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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

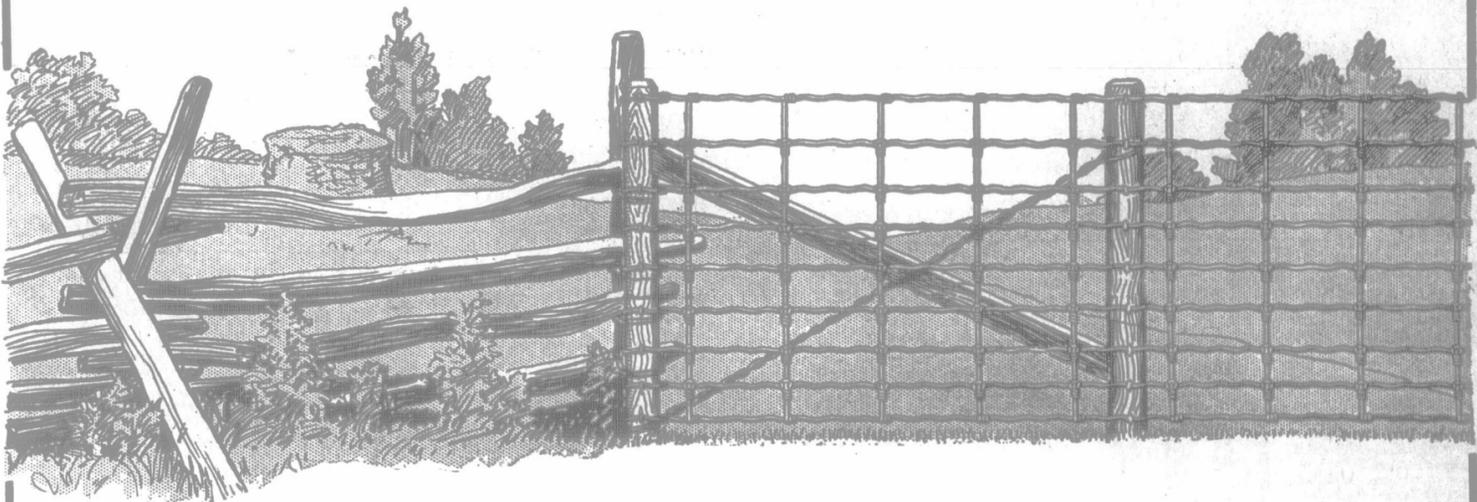
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Vol. LII.

LONDON, ONTARIO, APRIL 12, 1917.

No. 1281

Let FROST FENCE Replace Your Rail Fences



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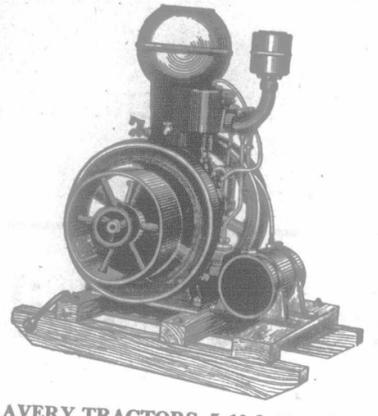
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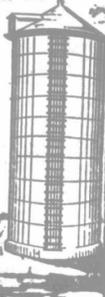
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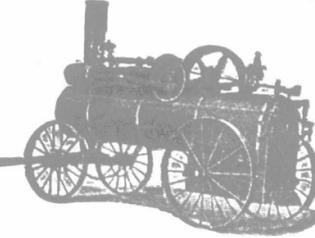
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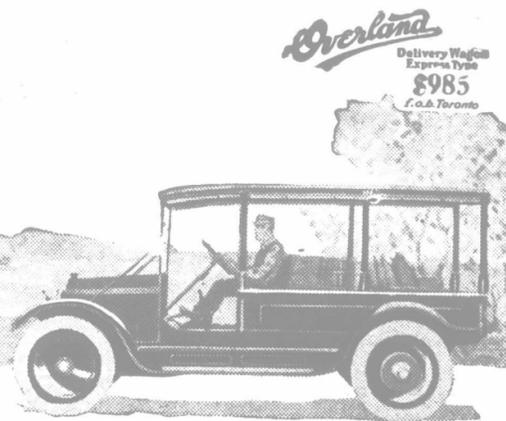
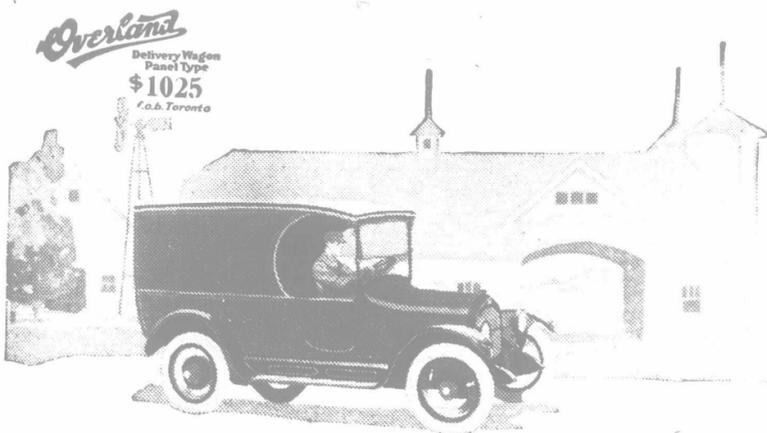
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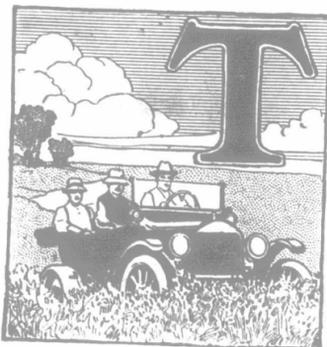
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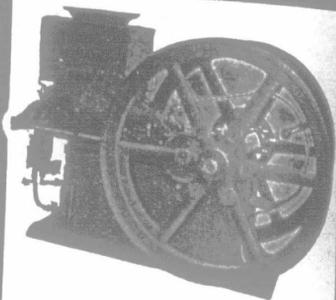
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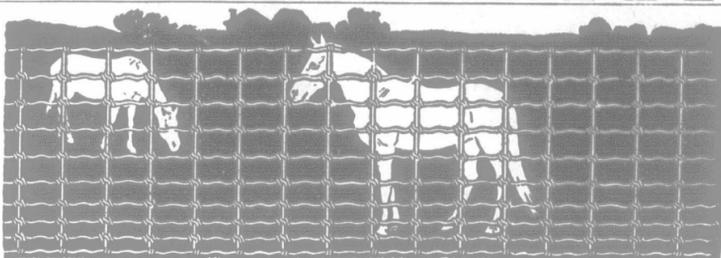
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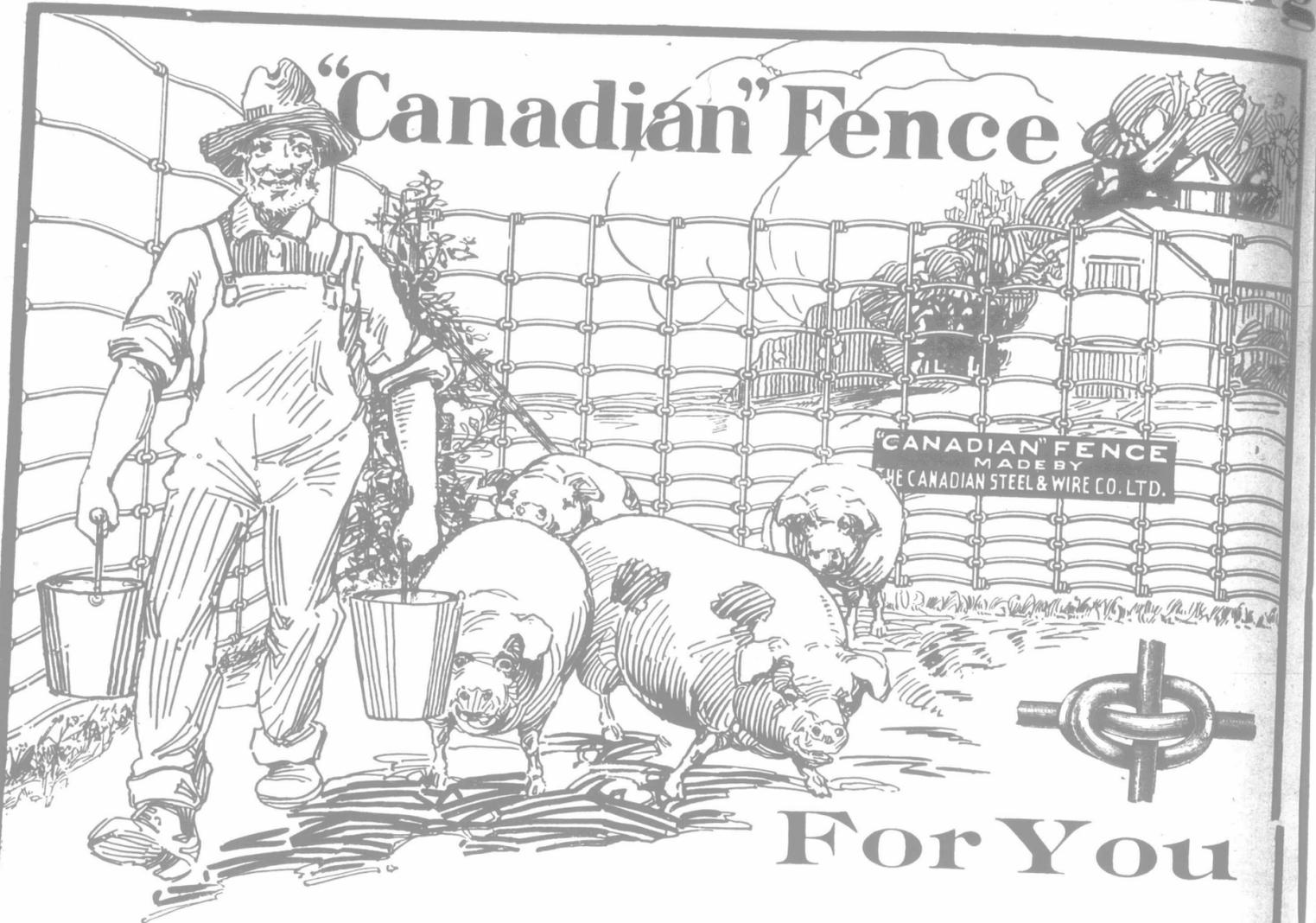
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Hamilton, Ontario

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The question fo Thanksgiving

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The Farmer's Advocate and Home Magazine

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LII.

LONDON, ONTARIO, APRIL 12, 1917.

1281

EDITORIAL.

Save the Safe Sire.

The really patriotic man, rural or urban, will have a garden this year.

The question now is, will there be any Turkey left for Thanksgiving this year?

You may not be able to do more: most farmers are not, but many could do better.

The man who spends his vacation on the farm this year need not be looking for "holidays."

Many a good sire is sold, just when his usefulness is beginning to be appreciated.

Some things are more expensive than others, but it is the varied diet which satisfies.

A good stable of stock is generally found on the farm which yields big crops and best returns.

When strategic retreats develop into routs, even military experts have considerable trouble in painting them into victories.

Notwithstanding the German Chancellor's skill at sugar-coating the pill, the rise of Democracy in Russia is bitter to the Kaiser.

All city people are now encouraged to keep hens. Well, if they ruin the egg market, they will help increase the price of wheat.

According to the labors of the food scientist, the man who knows beans about the actual value of foods will plant beans this year.

What is not even considered an overt act in 1917 would, a few years ago, have been branded as an outrage against civilization.

Recruiting might well be called off in rural districts until the crop is in, that is if our leaders are right when they say food is most necessary to victory.

With chores to do morning, night and noon, he is wise who chooses to wear out the seat of his overalls riding on the seeding implements, rather than his legs walking after them.

They say that 20 cents spent in beans last winter was equal to \$1.61 spent in eggs. It would be good to plant a few beans for home use and hatch pullets early to ensure winter eggs for sale.

An ex-school teacher recently called at this office. He has been farming fourteen years and says there is more money in farming than in school teaching. That's easy. There isn't much in school teaching. However, this man has done well.

The clause in the proposed Provincial Highway Bill which makes it possible for the Government, backed by motorists, to forbid any kind of vehicle or animals from the use of the road is ridiculous. Perhaps some do not want loads of hay and grain and herds of cattle to be driven along the road. If so, let these buy their right of way the same as railroads do. If this road is to be a Provincial Highway, built and maintained by the people's money, then all the people must have equal rights thereon. Certainly the automobile is not the vehicle aimed at in the clause mentioned.

A few days ago we visited a 250-acre farm on which a heavy stock is kept and that stock is all of a good type. Thirty-two fat steers, almost finished to the prime degree, were in the stalls, to say nothing of the pure-bred Short-horns and the young cattle over 100 in all. We got interested in the steers, most of which were big, smooth fellows with the short, broad heads, strong muzzle, deep hearts, well-sprung ribs and thick, level hind quarters, all of which denote feeding quality and beef type which suits both feeder and butcher. We noticed four or five big roans, all of extra good type and resembling one another very closely. They were just a little better individuals than their fellow "beefers". The owner pointed them out and then he took us to the end of the stable and showed us the reason for their quality. A five-year-old bull stood there, long, deep, smooth and evenly fleshed. He was the sire of the choice steers and he was being fattened for the block because his owner could not use him longer, owing to his heifers having reached breeding age. He was straight on his pins and appeared good for several years. Yet he must go, unless some farmer sees the good in him and prevents his premature slaughter. He is just coming to his best, but thousands of the country's best sires go to the shambles before they should. A breeder of good cattle recently cited the case of the best bull he ever owned. He kept him seven years and wished he had kept him seven more. But the average age of bulls turned off to the butchers is only around three or four years. Those which have proven the right kind of sires should be kept as long as useful. The wonder is that so many farmers will keep an inferior sire, or trust to an untried calf when they could purchase a tried and proven bull of first quality for little more than butcher's price. Save the safe sires from the shambles.

The Provincial Highway Legislation.

Good roads are a boon to any country or any district of that country. For that reason "The Farmer's Advocate" has always favored increased care in road building and vastly more attention to road maintenance. There should be method and system in all road work of a constructive or maintenance nature. We have never favored spending all the money on good roads in one place, or upon one highway, for various reasons. The aim should be to do the greatest good to the greatest number and to so levy the necessary tax that it is distributed in an equitable and fair manner. In all this a Provincial Highway, or a Provincial Highway System, presents difficulties but evidently our Government thinks these are easily surmounted, and a Bill known as "An Act to Provide for a Provincial Highway System" has been introduced in the Legislature by the Hon. F. G. MacDiarmid.

There are many things to be said in favor of a Provincial Highway and there are also some arguments against it. One thing is certain, the municipalities should not be called upon to bear more of the expense than would be necessary to make and keep the road in good condition for their own use. The thirty per cent. stated in the Bill is too much. The road will undoubtedly be of more value to cities and city people than to the rural population. The bulk of the marketing is done by rail and the crops go away from the farms on foot. Besides, the Highway, as outlined, only touches the edges of many municipalities and is or will be of little or no use to those living a few miles back from it. For no inconsiderable part of the distance it will traverse a country well served by railroads. Thirty per cent. of the cost, the portion set apart for the municipalities, may amount to \$8,000 or \$9,000 per mile, if the Toronto-Hamilton road is any criterion, and some townships have as much as ten miles of it. We have often remarked that the further the control of

roads, or anything else for that matter, is removed from the people the more they cost. The upkeep of the road, in the provisions of the Bill, would be too high for the municipalities.

