts represented place it in the Fumarias, probably *Fumaria spicata* or wild fumitory. This and two or three other similar species are annual weeds in the grain fields of Europe. The pale flowers of this genus are rather pretty when observed under a lens; one of them is cultivated sometimes as a garden flower, but most of them are regarded as weeds, although not in the obnoxious class.

J. D.

Fireplace for Boiling Sap.

I wish to build a brick fireplace for boiling sap. I wish to use two pans at a time. Kindly advise the best method of doing this, so as to conserve fuel as much as possible. What material should be used? L. D. C.

Ans.—Fireplaces of different designs are constructed, and it would be necessary to build the foundation the size of the pan, using brick or stone, or concrete. Some merely build a fireplace of stone, using clay as mortar; iron is placed on top on which the pan rests. It would be necessary to have a chimney at the back, and also to construct the front so that the draft could be regulated. The aim should be to have the pan comparatively close to the fire. The pan should not be much over a foot above the bottom of the fireplace. Sometimes it is possible to secure grates from an old boiler. If these are placed in the bottom several inches from the ground, they will give a chance to have draft underneath the fire from front to back.

Coloring for Butter and Cheese.

1. How much butter coloring would it be necessary to put in four 12-quart pails of cream, and how is that coloring material made to remain in the butter and not come out in the buttermilk?

2. How much rennet would it take to curdle four 12-quart pails of milk? E. T.

Ans.—1. The amount of color to add depends upon the kind of cream, the season of the year, and the market demands. Less color is required during the summer when the cows are on pasture than when they are on dry winter feed. From one-half to one ounce of coloring for each 100 pounds of butter may give the desired color. If the cream tested around 30 per cent. the four pails should make about 30 pounds of butter, thus less than one-third of an ounce of coloring would be required. The coloring adheres to the fat particles in the cream and does not come out in the buttermilk.

2. In cheese-making about 3 ounces of rennet is used to 1,000 lbs. of milk; thus for four pails of milk about one-quarter of an ounce would be sufficient.



The Deering Manure Spreader Light Draft — Wide Spread

A LOAD of stable manure is no light weight. Matted with bedding and litter, it is no easy job to tear it into small pieces for the kind of spreading that good farmers demand. Yet two horses can handle easily the 49-bushel load of a Deering No. 8 in all ordinary going, and will get the load off in a good even coat in three to four minutes. With its light weight, roller bearings, and beater parts kept in line by a strong steel frame, the Deering is a very light draft machine.

The work of tearing up the manure is divided between two beaters, one of which is a spiral that makes this Deering spreader a wonderfully efficient fertilizing machine. It spreads beyond the wheel tracks. It covers the ground evenly clear across the width of the spread.

Three sizes of Deering spreaders give each farmer a machine suitable for his farm—No. 8, 49 bushels; No. 5, 55 bushels; No. 6, 63 bushels capacity. See the local dealer or write the nearest branch house for illustrated catalogue showing all the good features of this Deering light draft, wide-spread manure spreader.

International Harvester Company of Canada, Limited

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EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. E.

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N.B.—New automobile entrance, corner Dundas and Egerton Streets. Admission, \$1.00, covers auto and driver and includes parking of car.

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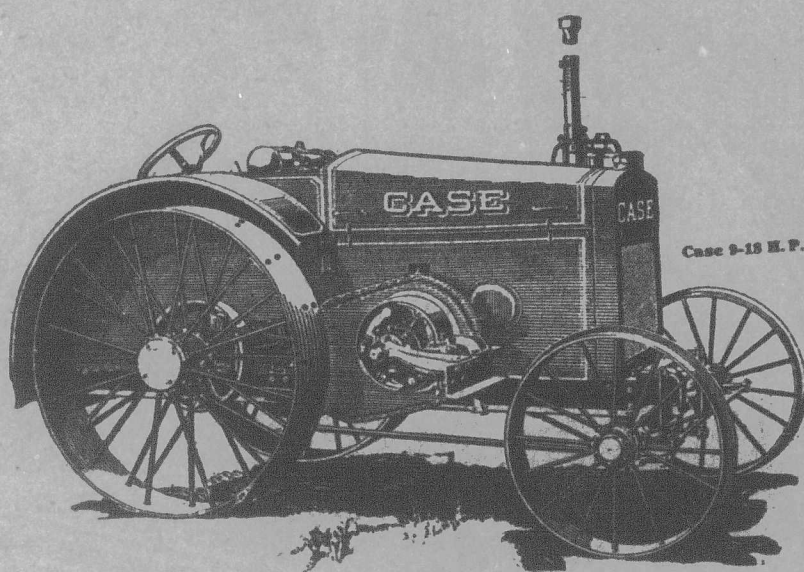
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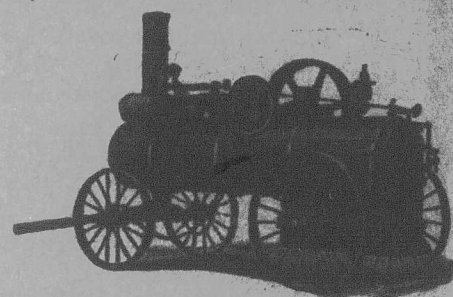
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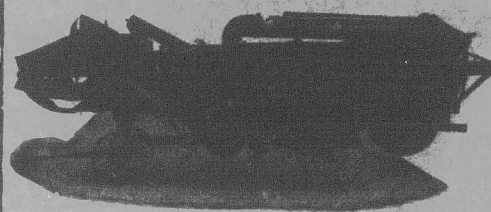
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