And then there is a clause in the Bill which gives the Government power to say how close to the roadway buildings or fences may be erected, and to pull down anything which they deem interferes. This is worth watching.

But let us quote clause 26 of the Bill: "The Minister may make regulations respecting the use of a Provincial Highway by any class of vehicles or animals or prohibiting its use by any class of vehicles or animals, and may impose penalties for violation thereof, but no such regulations shall have any force or effect until approved by the Lieutenant-Governor in Council after notice to the municipal corporation affected thereby."

This is ridiculous. What class of people is to be driven off the road? Not the motorists. If the Provincial Highway is to be simply a motor road let the Motor League buy their right of way entirely. We have nothing against automobiles or the users of the same, in fact we would that every farmer and city man could afford a car, but the farmer without a car must be allowed the free use of any road which he helps build and maintain in this free country, and he'll see that he gets it.

Helping the Farmer.

Suggestions intended to help farmers never cease. Our towns and cities seem to be supplied with never-failing springs and some with overflowing wells. For the most part they serve about as good a purpose as laughing gas in the rural communities. From the man who would grow sunflowers in all the fence corners to the woman who would sow all Canada to broom corn, they all have what their fertile minds tell them are helpful suggestions. The ridiculousness of it all grows painful. How long would manufacturers, business men, professional men, club men, and women's clubs seriously consider any suggestions farmers might make to them to improve their business acumen and increase the value of their work to themselves and to the country? No farmer would presume to do so. We give the tiller of the soil credit for having and exercising a little more of that uncommon commodity designated in everyday parlance as "common sense". But when it comes to suggestions as to how city people might help farmers this summer, one of our readers recently mentioned something which would at least give some city agricultural fixers an opportunity to exercise themselves a little and to get away from the regular routine which makes tired business men and socially satiated young women. There are few more extraordinary things to be done in the city. This farmer suggested one. How do you think it would appeal? His suggestion was that each urban municipality buy two or three cows to be used as "practice pianos" on which the society girls, who want work on a farm could learn to milk. When fully proficient in the gentle art of milking the quiet cows, which should not require more than a few days or weeks where the students of scientific farming are so eager to help the farmer and to increase production, and further promote thrift, the girls would be ready for the great work to be done in the neighborhood of the several towns and cities. The problem of getting them transported to the farms and back was also solved by our farmer correspondent who saw in this an excellent opportunity for the men who have made fortunes out of munitions and other things to use the big automobiles which they have presented to their wives as Christmas or birthday gifts, or have purchased to transport themselves in order to save street car fare, as conveyances to take the girls out to the dairy farms where they could milk the cows and separate the milk, returning to the

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

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THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.

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

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers of any publication in Canada.
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Address—THE FARMER'S ADVOCATE, or
THE WILLIAM WELD COMPANY (Limited),
London, Canada.

city after each milking. Think of it! The dear girls would get all the beauty benefits of the early morning air speeding to the farm to milk the cows. Five o'clock a. m. would find them on their way and the auto owners could give up golf and clubs and would enjoy the healthy outdoors and the beauties of nature. The girls would require to rise about 4.30 every morning and the milking should be all over and they should be back home for breakfast around eight o'clock. In the evening they should get to the farms between five and six, so that they could get home for the dinner hour between seven and eight. Of course all this work should be given, as is the deluge of advice, entirely free. It is all in the interests of production, patriotism, thrift, etc., the importance of which some of our safety first platform orators seem to think is understood only by those who dwell in urban centres.

Besides the value of the work, the cows might actually increase in milk flow. Experiments carried on somewhere in the United States showed that by massaging the udder carefully each cow gave from one-half to one pound more milk at a milking. The gentle touch of the soft and deft fingers of the fair milkmaids, as compared with that of the hard hand of the farmer, might act in a similar manner, and besides, the milkers would be so plentiful that they could take time to massage the cows' udders as well. This should mean millions of pounds of extra milk during the coming summer. And cleanliness! Why it would be "certified milk". Think of it! But the cows—gaudy colored sport suits might irritate them. They might be a little nervous and if so would not "give down" properly. And too, the girls, brave with their own two or three educated city cows, might require considerable persuasion to go in a field of forty plain, uneducated country cows. If the farmer did not object we're afraid the cows would. But the suggestion is, while impracticable, of more value than hundreds which emanate from the city.

We forgot the backyard gardens. Urban Canada will be busy enough farming these. Fifty per cent. of our people live in cities and it will take them all to keep the weeds out of the few acres of backyard gardens they will have, while the other fifty per cent. of Cana-

dians are busy farming several million acres of land and listening to free advice from the city experts who are sure to learn a lot from this year's practical experiences on gardens 20 feet by 30 feet. Our farmer friend also pointed out that the cost of printing Government literature on backyard gardens would have bought a lot of vegetables, but that is another question. If it increases the production of food products it will have served its purpose.

How about the girls, the auto owners, the farmer and the cows? If a cow will give 5,000 lbs. of milk to the big, rough farmer in smock and overalls, she should give 10,000 lbs. if milked during the season by a patriotic young lady with soft and perfumed hands and wearing a sport suit. It is said also that cows milk better to music. The girls might sing or take along their grafonola. Oh, there are many ways to help the farmer!

Nature's Diary.

BY A. B. KLUGH, M. A.

The Phoebe is with us once again, and its cheery song "Phoebe-phoebe-phree-u-ee-phoebe" sounds from bridge and garden and orchard. This species is one of the Flycatchers, that is it belongs to the family Tyrannidae, a group of birds of medium or small size with bills somewhat flattened and hooked at the extreme tip. All our Flycatchers, with the exception of the Crested Flycatcher, are gray, or olive-gray above, and whitish, more or less suffused with olive, beneath, and are among the hardest birds to recognize specifically by appearance alone. Each species has, however, characteristic calls, song, or attitudes which enable the student of birds to identify it. Thus the song of the Phoebe is unmistakable, and so, to the practised ear, is its call-note. It has, moreover, the peculiar habit of wagging its tail, not up and down after the manner of several of our birds, but sideways.

The Phoebe has quite a wide range in Canada. It occurs sparingly in Newfoundland and in the Maritime Provinces, and is common in parts of New Brunswick. In Western Quebec and in Ontario it is very common, and it is common in many localities in Manitoba Saskatchewan and Alberta. It is mentioned as the commonest bird along the Athabaska River.

This species arrives in Ontario from March 24th to April 15th, and leaves about the first of October. It spends the winter from the Gulf States south to Mexico and Cuba.

The Phoebe is one of our most familiar birds, as it is not a species of the deep woods, but takes up its abode about the habitations of man. In fact in the wilder parts of the country it is found only along rivers or the shores of lakes, where it builds its nest on ledges of rock, and in some cases on the ends of fallen logs which overhang the water or among the roots of an up-turned tree. Its favorite nesting-sites in settled districts are on the timbers under a bridge or in an outhouse or drive-shed. The nest is composed of grass, rootlets and mud and is decorated on the exterior with moss. The eggs are from four to five in number and are pure white.

The Phoebe raises two broods in a season, and not only does it use the same nest for these two broods, but returns to this nest year after year. Before laying each set of eggs it adds an additional layer to the nest, so that in time it attains a considerable height. Just how high Phoebe will build its nest is a point upon which I have no definite information and if any readers of "The Advocate" have any very "tall" nests on their premises I should be glad to know their height and something of their history. My own observations on this point were interrupted by a tragedy. At my summer cottage a pair of Phoebes had a nest on the scantling of the verandah immediately over the door. As the cottage had been unused for some two years, and as the nest was then about three and a half inches high, I judged that it had already been used for two years. Since the bird was constantly disturbed at the opening and closing of the door I decided to move the nest. I nailed up a large tin cracker box under the wide projecting eaves of the woodshed, and removed the nest, which contained fresh eggs, to its new site. The move did not disturb the birds at all and they reared this brood and a second that year. Next year they added still further to the nest, reared a brood, and made a second addition, and this addition made the nest so high that there was just room for the female to squeeze in between it and the top of the box. I was wondering what course the birds would take the next year when one morning before the second set of eggs was completed, I found the female dead on the nest. The male appeared disconsolate for a day or so, then left for a little while and returned with a new wife. Mrs. Phoebe No. 2 had a look at the nest, but she evidently did not like "sky-scrapers" and the pair left the vicinity.

Since the Phoebe lives in such close association with man its economic status is of much interest. Its food consists of 90 per cent. animal matter and 10 per cent. vegetable matter. The animal part of the food consists of insects with a few spiders and some "thousand-legs". Of the insects taken the majority belong to the order Hymenoptera to which the bees, wasps, ants, sawflies, gallflies, etc., belong, those belonging to the order Coleoptera, (Beetles), coming next, those belonging to the order Hemiptera (Bugs), ranking third. Now we find a bird eating many Hymenoptera we have to enquire as to what species of this order it shows a preference for, as while many of the insects

of this order are injurious, such as the sawflies for instance, others are highly beneficial, since they are parasitic upon other very harmful species. In the case of the Phoebe we find that while it eats a few of the beneficial Hymenoptera it takes more injurious and neutral species, among the latter the ants being conspicuous. Among the beetles eaten there are some troublesome pests of the garden, such as the Cucumber Beetle. In addition to the insects already mentioned the Phoebe eats many grasshoppers and flies. The main food of the nestlings consists of young grasshoppers. The vegetable food is eaten mainly in the winter, and consists of wild fruits, and in the summer the vegetable food amounts to only one per cent. of the food, and consists of wild Raspberries, Elderberries, etc.

Thus on the whole we see that the Phoebe is decidedly beneficial and is a most desirable tenant of the farm.

THE HORSE.

Old London's Hackney Show.

EDITOR "THE FARMER'S ADVOCATE":

A new and special feature of the 33rd annual show of the English Hackney Horse Society, held in London recently, was a class for stallions suitable for breeding Army and artillery horses, and in this the Prince of Wales showed a grey—he was almost white—named Findon Grey Shales, which has immense bone, wonderful substance, and great depth through heart and loin. He is of the old Norfolk Trotter breed, and though he is in the Hackney Stud Book he has not a drop of modern Hackney blood in his veins. That the judges, and also the crowd, liked him was soon apparent, and he was placed second to Whitegate Commander, a very powerful brown, shown by John Jones of Wrexham.

It is claimed for the Hackney that he is in big demand as an artillery horse, and since the outbreak of war large numbers of both pure and half-bred Hackneys have been purchased by the English Government. In 1915 the Italian Government took 17 high-class stallions for the purpose of breeding artillery horses, and last year a further 26.

Stallions of all ages were quite a good lot on the whole. The best in the younger classes was Salford Victor, a chestnut three-year-old, shown by Sir Lees Knowles. Salford Victor's sire was the London champion Hopwood Viceroy, while his dam was the famous brood mare—and one-time champion—Knowle Halma. The best older stallion was W. Briggs' Adbolton Kingmaker, by King's Proctor, which was champion when a three-year-old in 1911. He was bred by A. W. Hickling, of Adbolton, Notts, and is now looking better than ever he did before. He cost Briggs 600 guineas at the Adbolton dispersal. Dr. Bowie's A I's Ambassador by Mathias A I, was reserve. This horse is powerfully built, and has fine hock action, while he is a dark brown—a very desirable color, rarely seen among prize-winning Hackneys.

At the head of the yearling fillies stood Ernest Bewley's Danum Queen, a well-grown, upstanding chestnut by Adbolton Kingmaker from Ambitious Becky by Beekingham Squire. She has the style and character one might expect from such a pedigree, with the best of legs and feet, and excellent action.

In two-year-old fillies, Thomas William Boan's Mersey Flashlight led, and is a short-legged filly with good bone, well placed shoulders, and a fine mover all round. She is by Woodhatch President.

In three-year-old fillies Ernest Bewley's Adbolton Bountiful was winner. She is by Mathias from Touthorpe Iris by Forest Star, has a fine forehead, her shoulders being nicely placed, and she is well ribbed up and well balanced. She has excellent legs and feet and made a very good show. She won in her class, too, Junior Cup and Challenge Cup in London last year, and was first and champion at the Royal. H. V. Sheringham's Creake Lady by Antonius, which was second to the winner in London and at the Royal, made a very good second. She is a well-grown filly, with good limbs and fine quality and action.

Mares, four years and over, over 14 hands, not exceeding 15 hands 2 inches, saw Philip Smith's Northern Glory, a brown with rare combination of blood—she is by Mathias from a Garton Duke of Connaught mare—win premier honors. She is a short-legged, level mare, with fine quality, and her action is excellent.

In four-year-old mares and upwards, over 15 hands 2 inches, first went to John Makeague's Slashing Dorothy, a well-known winner, bred by the late Sir Walter Gilbey. She is a big mare.

Amateur driver classes were introduced. In that for barren mares or geldings, any age, exceeding 14 hands, the result was never in any doubt, for Mrs. Tilbury's famous veteran, Gaythorn, which, perhaps, never made a better show, stood right out from the rest. Mrs. Putman's Haydon's Blighty, which won in the novice harness class for 14 to 15 hands on the previous day, was second, and Mrs. F. E. Colman's Crystal of Nork, third. Walter Winans got reserve for one shown with a full tail. This innovation some people thought an improvement. It is, at any rate, to be preferred to some of the short docks which prevail among Hackneys.

The amateur class for single harness ponies, not exceeding 14 hands, had six entries. Premier honors went to W. W. Bourne's Tissington Bauble. Bourne was also second with another good mover in Melbourne Fame.

The class for barren mares or geldings, any age, exceeding 14 and not exceeding 15 hands, professionally driven, had at its head perhaps the best harness horse

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LIVE STOCK.

Last Season's Co-Operative Lamb Marketing in Quebec.

EDITOR "FARMER'S ADVOCATE":

The co-operative marketing of lambs, which was tried as an experiment for the first time in 1916 by five of the Local Wool Growers' and Sheep Breeders' Associations in Quebec, has given such good results that plans are now laid for further expansion, and a more permanent policy has been adopted for the coming year. Although a new move, some 2,567 head, selling for \$21,498.82, were graded and sold co-operatively. In some instances prices were advanced a cent and a half a pound and in other cases from a quarter to a half and one cent a pound advance was secured. In all, 47.1 per cent. of the lambs graded as No. 1's, 17.1 per cent. as No. 2's, 9.9 per cent. as No. 3's, 17.2 per cent. as ram lambs and 8.8 per cent. as aged ewes.

The lambs and aged ewes were graded altogether on the weight basis with the exception that after the twentieth of September a separate class was made for ram lambs. The breeding in the various districts varied somewhat, otherwise the lambs were of a fairly uniform type. The results of the local pure-bred sales are already in evidence in that greater uniformity of type is evidenced in the lambs marketed. The benefits of district or community breeding are becoming apparent to many members, and the adoption of a more exclusive policy will give each association distinctive recognition for the production of a uniform lamb of a particular line of breeding.

The following grades were established:

Lambs.—No. 1's, 70-100 lbs. in weight; No. 2's, 100 lbs and over; No. 3's, 70 lbs. and under; Ram lambs, all weights.

Aged Sheep.—No. 1's, 100-140 lbs. in weight; No. 2's, 140 lbs. and over; No. 3's, 100 lbs. and under; Aged rams, all weights.

Two sales of lambs were arranged for each Association, one in late August and early September and the other in October or early November. The highest price obtained was \$10.25 per cwt., and the lowest \$8 per cwt. Grades, No. 1 and No. 2 were the best sellers and brought considerably higher average prices than either No. 3 or ram lambs. The aged ewes offered for sale, with few exceptions graded No. 1's and No. 2's, bringing from \$5.00 to \$6.50 per cwt.

The best results were obtained in those districts lying farthest away from market points and in districts where there was little competition among drovers. Lambs that were suckling their dams and shipped during September in warm weather were found to have a greater shrinkage than lambs shipped later in the season. The shrinkage per lamb on shipments varied from 5.5 to 11 lbs. depending on time in transit, breeding, age and weight of lambs and weather conditions. Sales were arranged in so far as possible to avoid low markets, the first sales being held during the early part of September and the late sales during the later part of October and the first of November.

The uncastrated lambs necessitated early selling on the part of many, depriving them of the added weight that would accrue from fall feeding. Each shipment was thrown open for bids and sales made to the highest bidder. A large number of sales were made direct to the packing houses while in other cases sales were made to local dealers. Co-operative marketing and grading leads to a more careful study of the lamb crop and markets, and must eventually lead to a more severe culling of the undesirable breeding ewes. A fee of five to ten cents per head, varying with the districts, was found sufficient to cover all expenses of marketing.

In the September sales, 365 No. 1 lambs sold at an average price of \$9.26 per cwt. and averaged \$7.48 per head; 205 No. 2 lambs sold at an average price of \$9.07 per cwt. and made an average of \$9.64; 87 No. 3 lambs realized \$8.52 per cwt. and averaged \$5.11 per head. Forty-one aged ewes sold for \$5.86 per cwt. and averaged \$7.67 per head.

In the October sales, 846 No. 1 lambs sold for an average of \$9.43 per cwt. and averaged \$8.10 each; 234 No. 2 lambs made an average of \$9.21 per cwt. and brought \$9.85 each on the average; 159 No. 3 lambs sold at an average of \$8.70 per cwt., and made an average of \$5.41 each. Ram lambs brought an average of \$9.07 per cwt. and averaged \$8.78 each, while 187 aged ewes sold on the average for \$5.94 per cwt. and realized the average of \$9.01 per head.

Macdonald College, Que. A. A. MACMILLAN.

After all these years pedigree is still of more importance than individuality in the eyes of some enthusiasts.

of the day, i. e., William S. Miller's Park Carnation, an outstanding winner. Dr. Bowie's A 1's Elegance, the winner in London last year, when Park Carnation finished behind her, was second. They are both wonderful goers.

The challenge cup for the best stallion in the show was awarded to W. Briggs' Adbolton Kingmaker, with Sir Lees Knowles' Salford Victor reserve. The gold medal for best mare, from one to three years old, went to Ernest Bewley's Adbolton Bountiful with Danum Queen, from the same stable, reserve. The gold medal for best mares, over three years old, fell to Makeague's Slashing Dorothy, with Philip Smith's Northern Glory reserve, and challenge cup, i. e., the actual championship for mares was won by Adbolton Bountiful, with Slashing Dorothy reserve. The amateur champion cup for the best mare or gelding in harness, driven by an amateur, was won by W. W. Bourne's Tissington Bauble, reserve going to Mrs. Tilbury's Gaythorn. The cup for best pony stallion in harness went to W. W. Bourne's Fusee, a pony that was saved from going to U. S. A. by Bourne stepping in and buying him. Otherwise Fusee was to have been castrated and sent to America. His motion is the perfect poetry of miniature horse action.

Sir Howard Frank, presiding at the annual meeting of the Hackney Horse Society, referred to the great interest that had been taken in the new class for stallions suitable for breeding artillery and Army horses. In the past foreign Governments had bought Hackneys for Army purposes, and it was to be regretted that the British Government had not done the same. It was hoped by the Society to see a great revival in the Hackney trade with Canada and U. S. A.

At a conference of breeders held recently at York a resolution was passed instructing the council to consider the question of approaching the Government with the view of securing proper recognition of the breed for Army purposes.

William S. Miller, the great Scottish shipper, was elected president of the Hackney Society for the ensuing year. ALBION.

Successful Production of Colts.

The mares which foal during the seeding or previous to seeding time, are not capable of taking a very conspicuous part in the spring work. Time is too precious in the spring to take chances with a foaled mare. If it is necessary to use a mare after foaling, she should get the preference of any light work such as harrowing, and then only after the foal is at least 10 days old, and allowing the mare to do half day's work.

If the practice of working a foaled mare is in vogue, the foal usually becomes more or less stunted and certainly cannot have the thrifty appearance of one nursing on its mother. Moreover, the mare if submitted to hard work is not usually in a fit shape for breeding. She gets heated up and excited and usually becomes low in condition. Quite often when such a mare does not prove to be in foal, the owner shuffles the blame on to the stallion, which is often incorrectly placed. Owing to the present day labor being very scarce and wages high, the man in the field who makes his team earn their money, should not have a foaled mare as one of his team. It is much better to raise two colts, well nursed than have four neglected. In order that colts will finish into big, well-grown horses, they must have mothers that are deep milkers. To produce milk, mares need good pasture with plenty of water and salt in addition to shade from the sun and flies.

About the end of July a feed of chop twice a day is very profitable. The colt will quickly learn to eat it, which, in addition to the milk they receive, will keep them in a very thrifty condition. Five months of such nursing on pasture will put them in splendid shape for weaning, and the habit of consuming grain will be acquired. After weaning give the foals all the oats they will clean up nicely, mixed with a little bran in addition to a little hay or a sheaf of green feed. Have them out all day long if possible, for colts when well fed require abundance of exercise.

If it is necessary to work brood mares during the spring seeding, it is better to have them foal about the end of May. If such is practiced, they will be able to work constantly up to foaling time without much damage. If they are turned idle to rest up a few days before foaling they must have plenty of exercise with the grain ration cut in half. They should be turned out to pasture, not allowing them more than two hours the first half day, and the time gradually increased until they are used to strong grass. Usually mares treated in this manner will foal successfully, and the foal kept growing as previously mentioned, will develop into a good, weighty draft horse, either for the farmer's own use or for sale.—ROBERT LECKIE, in "The Farmer's Advocate and Home Journal," Winnipeg.

Saved Ten Year's Subscription.

EDITOR "THE FARMER'S ADVOCATE":

I have been a reader of your valuable paper since last August, it has saved me the subscription fees for ten years already, besides many useful hints and information.

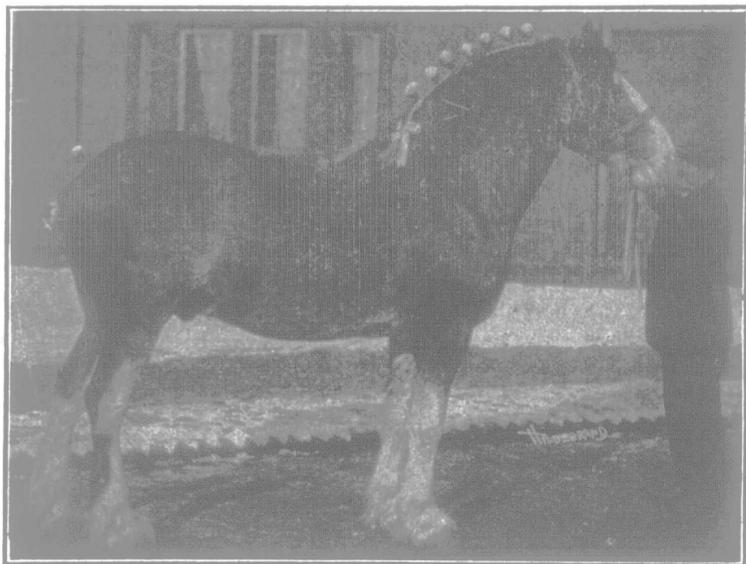
Carleton Co., Ont.

L. M. LARKIN.

The Value of Roots in Live-Stock Feeding.

After the war is over and the readjustment of our conditions liberates a larger proportion of labor for the farm, stockmen in Canada should turn their attention more to the feeding of live stock in order to produce that quality, vigor, sappiness and substance which make the animals emanating from Britain so desirable all over the world. There may be an indefinable "something" about the soil or climate of that little Island which tends to develop excellence and for which the breeders cannot claim the praise; but, be that as it may, we are sure that the roots and "cake" they feed are in no small degree responsible for the size and superiority in conformation and fleshing which characterize the cattle of England and Scotland. Amos Cruickshank farmed in a part of Scotland where the soil was unwilling and the herbage scanty, yet he developed and gave to the world a class of cattle noted for their size and easy fleshing proclivities. Canada can hardly be surpassed as a country for live stock. The soil will yield abundantly all those things upon which cattle, horses, sheep and swine will thrive, and the climate is satisfactory. But notwithstanding these favorable conditions the quality of the offerings generally on the stock yards of the Dominion is not such as to advertise the country or the live-stock industry.

There is need of better grass, more grain and an increased attention to roots and silage. It is the succulent feed in winter that makes the young stuff sappy and the adult males and females thrifty and productive. While silage is perhaps the most economical kind of roughage with which to accomplish this end, there is no doubt but that a few roots on every farm would be valuable in the extreme as a tonic or stimulant, apart from the food nutrients they contain. Where corn can be grown and ensiled satisfactorily, farmers should increase rather than decrease the acreage of so productive a crop and so valuable a part of the ration. However,



Fairholme Footprint.

Sired by Dunure Footprint and out of Harviestoun Baroness; grand champion Clydesdale stallion at the International Exposition, Chicago, 1916.

one-half acre or an acre of roots should be planted if the farmer has to make an additional effort to keep them clean and harvest them.

Mangels carry on the average only 10 per cent. of dry matter and turnips can boast of very little more, yet where can one find water that compares in any degree with the 90 per cent. contained in these roots? Analyses show that 100 pounds of roots possess only a small portion of actual food nutrients, but when fed to live stock they surpass any commercial feed or drug in their health-giving properties. Cattle can be kept longer on heavy fattening rations by the addition of a few mangels or turnips. Dairymen who are working their cows to the limit of production in order to establish official records usually have some roots for the purpose, if they do not constitute a large part of the ration. Sheep winter splendidly on roots and they are a great help to the ewe when rearing her lambs. Swine are benefited greatly by a few pulped roots daily, especially in winter when the soil is locked up from them and their feeds are heavy and less palatable than in summer. Horses will respond in thrift and general appearance to a few carrots daily; in fact, there is no class of live stock that will not relish and benefit by the addition of this class of roughage. Nearly 90 per cent. of the dry matter in roots and only 66 per cent. of the dry matter in corn silage is digestible. This, in part, explains the advantages of the former.

In Canada, the summers are sufficiently cool to make root growing a profitable line on almost every farm, and where live stock are given any consideration whatsoever there should be a small acreage planted, even if it be only enough to supply a nutritive tonic for poor-doing or unthrifty animals.

The Market Prospects For Canada's Wool Clip.

Canada should have, this season, in the neighborhood of two million fleeces of wool for market. This figure may be slightly high or low, as it is difficult for statisticians to keep up with the ever fluctuating number of sheep and swine, which increase or decrease very easily in sympathy with feed prices and general conditions. One can never tell what the price will be, but the market should be strong. If the war runs into another winter peace should be restored there will yet exist a need for wool that cannot be met with the clip of 1917. Certainly, any sincere and well-intentioned peace negotiations will give strength to a bearish movement on the wool market, but it is not likely that any such influence will be felt until the most of this season's wool crop has left the hands of farmers and producers. Judging by the gradual waning of the sheep industry during the last five years, and taking into consideration the severity of the winter just past, with its shortage of feeding stuffs, there will at least be no more pounds of wool to market in Canada this year than there were in 1916. The Live Stock World of Chicago reports a predicted decrease in the wool-producing territories of the Western States. Wyoming alone, the leading wool State of the Union, estimates a shortage of from two million to four million pounds. Wyoming, Oregon, New Mexico, Nevada, and Arizona comprise the largest wool-producing territories in the country, and a decline in the crop is predicted there. A disquieting situation exists in Montana. This State, two years ago, produced over twenty-eight million pounds. Last season, however, production fell off to about twenty-four and one-half million pounds, and for the coming season the clip is estimated by authorities as likely to be from three million to five million pounds smaller than last season's. On the other hand, increases are reported from Colorado, Texas, Washington, and Idaho. The losses, however, as calculated will far overbalance the increases. Shut off from the Australian source of supply by the embargo of Great Britain, the American woollen and clothing industries anxiously have turned their eyes to the domestic clip, and especially that of the territory wool States which supply almost two-thirds of the entire population of the country. In 1915 the territory wool States produced 173,453,000 pounds, while last year this section produced 171,520,000 pounds.

If the sheepmen of Canada enter wholeheartedly into the co-operative system of grading and marketing this season, they should receive very remunerative prices for their clip. In Western Canada 1,489,500 pounds, sold through the associations, averaged 31.53 cents per pound last year. Eastern Canada also sold 237,305 pounds under the co-operative system, at an average of 41.01 cents per pound. Altogether in Canada during 1916 the different co-operative associations graded and marketed 1,726,805 pounds at an average of 32.83 cents per pound, realizing a total revenue of \$566,946.48. There should be an enormous increase in the amount of graded wool to be sold in Canada this year if the scheme meets with success in Ontario. The manufacturers have expressed a willingness to meet the farmers halfway if they will produce the proper grades. There should be over three million pounds of graded wool in Canada this year. If the manufacturers meet the farmers halfway the price will be satisfactory.

A Radical Live-Stock Policy.

EDITOR "THE FARMER'S ADVOCATE":
Will you allow me a little space in your columns to state my views upon a subject to which I have lately given considerable thought? I refer to the improvement of our herds of beef cattle. It seems to me that the system or, more correctly speaking, the lack of system, which prevails in most parts, if not all, of Canada leaves very much to be desired, in so far as improvement is concerned.

In the county in which I farm, Dufferin, this is the system followed by most farmers. To start with, our herds consist of fairly good grade Shorthorn cows—cows that if reasonably well fed are satisfactory at the pail and on the block, or at least fairly so, and cows that had they been bred to good sires would have, in a generation or two, produced excellent beef cattle. But instead of our herds being better they are, if anything, worse, owing chiefly to the sires used and to the obnoxious practice of farmers buying the culls from dairy districts.

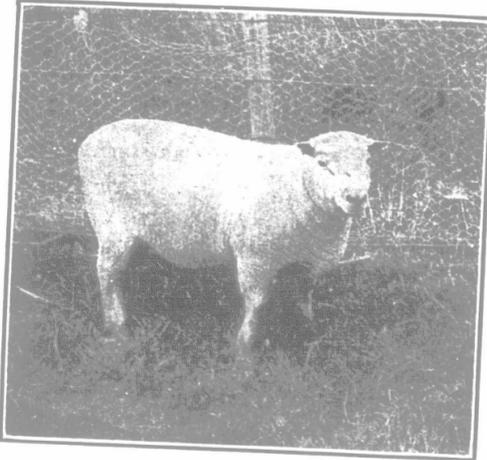
With regard to the sires used, there have been two policies in vogue, one was for the man with the grade Shorthorn cow to pass his neighbor with a real good Shorthorn bull at \$2 per service fee for the man who kept one at \$1.00 or \$1.50, and that was absolutely without quality.

Another bad policy has been crossing the breeds, which means, in this locality, crossing a Shorthorn cow with a Hereford bull. Now, I don't want any one to think that I am trying to "queer" Hereford cattle as they, like everything else, are no doubt all right in their place, but I don't think their place is in a district which consists mainly of grade Shorthorns, because experts are agreed that the breeds of live-stock should be kept pure in order to get the best results.

I consider the policy mentioned bad enough, but there is another one many times worse, and that is for farmers to do as they have been doing here for the past few years, namely, buying up cull stuff of the dairy breeds which are being shipped in from time to time from the dairy districts—cows that are considered not much or any good, and are not likely to be any good for milk and not much for beef, or else they are cows

infected with contagious abortion or have been pail fillers but are worn out for milking purposes. The writer remembers a sale of such stuff at the local stock yards last spring, when there was either one or two carloads sold under the hammer. Another man and myself examined them closely before the sale and there were only about three or so that either of us thought much of, and although two of them seemed young and fresh-calved their udders didn't show conspicuous signs of belonging to heavy milkers, and the other one was old but one didn't have to look twice at her udder to see that she had been a milker in earlier days. I thought at the time that she would be about the best buy there.

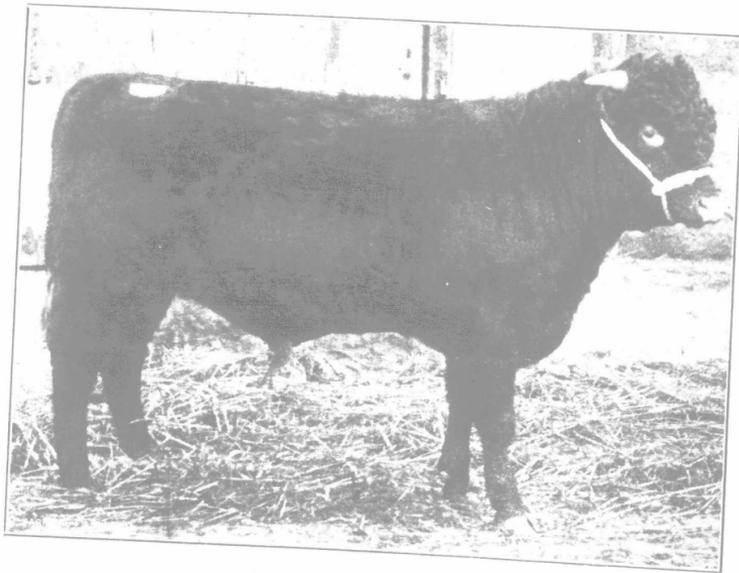
In view of the foregoing facts this is the course that I think ought to be pursued. In times like these and the times that are likely to follow, if the farmers of this country will not voluntarily, for their own material benefit, follow a better system for improving their herds, then I think that the Government should see to it that they are compelled to do so. If the Government



A Champion Southdown.

prohibited the keeping of anything but pure-bred sires it would be a big step forward. If any one thinks such a law would be too radical we have a parallel in the horse industry to show them, and I am convinced that to the average farmer the cattle industry is of very much more importance than the horse. I sometimes think that if each locality were confined to one breed it would be very much better for the community as a whole; and as for the shipping of cull dairy cattle into beef districts, I am convinced that the Government ought to put their foot down on the practice immediately. It might be a little hard on the man who has them for sale, but it would be vastly better for the prospective buyer.

In conclusion, let me say that I am firmly convinced that if something is not done to stop the mixing of breeds there will be such a conglomeration of color caused by mixing Shorthorn, Polled-Angus and Hereford, with



Warspite of Naemoor.

Winner of a second prize at Perth and sold for 1000 guineas.

Jerseys, Holsteins, Ayrshires and the combination of the different breeds that Joseph's coat will not only be equalled but will stand a good chance to be outclassed.

Dufferin Co., Ont.

C. J. F.

[Note.—Considerable more education is necessary before quite so drastic legislation could be enforced. We believe in the use of nothing but pure-bred sires and strongly favor community breeding, but the better way is for the people themselves to buy and use nothing but pure-bred sires and to decide among themselves what breed is best suited to the community. If you do

not want certain classes of stock do not buy them. It would be impossible to legislate a breed into or out of a community.—Editor.]

THE FARM.

Bread and Butter or Just Bread.

EDITOR "THE FARMER'S ADVOCATE":

Gin ye hae no objection I'd like tae say a wee word on a subject that has caused a guid deal o' argument in this country in the past few months. They say there are twa sides to ony question, sae I suppose it's up tae us, when we hae heard one side, tae think out the ither side for ourselves. Or gin we're no' great thinkers we can generally get the information we're aifter frae some ither party, for I've noticed that naething pleases a mon mair than tae ask him for information. It pits him on a higher level, as ye might say, an' ye may depend on it he'll gie ye the information ye're aifter, gin it's in his power.

Noo, the question that I hae been tryin' tae think out an' get information on one side as weel as the ither, is this matter o' what the people o' Canada are gainin' tae eat on their bread. Is it tae be butter, or something else, or just naething at all.

I've had my time o' it in ma day makin' butter, an' naebody can tell me onything about the value o' a pound o' it. Gin ye can get feefy cents for it ye can tak' it wi' a clear conscience, for it's a lang pull frae the time ye start feeding the coo until ye get the butter made intae pound prints, a' wrapped up in paper, an' delivered on the market. There's nae graft or easy money o' ony kind in the business that I've noticed. What's left o' yer siller aifter ye've paid for the feed ye've pit intae yer coos will na mair than buy shoes for the bairns an' a few ither things that the wife will be needin' for the hoose.

But as I said, there is the ither side tae this question, an' we may as weel tak' a look at it noo as later, for there may be something tae it that ought tae be straightened out, wi' maybe satisfaction tae a' concerned. I went intae toon the ither day, an' no' gettin' ma business a' attended tae by twelve o'clock I wis gainin' tae the hotel, when alang cam' a chap that had warked for me on the farm some years back, but wha is noo in toon daein' his ten oors a day in a sash an' door factory. "Come alang, Mr. Fraser," says he, "It's no' muckle we hae tae eat, but ye're welcome tae what there is. I've got a pretty guid-sized family, as ye ken, an' it tak's aboot a' I can bring hame Saturday nicht tae keep them goin'. It's worse in the winter too, for the cauld weather seems tae improve their appetites, tae say naething o' the extra shoes an' stockins' an' claites o' a' kinds".

I went alang wi' him an' when the bairns were a' hame frae schule we sat in tae the table. He has five children a' thigither, an' they're a likely lookin' bunch that did na' hae tae be coaxed tae eat, I noticed. Aifter a few minutes one o' the wee lassies said, "O, daddy, can we no' hae some butter to-day. I dinna like ma bread this way". "Pit some mollasses on it, Jennie", says her feyther, "O!" says Jennie, "I dinna like blackstrap. I'm juist aboot sick o' it," says she, wi' the tears in her eyes.

"Ye ken, Mr. Fraser," says her fether turnin' tae me, "that butter is a pretty hard thing tae buy these days, an' we've juist had tae dae wi' oot it. While it stays round forty-five tae feefy cents a pound the laborin' mon wi' a family like mine has tae eat his bread dry or dae wi'oot ither things that are juist as necessary as butter."

"Weel," says I, "they hae a substitute for butter in some countries, but I dinna believe the government is gainin' tae let it be brought in tae Canada. They say it will interfere wi' the sale o' the genuine article."

"Maybe it would," says ma friend, "but there's a lot o' people in the country like masel' that dinna' buy it at all, sae the farmers would lose naething on us, gin the government let us buy some substitute." "Does the government get butter on its bread?" says Jennie, lookin' at me. "Aye", says I, "an' the farmers get it, an' gin I had my way ye'd get it

too, Jennie. It's an unco' selfish lot we are, I'm thinkin', wi' our tryin' tae get government protection against competition, an' the bairns at oor ain doors having tae suffer the consequence."

"On the ither hand," says Jennie's feyther, "gin ye were wi'oot protection ye might hae to tak' less for yer butter, an' wi' cattle feeds at their present price that would mean that ye'd be daein' business at a loss." "Dinna' think it for a minute," says I, "the countries that allow the sale o' butter substitutes have no' gone out o' the dairy business. They aye hae a guid demand for guid butter, for there's a class that will buy naething else. But where there's a cheaper

article or simply ca their fam After I'd nict I g gin the I says tae yet, I' death o toons a laws, it se It's na u land," for new coun for some there. It dae, an' I in ma ain able state canno' b tae raise asking the steam tae There's a the ither because h his family as a rule, tae be pa around tw need at o quarter o things in cipate ye The A bread alon to be revu city. It v poor Jenn gain' bac me it's po eatin'. Y could wat healthy ci gie them o' some ki This is it for wat ye think al

[Note.—question w 9 and Nov again. Th at the beg With the milk no do will get s so more still think

EDITOR "T

I had t vention a I listened of the Gov I had a li and he ask work on th the girls w membered subject, an the idea n might have of writers h city girl loa situation is to utilize a number of Because a g no reason and do a p All she nec wife were w the girl wa the proces accomplish of a few of t

A girl co a roller. S time and in hoeing, also the rake, th the mowing driving a bi A girl can be useful p If a girl mind the ba wife a chan seventy or c he got from years of ag fork, the gi The girl wo with the has as we are le in productio food product be able to labor profitat Rendrew

article on the market it's taken up by consumers that simply canna' afford to buy butter for themselves an' their families, on the wages they are able to command". After I'd got hame an' was sittin' in the hoose that nicht I got tae thinkin' aboot wee Jennie wonderin' gin the Government got butter on their bread, an' I says tae mase', "We're a lang way frae the millenium yet, I'm afraid. The golden rule isna' being warked tae death onyway. But when oor wee lads an' lassies in the toons an' cities have tae suffer frae the effects o' oor laws, it seems tae me that these laws should be changed." It's na use tae say, "let the people get back tae the land," for they canna' get the land except awa' in the new country, an' it wad be naething less than suicide for some o' those inexperienced chaps tae gang back there. It's unco' hard tae tell at times what's best tae dae, an' I'm juist tryin' tae argue this hale matter oot in ma ain mind. I'm open tae conviction by ony reasonable statement o' the case, but it seems tae me that it canno' be the part o' wisdom for ony government tae raise a food blockade against its ain citizens while asking them at the same time tae pit on a little extra steam tae help the Empire oot in this time o' war. There's an auld saying, "when in doubt pit yersel' in the ither mon's place." The mon in the city is there because he believed he could dae better for himsel' an' his family there, than onywhere else. He works hard, as a rule, an' ilka thing he an' his family eat or wear has tae be paid for oot o' his wages. These wages average around two dollars a day, an' pittin' the butter he will need at one pound a day, which isna' high, there's a quarter o' his wages gone for butter alane. Wi' ither things in proportion how can ye expect him tae participate vera largely in oor semi-annual war-loans.

The Auld Book says that "man shall not live by bread alane," but I'm thinkin' that passage will hae to be revised before lang for the laboring mon in the city. It will be either rak' it alane or gae wi'oot, as poor Jennie did. I didna' blame the wee lassie for gaein' back on the "black-strap", for between you an' me it's poor stuff for a white mon or his family tae be eatin'. Ye canna' raise guid calves on pea-straw an' cauld water; na mair can ye expect tae develop guid healthy citizens oot o' oor lads an' lassies gin ye dinnae gie them plenty halesome food, which means butter o' some kind, for one thing.

This is my opeenion, Mr. Editor, an' ye can tak' it for what ye think it's worth. Maybe ye'll tell us what ye think aboot it. It's information I'm aifter.

SANDY FRASER.

[Note.—The Farmer's Advocate argument on this question was published in detail in the issues of Nov. 9 and Nov. 23, 1916. We advise "Sandy" to read it again. The case against "oleo" was clearly stated then at the beginning of the agitation to let it into Canada. With the approach of grass and the season of more milk no doubt "Jennie" and all the rest of the "bairns" will get good dairy butter on their bread. No one hopes so more than does "The Farmer's Advocate" and we still think it should be butter, not substitutes.—Editor.]

Work the Girls Could Do.

EDITOR "THE FARMER'S ADVOCATE":

I had the pleasure of attending the Farmer's Convention at Toronto recently. Among other things I listened to a Government Official tell of the plans of the Government to assist in solving the labor problem. I had a little conversation with this man afterwards and he asked me what I thought of girls going out to work on the farm. I fancy he had gotten the idea that the girls would be of very little use. Afterwards I remembered that I had read a number of articles on that subject, and I don't remember that anyone has given the idea much encouragement, and perhaps this fact might have some influence with our officials. A number of writers had considerable amusement at the idea of a city girl loading manure and such like. Now if the labor situation is really serious we should make an effort to utilize all the labor we can get. There are quite a number of ways a city girl could be useful on a farm. Because a girl happens to be born in a city or town is no reason why she should not be able to milk cows, and do a great many other things around the farm. All she needs is a little practice. If the farmer and his wife were willing to exercise the necessary patience and the girl was willing to work for what she is worth during the process of learning, I believe a good deal could be accomplished. I am going to undertake to give you a list of a few of the ways in which a girl can be useful.

A girl could drive a disk harrow, a cultivator and a roller. She would be most useful around milking time and in the garden. Then thinning the roots and hoeing, also berry picking. In haying she could drive the rake, the horses on the hay fork, and perhaps even the mowing machine. I have seen quite a small girl driving a binder; and many a girl has forked sheaves. A girl can pick as many potatoes as a boy, and would be useful pulling beans.

If a girl couldn't do these things she might at least mind the baby and wash the dishes and give the farmer's wife a chance. I know a farmer who was able to save seventy or eighty loads of hay last year with the help he got from his wife and daughter, a girl of fourteen years of age. In stacking, his wife handled the hay fork, the girl drove the horses and he built the stack. The girl would drive the horse-rake while he was loading with the hay-loader. If the food situation is as serious as we are led to believe, anyone who is willing to aid in production ought to be encouraged to do so. With food products at their present price, the farmer should be able to make the employment of inexperienced labor profitable.

Renfrew Co., Ont.

R. M. WARREN.

Chinook Winds Explained.

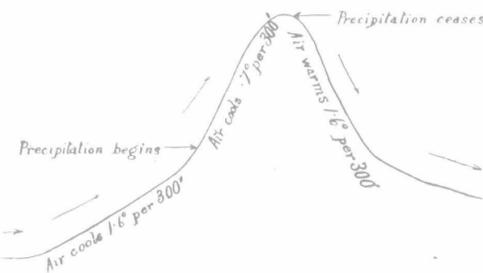
EDITOR "THE FARMER'S ADVOCATE":

I have read with great interest Mr. Albright's article on Chinooks in your issue of March 15th. I have never experienced one and so have no first-hand knowledge of them, but the general principles of meteorology apply and may help to a further understanding of some of the characteristics of this peculiar phenomenon.

The first and fundamental fact to be noted is that in our latitudes the atmosphere near the earth has a general trend from west to east, and it moves at the average rate of about 600 miles a day. Any local storms, "cyclones" as they are technically called, or fair weather or "cold waves" that happen to exist in any particular part of these latitudes are carried eastward by the general movement. Consequently, under normal conditions the air encountered to the eastward of the Rocky Mountains is air that has come over the barrier. Let us follow the physical changes that occur in it as it passes from the Pacific up over the mountains and down to the Prairies.

When the air leaves the ocean it is laden with moisture, sometimes more heavily than others. In winter, when the moisture content is high, it begins to fall as rain or snow almost as soon as the air reaches the land—some points on the coast of British Columbia have an annual precipitation of 9 feet of rain and melted snow, most of which falls during autumn, winter and spring, and the heaviest occurs in the winter. Precipitation continues as the air ascends the Coast Range, then lessens somewhat, but resumes again as the air rises up the Rockies. Once their summit is passed precipitation is very light as the air comes down the eastern slope.

The changes in temperature must also be noted. Stationary air on the average is one Fahrenheit degree colder for each 300 feet in altitude, for example, the air 900 feet high will be 3 degrees colder than at the earth. Ascending air, however, at first cools faster than this, viz., 1.6 degree for each 300 feet until condensation begins, but afterwards the rate is only .7 degree instead. The reason for the slower cooling after condensation commences is that when vapor changes to water it gives up just as much heat as it took to turn the water into vapor originally, and this liberated latent heat reduces the cooling to less than half the amount in dry air. Precipitation continues till the summit of the ridge is reached. As soon as the air begins to descend it begins to warm up by



compression, almost instantly precipitation ceases and the rate of heating is 1.6 degrees for each 300 feet of descent. A diagram will enable us to understand the effect of these different rates.

In the winter-time precipitation frequently commences almost at sea level. On such occasions the cooling all up the western slope is at the rate of .7 degree per 300 feet, and coming down the eastern slope the heating is more than twice as rapid, being 1.6 degree, consequently the temperature at all points is warmer than at corresponding elevations on the west, but if the movement is leisurely there is time for some of the effect to be lost by conduction, and the conditions are not pronounced enough to merit the name Chinook. Let us suppose, however, that a low pressure appears to the eastward of the Rockies, possibly coming in from the north or south. Then the heavier air toward the Rockies begins to flow into this low pressure area. This accelerates the movement from over the mountains. And let us further assume that in this air coming over at this particular time precipitation has been occurring almost ever since it left the ocean, then since it has only cooled at .7 degree per 300 feet its temperature even at the top of the mountains is already much warmer than under normal conditions, and its moisture content is still comparatively high on account of the comparatively high temperature. Add to this the heating effect of rapid compression produced by the downward eastward flow toward the low pressure area, and have we not the conditions for a pronounced Chinook? The cooler air that comes in later may be accounted for by the exceedingly moist ocean air so necessary for the warm Chinook being followed by air that was drier when it begins its ascent of the western slope and consequently cooled at 1.6 degrees per 300 feet most of the way up, and was thus comparatively cold when it reached the top, and although in coming down it might warm as many degrees as the earlier air it would still be cool by comparison.

The balminess of the first part of the Chinook may be accounted for by the warmth combined with a fair moisture content. But notwithstanding the balminess, the air on account of its high temperature is really deficient in moisture, and these two facts aid in the rapid licking up of the snow. The later wind, although colder is even more deficient in moisture, consequently absorbs the snow rapidly in spite of its coolness.

O. A. C. Guelph.

WM. H. DAY.

Get Out of the "Political" Rut.

EDITOR "THE FARMER'S ADVOCATE":

For some years past, and more particularly since the outbreak of the war, our Federal and Provincial Governments have been wasting millions of public money in vain efforts to revive the declining industry of agriculture which the combines are bleeding to death by unfair and excessive taxation, with the connivance of the same Governments. The farmers have been given all kinds of advice, by nearly all kinds of people, who profess to know more or less, (mostly less), about agriculture. Recently Lord Shaughnessy, the great railway magnate, was asked by the Government to give his views as to "Canada's needs at this critical time". His reply was sent out by the Government to the newspapers for publication, gratis, of course. His Lordship has some good things in his pronouncement. For instance:

"Agriculture is the foundation industry of the whole country. Farming should be made so profitable, by educational and financial aid, and social conditions of rural life should be so improved, that thousands of men with natural inclinations that way will be attracted to agriculture and will succeed at it."

Very good, if the Government will act on the advice in regard to financial aid. Nobody knows better than does Lord Shaughnessy that it was "financial", not "educational" aid that built our great railway systems. Again Lord Shaughnessy says:

"We want to get out of ruts. We do our thinking in ruts, and that keeps us acting in ruts. Take agriculture, for instance. People have a habit of thinking and saying that intensive farming is not suited to Canadians, and accordingly it is not developed."

That's true; we are in the ruts, good and deep. If we had not been for years in ruts we would not have given a thousand million dollars to railway exploiters, and there would not be so many "Lords" and "Knights" and other title bearers in this country; if we were not in ruts we would not allow millions of dollars worth of railway property to escape its fair share of taxation; if we were not in ruts we would not be paying extortionate freight rates, nor would we allow our railways to discriminate in favor of U. S. freights; if we were not in ruts we would not allow the railway and other combines to control most of our legislation.

Let's take Lord Shaughnessy's good advice and get out of the ruts. And the first to get out of is the deep "political" rut. We have been in that rut so long that the privileged classes have waxed fat at our expense, and now their great anxiety is that farmers will become so scarce that they will have to hustle for themselves. When the burdens of carrying the privileged classes are removed, and agriculture is allowed to become profitable there will be no need of advice from Lord Shaughnessy nor anybody else. Many thanks to his Lordship, for pointing out the true path to agricultural, and with it, national prosperity.

Lambton Co., Ont.

H. J. PETTYPIECE.

Builders or Destroyers?

EDITOR "THE FARMER'S ADVOCATE":

As a farmer I desire to endorse the article "In Autonomy is Strength" in your issue of March 15. To "The Farmer's Advocate" we look for independent leading on questions affecting the interests of farmers, and especially is this desirable before an issue like the future national relations of Canada might be made the football of political partizanship. The subject is bound to become of practical import to every citizen, and equally with others to Canadian farmers who are emerging from the tutelage stage of being simply producers for other interests to exploit or to mark ballots as directed on election days. A letter recently received from a Canadian overseas, doing "his bit" of worthy service in the Great World Conflict, states that the war has been made the excuse by what is called the "Round Table" group of individuals and their press agents, to push for a reorganization of the British Empire upon what amounts to a militaristic basis, with an Imperial Parliament and Cabinet distinct from the Parliament and Cabinet of the United Kingdom to take over Imperial defence and foreign affairs, with the power of taxing the overseas Dominions therefor. Truer imperialists, devoting themselves to the paramount task of winning the war, had been raising no voice against the cut-and-dried schemes of the junta.

Special significance, therefore, attaches to an article featured in a late war number of "United Empire," the journal of the Royal Colonial Institute (London, England) endorsing the Round Table project. The writer, Prof. F. J. C. Hearnshaw, lays it down as "imperative" that there be a written constitution for the Empire setting up: (1) a new federal executive to control foreign affairs, international relations, Indian administration, the Army and Navy, together with finance involved in these five great departments; (2) a new Federal Parliament drawn from all the Dominions and dependencies to which the Federal Executive would be responsible. The assumption is that such a federated British Empire "would be the surest guarantee the world has ever known for the maintenance of justice, the preservation of liberty and the prevention of war." That is a task for which no single power is sufficient. In truth, it would be more than likely to excite the distrust and rivalry of other powers and sow the seeds of still another world catastrophe. Referring to the mistaken opinions of an English statesman who in 1885 forecasted "inevitable disruption," Prof. Hearnshaw with unconcealed arrogance adds: "The Dominions were allowed to develop in their own ways, to establish

responsible governments, to form intercolonial federations, nay even to set up tariff walls against the mother country, to enact immigration laws that excluded from their territories subjects of the Empire, and to begin to build baby names of their own." This discloses a spirit utterly incompatible with that autonomous spontaneity of action which is now the glory of the Dominions and the salvation of the Empire in the world conflict. In fact, towards the close of his thesis, the writer is compelled with admiration to concede the "singular and inspiring" unanimity with which the great confederation of nations, kindred peoples and tongues who live beneath the British flag rallied to the side of the Mother country in the struggle wantonly forced upon her and her allies, realizing intuitively that their own destinies, the future of freedom, the development of democratic self-government, the maintenance of independence, the possibility of progress along lines of their own choosing, all depended upon the defeat of the German conspiracy.

Possibly the most salutary lesson ever learned by British statesmen was the breaking away of the American colony in 1776 through the fatuous application of centralized taxation. And if object lessons in the genius of empire management are required we need only look upon South Africa, Canada and Australia. Re-adjustments in national and international relations will assuredly follow in the wake of the war and in accord with its lessons, but their nature and extent it is idle to formulate until the supreme folly of systematized and perfected Prussian militarism has been demonstrated and laid low. Meanwhile, the perhaps well intentioned architects of empire had better withdraw their feet from beneath the "Round Table" and plant them in the trenches or in the furrows of untilled farms, leaving, as "The Farmer's Advocate" has wisely advised, responsible statesmen and the people in the nations comprising the Empire to determine under what manner of constitution, written or unwritten, the destinies of the future shall be wrought out; and may we not hope to what measure Great Britain, as one in the community of nations, shall lead in realizing the aspirations of her greatest statesmen. Having rid the Jerico road of thieves, then let the world's highway be made a safer one for the future travel of humanity.

Middlesex Co., Ont.

ALPHA.

Early Spring Work on Country Roads.

It is quite common for many of the country roads to be deeply rutted each spring; even town and city streets are not immune. They are frequently in as deplorable a condition as the earth roads in the rural districts. Spring after spring the man who is obliged to traverse the public highways to market or depot, is forced to wallow through mud axle deep. Where stone or gravel has been applied the ruts do not become so deep, but only a comparatively small mileage is what might be called good in early spring. Frost is a relentless enemy of our highways. If the roadbed becomes water soaked, King Frost gets in his work, and in so doing causes an upheaval. When warm weather forces him to vacate, he seldom leaves the road in the condition he found it. The bottom apparently drops out and bog holes are left in the centre of the road. We have seen such places that required a couple of yards of gravel or stone to fill them. When the road is soft every horse and rig which passes over tends to flatten out the surface, resulting in a place to hold water instead of a crown to shed it. The shoulders of the road prevent drainage to the ditches. If the water did get there, some ditches would hold rather than carry it away. All have seen, if not travelled over, highways that were anything but a good advertisement for the community. However, the sun and wind in time dries up the moisture and a track is leveled down with traffic, leaving holes and ruts on either side to hold what rain falls. If the spring is reasonably dry the roads are not bad; if heavy rains are frequent, they continue almost impassable until early summer. Something should be done to improve conditions early in the season.

Most roads are kept in repair by the system of statute labor. The work is usually done in the month of June, and done conscientiously by most ratepayers, although it is to be regretted that some are so short sighted and disloyal to their community that they are inclined to "slink" whenever possible. Why cannot some of the statute labor be done in April as well as in June? Commission two or three men, or as many as are needed, to use a drag on the "beat" as soon as the snow is off and after heavy rain, if necessary. It may be advisable to use field stone to fill some exceptionally deep holes. A man with a shovel may drain low places and so prevent the bad ruts and holes from forming. A day's work will cost no more in April than in June, but as much good might be done as in two days at the later date. There are districts where this system of keeping the roads in repair is followed and the results are quite evident to the traveller and, incidentally, speaks well for the ratepayers living along these roads. It is regrettable that the spirit of jealousy creeps in even in regard to road repairing. Last spring in a certain locality one ratepayer used a split-log drag a time or two on a couple of miles of road. The ruts were filled, the surface smoothed and the water drained off. This strip of road was better all summer than that on either end. However, the remark was made that he was doing this because he had an automobile and the pathmaster would not allow anything for such time spent, when in reality it benefited all living on the line to as great an extent as the gravel hauled late in June.

A drag can be made by splitting or sawing in two a seven or eight foot log, which is a foot or fifteen inches in diameter, and then having the cut surfaces to the

front, one three feet behind the other, fasten them by means of mortising scantlings into the logs. A chain is attached to the cross pieces in such a way that one end of the drag will pull a little ahead of the other. A team, or better, three horses are required to draw it and the loose material is dragged towards the centre, thus tending to give a crown to the road, and in so doing the ruts are filled. If this is used on roads when they are wet, it puddles the clay which hardens when it dries and is not so easily cut up by travel. Another good time to use the drag to fill ruts is just as the roads are drying. Ordinary traffic is bound to gouge the best roads a little, but a level surface may be maintained by use of the drag after heavy rains during the summer, as well as in the spring. Drags are made by using two heavy planks, or one plank can be used with a tongue attached to it. Steel drags are also on the market, and excellent work can be done with them. The roads could be greatly improved by the systematic and proper use of even so simple and inexpensive an implement as the split-log drag. One ratepayer on each beat could use his team on the drag at the proper time, and be exempt from hauling gravel. We believe this arrangement would ensure better roads at no increase in expense. The pathmasters should be required to see that approaches to the bridges were kept in proper repair, and not permit the six to eight inches' drop off the bridge, which is common on some roads.

Water and frost work havoc with the best-built roads. Remove the water and the effects of frost are slight, consequently drainage is the first essential, not only in the construction of a road, but in keeping it in repair. The mud splashing off the road, the dust, and growth of grass and weeds, all tend to decrease the flow of water in the ditches. These require cleaning occasionally. If the water stands in the ditches it naturally seeps into the foundation of the road and weakens or undermines it. If the water could get away readily in the fall there would be less trouble with frost heaving and breaking the road structure.

In some cases it might pay better to have statute labor computed by cleaning ditches rather than drawing gravel. There are places where tile should be laid in the ditches. Highways which were bad every spring have been greatly improved by tiling the centre of the road. While the first expense of tiling may be considered high, it will be a gain in the end by saving in cost of repairing.

When gravel is put in the centre of a wide, flat road, it soon disappears and the road becomes as impassable as ever, while if a little grading had been done and the ditches cleaned, the gravel would have lasted probably for years. Better go to a little expense and have something to show for the money, than to spend a lesser amount and obtain no lasting results. The road grader operated by an intelligent man will do effective work, but in the hands of some men harm instead of good is done. What little gravel is on the road should not be covered, nor is it good practice to leave the sods on the edge of or in the ditch. Yet both are commonly done, and there is less chance than ever of water getting away quickly. The gravel does get spread out, and after the sod shoulder is removed the mixture of gravel and soil may be drawn towards the centre of the roadway. There should be no obstruction between the road and ditch, but we have seen the sod left just on the edge of the ditch by the scraper. We do not know why any roadmaker would do it, but nevertheless it is done and the water soaks into rather than runs off the road. Once the sod is removed the regular use of the drag will prevent grass from growing.

The sooner rural roads are properly and sufficiently drained, the better it will be financially for the ratepayers. As it is now, money is practically wasted in hauling gravel and putting it on low, flat, wet roads with little semblance of a ditch on either side. Clean the ditches and if necessary put in tile. Have a drag for every concession, and arrange to use it at the right time. The common split-log drag is serviceable and might well be used more than it is. If possible prevent the roads from getting impassable by repairing them in time.

Review of "The Farmer's Advocate."

EDITOR "THE FARMER'S ADVOCATE":

Not long since I made an inventory, and found that no less than thirteen periodicals, consisting of news-papers, magazines, etc., regularly visit our home. Sometimes in the busy seasons I simply read the headlines and mentally vow that I will read the most likely articles at a leisure period. These days of leisure are about as plentiful in the life of a farmer who is trying to farm as non-partizan voters at the ordinary election.

So the articles I lay aside for future perusal, pile up until the wife carries them away to the attic and I begin again.

A stormy day not long since gave me the opportunity to go through some back numbers of unread Advocates, and as a result I have a lot of clippings that some day may materialize into discursive articles for the Advocate. Some of them I would like to make cursive, especially when I write my opinion of such as Mr. Ayer.

Reviewing over a number of issues in this way, however, serves to give one a sort of birdseye view of the paper as an educator. I have been accused of being fond of destructive criticism and I don't remember of ever being accused of dealing in flattery, so you can take for honest opinion what I am going to say of the Advocate; the more so since no one can very well say that I am looking for a government job or a position on the staff.

When I finished my review I called out to my wife: "Say we've taken this Advocate for fifteen years and we've got a lot of sane, sound, helpful reading matter from it. I don't remember of having read in that time anything mean or questionable."

When the magazine comes I first read the editorial page. Sometimes the editorial paragraphs contain whole agricultural sermons in a few lines—The other editorials, though always written in the farmer's interests are not sharp enough to suit me, especially dealing with persons of the Ayer class. And right here let me say the most unfortunate phase of any refutation of misleading statements made about the farmer, or defence of his position, reaches only the farmer when appearing in these farm papers and not those who are misled by the unfair attacks from the public platform or in the city newspapers. In other words the explanations and defences of the farmer's position are read only by farmers and not by those who have gained a distorted idea of his supposed prosperity in the newspapers.

If those unfair attacks and criticisms could be answered at once by well qualified advocates of the farmer, city consumers would not wrong the farmer as they are doing to-day.

To get back to my subject. I often wonder if some of your writers appreciate commendation from their readers. I know that if I were a regular contributor I would feel sometimes that it would be encouraging to know whether or not my articles were helpful. In this regard I have read with interest and profit the articles on nature by A. B. Klugh since they started, and have never seen any reference to them by any of your subscribers though I have intended for some time to express my appreciation of them. In fact they, together with the excellent veterinary tables you have lately published are the only articles I have ever clipped from the Advocate for my reference scrap book. They are valuable, not only for the information gained of the nature world about us, but they are written in such plain and popular style that my young people can read, understand, and enjoy them. The articles on the development of the animal mind in the late issues are especially instructive and interesting.

I hope Mr. Klugh will continue to give these popular articles. A lot of the stuff that Peter McArthur writes is worth reading and it's all interesting. I have often wished I could read his private political thoughts. I have seen so many men rave about the curse of partyism, and when election day comes being submissively led to the polls by the party heeler to vote for the "grand old party" that I grow skeptical when I hear a man now talk "independent". However, I feel that he is a true friend of the farmer and as such I hope some day to give him the handclasp of gratitude. I was very much impressed with his letter in the issue of March 8th. As a farmer I know he will do his best to produce this year, as a writer I hope he will devote the money received for his writing to war purposes. I always read Sandy's letters aloud to the wife. His homely philosophy is restful and helpful although he is not Scotch.

"Whip's" articles are always good and carefully read. His article on Persistent Urachus last year saved me a foal and I shall always be grateful to him.

I suppose the Home Magazine is all right. I do not get time to read it.

N. S.

R. J. MESSENGER.

[Note.—Coming from a man known to excel in destructive criticism this review is appreciated by the editors and surely will be by readers. Possibly our editorials are not "sharp" enough for some but we know others who feel their cutting edge.—EDITOR.]

Silage and Hay For Feed.

EDITOR "THE FARMER'S ADVOCATE":

I would prefer a farm of about one hundred and fifty acres, containing ten acres of bush, or at least sufficient to supply firewood from down timber. With a farm of this size, a person would be able to grass his own stock and keep the profits of winter feeding, instead of being forced to sell in the spring even if the prices were at their lowest. On a well managed farm of this size, larger profits can be made with less labor than on a smaller farm.

Supposing the farm was part heavy clay loam, and the rest muck soil, I would drain the higher land and keep it for cultivation, while the rest of the farm I would pasture. One of the crops I would specialize in would be alfalfa. It is great feed, and the stock are very fond of it, and it would also help to make a balanced ration with silage and timothy hay or straw. I certainly would not be without a silo, if it were at all possible to build one. It might be out of place to state here that we have planted corn both by drill and by planter and find the former method by far the better. I would grow a much smaller acreage of grain than hay, as it takes hay and corn to make both quantity and quality of feed.

Among the varieties of grains we have found to give the best results are: oats, O. A. C. No. 72 and Banner barley, O. A. C. No. 21. I would grow Longfellow and White Cap Yellow Dent corn for silage. I would branch out a good deal in my farming so as not to be dependent on any particular part of it. If I were content to be a cheese factory, I would keep a small dairy herd. I would also keep a few hogs and some poultry but would go in for beef cattle, more than anything else. Manure would be hauled during the winter and spread directly on the land.

Huron Co., Ont.

FARMER'S SON.

EDITOR

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Canada's Young Farmers and Future Leaders.

Sow Plenty of Clover Seed.

EDITOR "THE FARMER'S ADVOCATE":

The amount of grains or grasses to sow per acre depends largely on the nature of the soil and the season. On a soil that is very rich, grain does not need to be sown as thickly as on poor soil as it will stool out more. Grain sown late in the season should be sown thicker than if sown early.

My soil is a medium clay loam, some a little light and some of a fairly heavy nature, but the majority of it is just about right for good farm land. I sow two bushels of spring wheat, one and three-quarter bushels of oats, one and three-quarters to two bushels barley to the acre. For mixed hay I sow ten pounds clover, four pounds timothy and one pound alsike. These are the principal spring sown seeds and I find that for my soil these amounts give best results. This is just a good average seeding of grain and gives the plants a chance to stool out. If sown very late two bushels of oats is used instead of quantity given above. For hay, I believe in using plenty of seed. A few pounds extra does not cost much and insures a good stand, provided the ground is suitable for clover and the season is not too dry. For mixed hay, I add one pound of alsike to the red clover and timothy, as the alsike will often grow where the red clover kills out and when mixed with the other two helps make a good mixed hay.

The field I propose to seed down is first harrowed, then cultivated twice, and harrowed again before sowing. If the land is then in good condition I drill in the grain sowing the grass seeds ahead of the spouts. In this way the small seeds fall on the fairly level soil and are buried by the grain spouts, only to be levelled out again by harrowing after the drill. If you sow your seeds behind the grain spouts they fall into the little furrows that the drill leaves and are buried in these by the harrows. Thus, part of the seeds are near the top and part probably buried two inches. I find I get better results from sowing ahead of the drill or ahead of the teeth on the cultivator if I happen to put the seed box on it and sow broadcast, but I prefer to use the drill.

Taking one year with another I find very little difference in yield of grain sown broadcast and drilled. I try to ridge up most of my land in the fall. When help is scarce I can cover more ground with the cultivator than with the drill as it is a little wider.

York Co., Ont.

A. C. HICKEN.

Pleasure and Profit in the Farm Garden.

EDITOR "THE FARMER'S ADVOCATE":

My farm is sandy loam. The vegetable garden is in a field convenient to the house, yet far enough away that it is not a scratching ground for the poultry. It is on naturally well-drained soil, exposed to the sun and wind. It is well manured in the fall with barnyard manure plowed down. It is plowed again in the spring, and is well harrowed to make a fine seed-bed.

It is put in in rows or drills three feet apart, so that it can be cultivated with the corn cultivator. We like to get the first sowing in between the first and tenth of May, so if not through seeding we use a strip of wood three feet long for width between rows, drive small stakes down lengthwise of the rows, and make a shallow drill with corner of hoe and sow seed according to directions on packets as to depth and time of sowing.

We sow onions, parsnips, carrots, early beets, lettuce, spinach, garden peas first and plant early potatoes about the same time. We find it an excellent plan to take about a bushel of potatoes out of the cellar, spread them thinly on paper in a warm, well-lighted room to sprout. Over the kitchen is a very good place.

They make good, strong, green sprouts, and if carefully cut and planted without breaking soon come up and grow right along, and the danger of early frosts nipping them and setting them back is avoided. We keep on sowing some seeds nearly every week, according to the requirements of the seed sown and the warmth of the soil. We put corn and garden peas on north side of garden so they will not shade the sun from other plants. We put cucumbers, melons, citrons, squash in rows too, but dig out trench and put in more well-rotted manure and cover (rather shallow) with earth for seed-bed. By the time they start to put out runners we are through using the cultivator. We try to use it two or three times, following up with hoe. A turnip hoe makes a very good garden hoe, it is light and has sharp corners so that one can cut out the weeds quite close to the plants. Thinning and transplanting is mostly done by hand.

In setting out tomato plants we put a slanted shingle to south side of each plant. It protects the plants from sun and winds and light frosts, and when well started it is not much trouble to gather them up. We transplant in cloudy, showery weather if possible, but if it is very sunny a rhubarb leaf or even burdock put over cabbage plants and a little stone or lump of earth put on the leaf on the corners to keep the wind from carrying it off is quite a protection, by the time it is crisped up with the sun the plants will have taken root and be quite fresh.

We put a box of prepared earth in the cellar in the fall, and sow tomatoes and celery the first week in March in shallow boxes and pots. Transplanting when plants are fit.

In a hot-bed in April we sow seed onions, cabbage and cauliflower, cover with storm window for sash over box. We sow in rows about nine inches apart, so as to easily pull out the weeds that come up so quickly.

Gardening is my mother's pet hobby, and it gets attention more or less as required every week all summer, either in the cool of the morning or evening. She says the more the soil is stirred and cultivated the better everything thrives, of course with due regard for the roots.

We are too far from a city to attempt raising vegetables for money, but have an abundance the year round for our own use, with some to give away, and cabbage and carrots for poultry.

Have had garden for three years where it is now. We used to put it wherever we had corn, but sometimes it was too far from the house. We like this way better, but it is still in field. We change the place of planting potatoes and seeds in it though.

I don't know what the cash value is, but think it would take from fifty to seventy dollars to supply what is grown and used. Although there is considerable hard work connected with gardening, there is a great deal of pleasure and interest in it as well as profit.

Grey Co., Ont.

SYLVANUS.

Sow Good Seed and Plenty of it.

EDITOR "THE FARMER'S ADVOCATE":

Clover is commonly spoken of as one of the most important of all crops grown on Ontario farms to-day. I would place it in the premier position of all. When sowing red clover alone we use 10 pounds to the acre, and when sowing clover and timothy mixed we sow 7 pounds clover and 5 pounds timothy. If growing red clover alone for seed we usually sow it with barley after our hoe crop, as freedom from weeds means much to-day in clover seed. If clover seed was cheaper we would advise sowing larger quantities than stated, in this district, as the frosts in spring are very hard on the young plants. We prefer sowing after the drill and then rolling. The main thing is to get the seed covered as lightly as possible. We consider the ideal method is to sow with a hand seeder after seeding is done. Of course, this is impractical

now owing to scarcity of help. The best catch we ever had was sown with an attachment on the roller which sowed the seed just in front of roller, but it did not sow the seed evenly enough. In sowing grain we use a disc drill, as grain comes up more evenly when drilled than when sown broadcast. The nature of our soil varies greatly, running from sand to clay loam. The only secret to a good crop that I know of is to prepare the soil well, sow the best seed and plenty of it. The man who follows that rule will have results in growing either clover or grain.

Dufferin Co., Ont.

W. E.

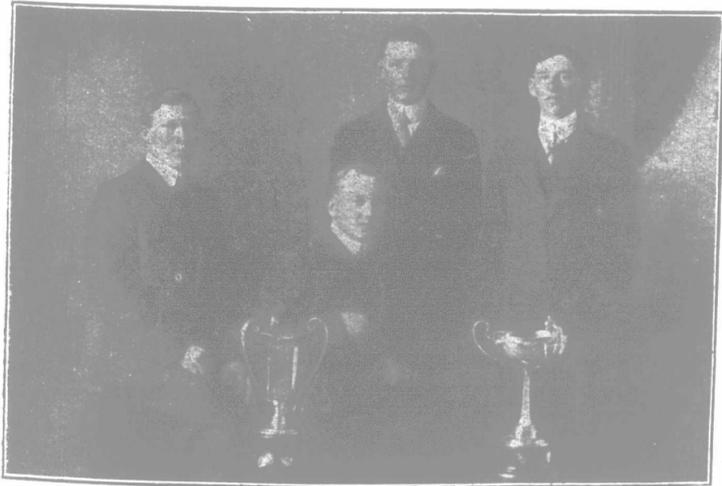
Treating Seeds and Crops With Chemicals Paid Well.

EDITOR "THE FARMER'S ADVOCATE":

Last season we treated our seed oats for smut with formaldehyde. The solution was made, as nearly as I can recall, of one pint formalin and thirty gallons water, and the oats were immersed. During the harvest I noticed in several sections of the field that smut heads were more prevalent than in others. Since that time I have read a treatise on the smut fungus and have placed the appearance of the smut to the fact that the ground may have been affected with the germs of the smut before planting. In any case the smut was by no means as prevalent in our field as in the neighbor's field, whom I know did not treat his seed. The wheat crop which we harvested bore no trace of smut. It received treatment previous to planting, but as I was not present at the time I am not able to quote details.

For some years my parents have been engaged in raising market garden produce. The largest portion of their crop was potatoes and tomatoes. They have used bordeaux mixture and advocate its use. Last season they had two plots of potatoes and two of tomatoes. All four plots were treated with the bordeaux solution. Plot No. 1 potatoes showed signs of blight and early maturity. After three applications of the solution which was applied at the end of every three weeks, the yellowish tinge of the blight gave place to healthy vines. The plants continued this way for some time but at the time of the next application were again commencing to blight. Not having the raw chemicals at hand and as these were expensive, they decided to omit the treatment. The vines shortly shrivelled up in the hot summer sun. The yield was good for the year, 7 bushels from a row 325 feet long. Potato plot No. 2 was given the same treatment with the exception that they were only given two applications of the mixture but were apparently too far under the influence of the blight for the chemicals to have effect. Owing to the expense of chemicals, further treatment was discontinued. This plot was planted with seed which had received the formalin treatment. None of the tubers were noticed to be infected with potato scab. This plot barely yielded the seed taken to plant it. Potato plot No. 1 was not treated with formalin and several tubers were noticed which were infected with the scab. Tomato plot No. 1 was grown beside potato plot No. 1 and received the same chemical treatment. No rotten fruit was observed on this patch. Tomato plot No. 2 was grown beside and given the identical treatment of potato plot No. 2. The first fruits to ripen were all affected with the rot but the later ripening fruits were sound.

In the spring of 1914, previous to the opening of the bee yard in which I was engaged, I worked with a spraying crew applying lime-sulphur solution to an apple orchard. The orchard covered some ten acres of ground of which six were trees which were just beginning to bear profitably. The remainder were old, scale-infected trees which were almost past the age of usefulness.



Champion Eastern Ontario Live-stock Judging Team and Provincial Champions

This team included Frank Greaney, Geo. Timmins, and W. M. McIntyre, of Dundas County. They were trained by the District Representative for Dundas, E. P. Bradt, Morrisburg (seated in the center). This team won the championship at the judging contest at Ottawa, and the grand championship from the Western winners in the contest at the Union Stock Yards.



Champion Western Ontario Live-stock Judging Team.

This team included Charles P. Boynton, Jas. Hope, and Harry Hill, of York County, and they were trained by the District Representative for York, J. C. Steckley, Newmarket (seated on the right).

I was told that the previous season the owner had shipped two carloads of apples from the orchard, receiving one dollar per bushel.
Essex Co., Ont.

HUGH CURTIS.

Sprinkling Oats With Formalin Controls Smut.

EDITOR "THE FARMER'S ADVOCATE":

To produce good seed grain it is necessary to prevent the multiplying of noxious weeds in the field, to control smut, and to have the grain well ripened and properly harvested. Oats that are cut too green, or that sprout in the shock are usually low in percentage germination. We have been in the seed-grain business for a number of years and have tried numerous plans of treating the seed grain to control smut, but have come to the conclusion that a solution of formalin and water is the most successful. We use one pint of formalin to thirty gallons of water. A portion of the barn floor is swept clean and enough oats to sow a field are spread on it to the thickness of seven or eight inches. The solution is sprinkled over the grain with a watering can. After making the top fairly wet a rake is used to stir the surface. The grain is then shovelled over and the operation repeated until the oats are thoroughly dampened. They are then piled in a pyramid and covered with the bags which are used for taking the grain to the field. The gas from the solution disinfects the bags. This is the cheapest way a farmer can treat his grain for smut. Care should be taken not to soak the seed too much and to dry it thoroughly after treating. One gallon of the solution is quite sufficient to treat five bushels of grain. We tested this solution in a mixed grain crop of barley and oats and the result

was that the oats were absolutely free from smut although the barley was slightly affected. Our entire crop has been treated for a number of years back and we have scarcely found a smut head, except in the year 1914 when smut was prevalent.

We have tried different methods of keeping the crows off the corn, but have found that soaking a little corn in strychnine and scattering it on the ground after the crop is planted gives the best results. Be sure that chickens and turkeys are not allowed in the corn field. We have found a large list of casualties in a few hours after using the poisoned corn. Some of the crows died before they could reach the fence. After a few of the crows met their fate, the flock leaves the corn crop unmolested.

Wellington Co., Ont.

W. D. TOLTON.

Sow the Small Seeds in Front of the Drill.

EDITOR "THE FARMER'S ADVOCATE":

I believe the chief fault of our Ontario method of sowing grasses and clovers is using too little seed. When grass crops are sown very thinly the result is that the individual plants become very large and when cut are woody and tough. Thus, there is a large amount of practically indigestible fibre. A thickly-sown crop will be fine and tender and the hay will be easily digested. It will be seen then that the larger amount or percentage of digestible feed in hay will easily pay for the extra seed expenditure. On this account I would advise sowing fairly thick. If we take an average of anywhere from ten to fifteen pounds mixed seed per acre we will not be far wrong.

The kind of seed to sow is the next consideration. No better hay can be had than that from clover. A small amount of alsike also helps. Timothy is for a second cut on the same field, and personally I don't like it. It makes two years of hay necessary, which interferes with a short crop rotation, and I do not think timothy hay is much better than good straw. However, we always sow a small amount and then if weather conditions should make it imperative to cut hay two years in succession, you will have a crop of timothy hay ready.

There is no doubt but that it should be sown in front of the drill. In tests at Guelph a few years ago this was proved conclusively. This is probably on account of an even distribution of seed. When it is sown before the drill it falls on the smooth ground, but when sown behind the seed rolls into depressions.

Regarding drills, I cannot say that I have any particular choice. We use a *hos-drill*, but I believe the disc drills are also good. Cultivation of soil and proper drainage comes first. These are the foundation of a good crop every time. Better by far put in a small area well than a large area badly. When the ground is ready apply your seed. Seed should always be cleaned ready for seeding, as much time is lost if grain must be cleaned in spring. Variety of seed is a subject to be considered. Nothing hurts our oat production more than bad varieties. There are numerous varieties grown here in our district, but the Banner is in the ascendancy. Districts vary, but every district ought to experiment till it finds its own oat. This ought to be considered with all spring grains. The bulk of sowing should be done as early as possible, as the decrease in yield from late sowings is surprising.

Oxford Co., Ont.

XERES.

Automobiles, Farm Machinery and Farm Motors.

Whys and Wherefores.

One of the most frequent causes, incident to the stopping of a motor car upon the side of the road, and the infliction, upon the driver and passengers of considerable ridicule, is the over-heating of the engine. This arises from a number of different causes. When such a situation presents itself, do not immediately unscrew the radiator cap, because such an action will cause an out-burst of steam and water, and sometimes the latter is dirty with rust and foreign material. You may not only scald yourself, but your clothes, if of any delicate fabric, may be damaged to no inconsiderable extent. The proper procedure is to kill the engine and wait until the sound of the boiling water has practically disappeared. Then loosen the radiator cap very gently. Should there be indications that the water is still at a high temperature and anxious to gain its freedom, pause once again until such time as you feel that it is perfectly safe to proceed. Having opened up the top of the radiator and allowed some of the water to boil off, add new clean water of medium temperature. The cause of the over-heating can now be searched for. It is possible that the fan belt may have broken or that it is very loose and consequently not transmitting power, or it may be slipping. Any of these conditions can obviously be remedied without delay. Perhaps there may be a lack of oil or you may have been doing what you have often been warned against, namely, retarding the spark too far. If your examination up to this stage does not give you a satisfactory answer, look at the spark plugs and if they appear to be dirty, clean them with gasoline or an emery cloth. At this step of the game, you must remember that there are probably only three other basic principles to work upon,—either the gasoline mixture is too rich, the water in the radiator clogged by sediment or the firing chambers carbonized. You had better give the machine a leaner mixture of gasoline, and should this not prove satisfactory, drain the water from the radiator and by pouring in a fresh supply, see what circulation can be attained. If the engine is still over-heating, you can rest assured that the carbon must either be burned or scraped out of the combustion chambers.

At some period or other during the summer months, a realization will come home to you that your power plant is not running with the regularity you could desire. It will lag and seem to lack power, and on the hills or even slight grades, you will notice that it seems to fail when you most desire extreme energy and ease of operation. Practically every good motor is built to cover the roads of Ontario without hesitancy. We do not mean by this that the changing of gears is not sometimes necessary and advisable, but with the changing of gears, practically every machine should step along in a lively, free-and-easy fashion. Do not criticize your power plant if it shows a slight weakness after stiff hill climbing, because even a good horse should be eased up when going over the brow of a hill. You rest your motor by going into second gear under such circumstances. Apart from all this, however, there will be times when the engine, through some slight defect, cannot fail to develop far from the number of horse power for which it was built. It may be that you have poor compression, which generally comes from indifferent piston rings or leaky valves, dirty spark plugs will also create this distressing situation of affairs and a gasoline mixture that is not properly adjusted, provides the same result. The average driver can attend to any of these circumstances, but there are certain cases which must be looked after by an expert mechanic. For instance, the exhaust valve spring may be weak and in this case a new gasket or a loose stud should

be looked after by someone with garage experience. If the coil vibrator is not true and requires adjustment, do not tamper with it yourself, but go to some automobile repair shop for advice. We can say the same thing about a leak in the intake manifold and about any difference that may arise between the spark plug points. When the platinum points become dirty or burnt, it is customary to smooth them out with an extremely hard file, about the size of a finger-nail file. Some experts can handle such a situation very cleverly by the use of a hammer. You must, in a number of these instances, use your own good judgment, but we would advise you, in a general way, not to attempt any repairs or adjustments unless you feel perfectly sure, in the first instance, that you are capable of making them. Many a time an amateur has thought that he would save an odd dollar or two, when in reality, his tampering has created damages that resulted in large repair bills.

Should your engine stop suddenly, you will of course, look at the gas tank immediately and see that there is enough fuel on hand. You are also wise enough to investigate the carburetor and make sure that there is no flooding, but perhaps you have never realized that a little dirt in the fuel feed pipe is a frequent source of annoyance. Bear this in mind constantly. Sometimes a power plant halts because there is water in the gasoline, so it is well to see that, under all circumstances, fuel is placed in the tank and the cap screwed on tightly, in order that water from rain or other causes, may not be permitted to work injuriously upon the running of your motor.

AUTO.

About Tractors.

A correspondent in "The Farmer's Advocate and Home Journal", Winnipeg, makes a plea for the better care of farm tractors, and in doing so compares the service they render with that usually obtained from the automobile. In this connection he writes:

"The average speed of the farm horse is about two miles per hour, and the farmer considers that if this team stands up under ordinary farm work and makes from twenty to twenty-two miles per day they are doing well. He would not buy a team that could not make over one and one-half miles per hour, for the very simple reason that they would not do enough work for him. He also knows that if they can walk faster than two miles per hour their value is increased. A tractor going at one-and-one-half miles per hour cannot possibly do as much work as one that can travel three miles an hour. For that reason many farmers are deceived by the claims made that certain small tractors can pull three or four plows, thereby decreasing the cost per acre of fuel consumption, over the tractor pulling fewer plows but at an increased speed of perhaps one and one-half miles per hour, and therefore will do one-third more work each day. A tractor like this would show a large increase in the amount of work done at the end of the season with a less expensive equipment and a decreased cost per acre than the slow-speed engine. Automobile manufacturers concede that if a car goes from 10,000 to 12,000 miles without adjustments, it has proved itself, and there are few owners who would complain at a record like this. They would gladly have the machine overhauled in the garage. The automobile has probably run about five hundred hours at an average speed of twenty miles per hour. Comparing this with a tractor in the field, where the conditions are less favorable, the work is hard, and the working parts are taxed to the utmost. Ten hours a day would mean fifty days' service. Would a farmer be satisfied with this? I am afraid not. He expects his machine to go

into the field and run for six months and if necessary for twenty-four hours each day. This means two different crews with each operator trying to make a good showing and the engine receiving little or no attention. This means that the farmer requires not 500 hours of work but about 5,000 or 10,000 hours of work before much adjustment would be done. It would be just as reasonable for the buyer of the car to expect 40,000 miles' service. The tractor will give longer hours of hard service with less expenditure for up-keep than the automobile, with the same amount of care and attention. That is the important point to bear in mind. Many farmers take good care of their machinery, but there are others who do not, by a long way. When you buy a tractor are you counselling on giving it reasonable care, or are you just going to turn off the switch and let it stand till morning? If the latter is what you are planning to do, then our advice is stay with the oxen."

Meaning of Volt, Ampere and Watt.

To the lay mind, electricity is a mysterious thing. The electrician understands it to a certain degree, but happily to the extent that he can convert it into light and power. This has given rise to terms which are somewhat confusing to the uninitiated for "volt", "ampere", "watt", etc., are so often used incorrectly. Electricity is easily measured and valued by a simple meter and these three terms apply in the following manner:

The volt is the unit of pressure and corresponds to the head or pressure of water.

The ampere is the unit of current quantity and represents the amount of electricity flowing through a circuit. A current may have a large amperage, indicating that a large volume is flowing and yet may have a low voltage or pressure, or there may be a small amount of current under a high pressure or voltage.

The watt is the unit which indicates the amount of electricity or the value of the current. A current of one ampere flowing at a pressure of one volt, has a value of one watt. There are 746 watts in one electrical horse-power. It is always the product of a number of amperes multiplied by the number of volts.

THE DAIRY.

Results of Dairy School Examinations.

There were seventy-five students registered in the various courses held at the Dairy School, Ontario Agricultural College, Guelph, ending March 31, 1917, as compared with seventy-three for the similar courses a year ago. While the most of the students came from Ontario, Nova Scotia, Prince Edward Island and British Columbia were represented. Butter and cheesemakers have been in great demand this year, and practically all those competent to act as head butter or cheesemakers were engaged before the close of the term. As the year 1918 will mark the twenty-fifth year of the Dairy School sessions, a reunion is being planned for all those who have been connected with the Dairy School at any time, as instructors or students. The date will be announced later, but it will probably be some time in March next year. The following is a list of the students who were successful in passing the examinations in the factory class, together with the total marks received out of a possible 1,200: J. A. McManus, Bonshaw, P. E. I., 1,019; J. Ross, St. Mary's, 983, R. A. MacEwan, Stratford, 964; L. Schmitt, Kitchener:

958; C. G. Mary's, Slate River, 881; E. Drayton, W. Harris, Arthur C.

The C annual demand for has induced dairying, of feed business. price of mi light. Ho with the dairy cow quotations public to l is an exp portation of the fac for a song in winter cow can y feed in the must be n substitutes costs mon concentrat which mos in building depends on failures in with the s feed anima Some have present m years hence been bles in the hand ever remain investment would have Scrub herd will no dou of the time Dairymen a ing and rec breeders of While pure and butter-faction of k a definite m making tha gether with disposing of The offi all the dai improving r the tests ha This has er would be t keep record stantially s tions. Milk of sales of responsible individuals. records, the There are Canada, each sometimes a certain conc and all hav accomplish yield what the impossi records hav breeds durin this year re Whites bre record, the lb. marking over all b future only certain, exce different da

958; C. C. Wheatley, Sarnia, 943; W. G. McKay, St. Mary's, 936; H. Ridley, St. Mary's, 903; A. Munro, Slate River Valley, 894; J. L. Beaton, Blackwater, 881; E. Creighton, Scotsburn, N.S., 864; C. Kells, Drayton, 852; R. Cousins, Loch Katrine, N.S., 855; W. Harris, Brussels, 849; B. Chatreau, Greenock, 826; Arthur Gray, Atwood, 823; Andrew Gray, Atwood,

821; E. J. Salter, Mimico, 818; E. Smith, Mt. Forest, 757; L. Anderson, Dungannon, 732; B. Scott, Warton, 707; E. Dietrich, Walkerton, 700; H. Lamb, Toronto, 657; R. Lamb, Baden, 655; R. Gregory, Toronto, 555. Farm Dairy Class: P. Moore, Pembroke, 793; F. Groth, Vancouver, B.C., 674; E. Rivera, Buenos Aires, S. Am., 559. Cow-testing Class, names in order of proficiency:

B. Jenvey, R. G. Newton, N. James, T. Cooper, J. C. M. Beath, G. P. Wilson, G. E. De Long, L. H. Hamilton, L. E. O'Neill, R. C. Elder, G. Arnold, A. Caffyn, D. Munro, F. F. Ferguson, J. H. Ross, R. Cousins, W. Sharkey, J. L. Beaton, E. J. Heeney, C. W. Bell, A. J. Munro, I. Statham, T. E. Brooks, C. Kells.

Status of the Three Leading Dairy Breeds in Canada.

The Canadian Dairy Breeds Associations at their annual meeting this year all reported an increased demand for dairy stock. The price of dairy products has induced many farmers to go more strongly into dairying, although the scarcity of labor and high price of feed has to a certain extent been a damper to the business. Compared with a few years ago, the present price of milk and its products puts dairying in a favorable light. However, the men behind the cows claim that with the 1916-17 cost of labor and feed the average dairy cow is not such a veritable gold mine as market quotations of cheese and butter would lead the purchasing public to believe. Behind the pound of cheese or butter is an expensive plant to equip and operate and transportation to and from the factory must be paid. Back of the factory is the cow which cannot be purchased for a song, and she requires protection from the cold in winter and flies during the summer. Before the cow can yield of the lactic fluid a suitable supply of feed in the form of roots, silage, hay and concentrates must be made available for winter use and pastures or substitutes thereof arranged for summer feeding. It costs money to grow roughage, to say nothing of the concentrates or the high-quality nitrogenous products which most dairymen have to purchase. The success in building up and keeping a herd of heavy producers depends on the man behind the cow. There have been failures in the dairy business; men are not all endowed with the same amount of ability to select, breed and feed animals in order to get the maximum returns. Some have a broad vision. They can see the result of present matings on the standing of their herds ten years hence; they build for the future. Others have not been blessed with a like gift, consequently the dollar in the hand blinds them to future possibilities and they ever remain mediocre dairymen, when a little larger investment for a herd header and a few good females would have placed them on the highway to independence. Scrub herds which create a lot of work but little cash will no doubt be always with us. However, it is a sign of the times that they are an ever decreasing minority. Dairymen are rapidly awakening to the fact that breeding and records count as well as type. The number of breeders of pure-bred dairy stock is gradually increasing. While pure-bred stock may not produce any more milk and butter-fat than good grades, yet there is the satisfaction of knowing that the herd is the result of following a definite line of breeding and using blood at each mating that has proved valuable. The pedigree together with the milk and fat record materially aids in disposing of surplus stock at remunerative prices.

The official and semi-official tests conducted with all the dairy breeds have done a good deal towards improving many herds. From the most unlikely places the tests have revealed rare gems to the dairy fraternity. This has encouraged many to apply the tests and it would be to their interests if more dairymen would keep records. This work has been endorsed and substantially supported by the different dairy organizations. Milk and fat records have increased the number of sales of the different breeds, and have also been responsible for some of the big prices received for certain individuals. To encourage breeders to work for new records, the associations have offered liberal cash prizes. There are three special recognized dairy breeds in Canada, each with a special niche to fill. Controversies sometimes arise as to which breed is the best. Under certain conditions each breed may be said to be best, and all have representatives which have accomplished in milk and butter-fat yield what would have been considered the impossible a few years ago. New records have been made in all three breeds during the past year. What will this year reveal? Will the Black and Whites break the fifty-pound butter record, the Ayrshires exceed the 25,000-lb. mark in milk, or Jerseys again win over all breeds in public test? The future only will tell. One thing is certain, executives and members of the different dairy breeds associations will

do all they can during 1917 to increase the popularity of their respective breeds. The extra money granted at the annual meetings for prizes in the test and showing will stimulate old breeders to put forth a little extra effort and new breeders to enter the contest.

After an up-hill fight for a number of years, the Black and White breed by their ability to produce a large flow of milk compelled recognition, and for a number of years it has been comparatively easy sailing.

The demand for breeding stock has been good. Holstein breeders were the first to commence official testing, and to this has been attributed a large part of the success which the breed has met with. The world has been astonished at some of the records made. On the average the percentage fat is not quite so high as with the other two breeds, but the extra milk yield even with a lower test has so far placed the breed at the top for butter-fat as well as milk. The Canadian Association, organized in 1882, has had steady growth and its members now number about 2,500. In 1916 the number of pedigrees recorded was 11,053, besides 9,544 transfers. This was for the entire Dominion. Figures giving the registration and transfers by Provinces are not available.

Ayrshires have many commendable features and breeders of this Scotch breed are evidently now having their innings. The present organization was gotten underway in 1898, and since that date the number of Ayrshire breeders has increased rapidly. In 1916 the association had a membership of 1,365, and up to December 31 there had been 59,404 pedigrees recorded. The greatest progress has been made during the past few years. Last year alone there were 4,000 registrations and 1,976 transfers. The following table shows the distribution by Provinces:

Ayrshire Registrations and Transfers by Provinces in 1916.

Province.	Registra- tions.	Trans- fers.
Ontario.....	1,219	739
Manitoba.....	82	39
Saskatchewan.....	48	36
Alberta.....	131	100
British Columbia.....	86	36
Quebec.....	2,119	895
New Brunswick.....	84	51
Nova Scotia.....	144	53
Prince Edward Island.....	86	21
United States.....	1	6
Totals.....	4,000	1,976

Ayrshire breeders have pinned their faith to the yearly test in preference to the seven- or thirty-day tests. While the breed is not noted for as high a milk yield as its rival, many creditable records have been made. To December 31, 1916, there have been 258 mature cows qualifying in the record of performance, with a yearly average yield of 10,311 lbs. of milk and 414.52 lbs. of fat. Eighty-six qualified in the four-year-old class, with 9,458 lbs. of milk and 385.56 lbs. of butter-fat to their credit. In the three-year-old class, 172 averaged 8,493 lbs. of milk and 348.32 lbs. of fat. The average production of 365 two-year-olds was 7,562 lbs. of milk and 311.07 lbs. of fat. The 881 cows and heifers qualifying had an average test of a trifle over four per cent.

The Canadian Jersey Cattle Club is the youngest of the three dairy associations. It was organized in 1901, and by 1916 it had a membership of 385. It is a healthy organization and steady growth is predicted. Performance at the pail and in the show-ring during 1916 by representatives of the breed have given an impetus to the breeding of the fawn-colored cattle. To December, 1916, there had been 7,858 pedigrees recorded; of this number 1,308 were recorded last year. The following table shows the progress in the different Provinces:

Jersey Registrations and Transfers by Provinces in 1916.

Province.	Registra- tions.	Trans- fers.
Ontario.....	642	535
Manitoba.....	31	28
Saskatchewan.....	24	25
Alberta.....	72	56
British Columbia.....	181	112
Quebec.....	245	178
New Brunswick.....	28	25
Nova Scotia.....	66	42
Prince Edward Island.....	15	8
United States.....	4	5
Totals.....	1,308	1,014

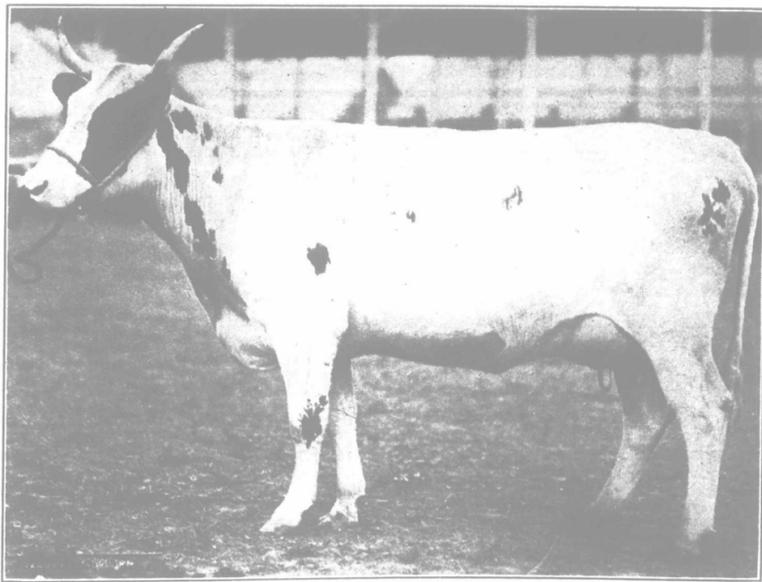
Jerseys are noted for high production of butter-fat. Selection and breeding have been to intensify quality rather than quantity. However, the milk flow has not been lost sight of and many very creditable records have been made by individuals under semi-official test.

The Presidents of the Dairy Associations are prominent breeders of the respective classes of dairy cattle. Having made a success of their private business they will no doubt ably pilot the organizations over which they preside. J. W. Richardson, Caledonia is president, of the Holstein Breeder's Association; W. W. Ballantyne, Stratford, of the Ayrshire Breeder's Association, and J. Pringle, London, of the Canadian Jersey Cattle Club.

Let The Grass Get a Good Start.

Most dairymen welcome the arrival of the time when the cows and young stock can be turned on grass. It results in a considerable reduction of chokes night and morning. Grass is also a good spring tonic for the stock. However, care should be exercised when changing from dry feed to the green, succulent grass. Undue haste in getting rid of the chokes has resulted in the loss of valuable animals. It is advisable to go slowly. Make the change gradually. An hour the first day, a little longer the next, and so on is sufficient for a cow to be on grass at the start. At the end of ten days or two weeks they can usually be left the full day on pasture, and if the weather is warm and the ground dry the stock takes no harm if left out at nights. It must be remembered that the young grass is immature and mostly water. Consequently, animals must consume a large amount in order to receive sufficient nourishment. Dry roughage and grain should be fed at first, even when the grass has a fair start. Later in the season when the grass has more body to it but is still fresh, there is not so much to be gained in feeding grain. In fact, if the cow is receiving sufficient of the succulent fodder she may refuse concentrates.

A common mistake is to pasture too closely in the fall. If it could be arranged that one field could be left with a fair growth on it, early feed would be furnished in the spring. Another all too common mistake is to turn the cows on pasture before the grass is well started. Shortage of feed may necessitate doing this, but in the end it would pay far better to pay out some money to secure hay and grain to keep the stock in the stable possibly a week or two longer. When the



Burnside Maggie Finlayston 5th.

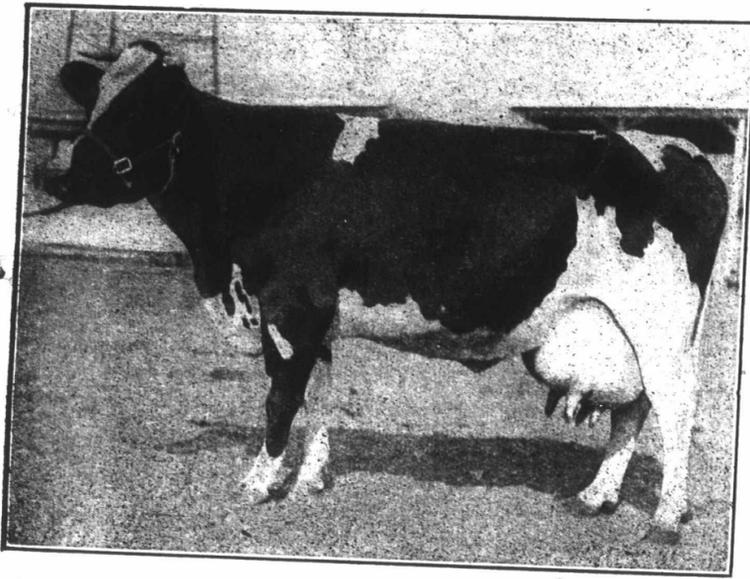
Grand champion Ayrshire female at Toronto and Ottawa 1916. Exhibited by R. R. Ness, Howick, Que.



J. W. Richardson.

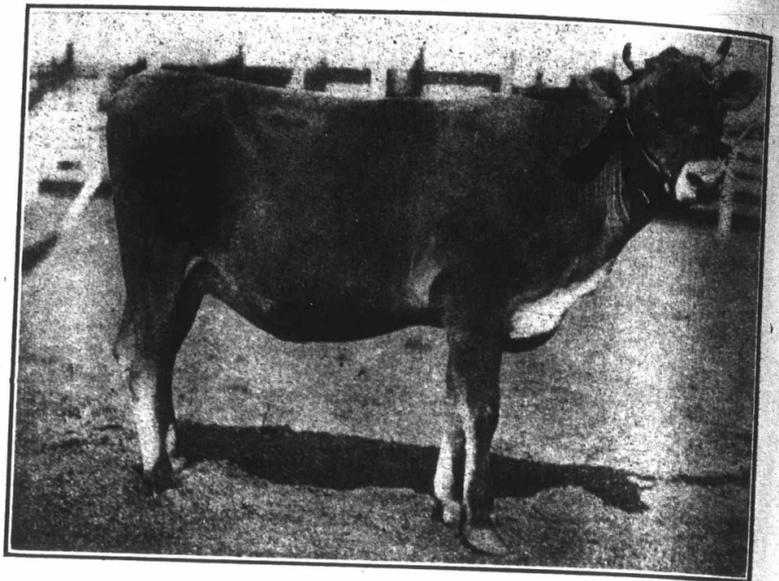


W. W. Ballantyne.



Lady Frances Schuiling.

Grand champion Holstein female at Toronto and Ottawa 1916. Exhibited by M. H. Haley, Springford.



Brampton Miss Mourier.

Junior champion Jersey female at Toronto, 1916. Exhibited by B. H. Bull & Sons, Brampton.

grass is short the cattle crop it close, which causes it to make slow growth since it is necessary that there be leaves above ground to come in contact with air and sunshine in order to promote growth. The pasture that is given a chance in the spring will furnish a good deal more feed through the season than the one which is grazed closely from the time first growth commences in the spring.

Points to Consider When Purchasing Dairy Stock.

The real value of an animal is estimated by its earning power, either as a producer of dairy products or meat, or as a breeder of stock. Some dairy cows which are only average milkers throw excellent calves, while others which are top-notchers at the pail do not always produce offspring equal to themselves. These things influence the price which an animal will bring if offered for sale. There are many points the prospective purchaser should consider. Breed type and conformation are first noted. A large frame for the breed, with a good constitution and strong vitality are desired in any animal. With the mature cow, special attention should be given to the udder formation and the veining. "No udder, no cow" is a good maxim to consider. A large, well-balanced udder, which shows considerable elasticity is preferable to a fleshy, pendulous udder. The size of the veins and number of milk wells is also an indication of the cow's ability to produce. The yearly milk yield of the individual and the record of the ancestors are important. Dairy men are paying more attention each year to the milk and butter-fat yield, and to the animal's power to transmit these qualities to her offspring. Dairy men realize that the cow to keep is the one that makes the best use of the feed consumed. There is every reason to believe that many cows now kept have not the power of economically converting the feeds into the lactic fluid. There is a vast difference in the inherent ability of cows to manufacture milk from the raw material; one cow may produce twice, three and even four times as much milk as its stablemate, which consumes practically as much of the same quality roughage and almost as much concentrates. Consequently, it is advisable to look well to the manufacturing power of the cow. The milk and butter-fat yield depends largely on the animal's individual characteristics which have been bred into it. Select a heavy-producing strain. If this were more closely adhered to when laying the foundation or building up a herd the average production per cow would soon be considerably increased.

Size should also be considered. It is unreasonable to expect a small, finely-built cow to convert as much feed into milk as will a big, strong-framed animal. There is more or less of a direct relationship between the feed consumed and the milk yield. This does not hold to the same extent with the butter-fat, as the smallest dairy breed which naturally consumes a comparatively small quantity of feed produces the highest testing milk, although the average quantity of milk is not so large as with the other two recognized breeds. Depth and thickness behind the shoulders and elbows indicate heart and lung capacity. Of course, a thick, beefy shoulder is not wanted. Dairy animals are naturally thinner and more wedge-shaped over the shoulders, but one which is shallow or tucked up behind the elbows is commonly predisposed to lung trouble. A large paunch or middle with considerable space between the last rib and hip bone, indicates good digestion. A good appetite and appearance of contentment generally goes with a money-maker. There are other points such as a large mouth, good-sized escutcheon, length of tail, etc., which some put great stress on. They are no doubt worth considering.

A dairy cow has a more nervous disposition than the beef animals, but an excitable, vicious cow should be avoided. A stockman can tell fairly well by the head

of an animal whether or not it will make a profitable feeder, so a dairyman views the head of the animal he intends purchasing. He likes to see a broad, dishing forehead and bright, prominent eyes, which indicate nervous power for converting food into blood and subsequently into milk. Nervous energy is also indicated by a prominent spinal column, and space between ribs. Look for mellow skin and oily hair. Dry, harsh hair is often the result of the animal system being a little out of condition. An unhealthy animal is unprofitable and a menace to other members of the herd. The dreaded disease tuberculosis is finding its way into many stables. Animals may be infected and yet show no symptoms of disease for some time. Consequently it is to the purchaser's interests to ascertain whether or not an animal is infected before he commits himself to a deal. The tuberculin test is generally considered to be reliable in determining the presence of lesions of the disease. Tuberculin tested cows with high milk and fat records are sought after by the large dairy establishments. If such are good for the moneyed men they are equally desirable for the average farmer. No man can afford to import disease into his herd, and he certainly cannot afford to keep a low producer, no matter how attractive the appearance.

A study of the pedigree and records will give some idea of the quality of blood, and will show if there has been gradual improvement. A cow should be a regular breeder and produce offspring equal to or superior to herself. The pedigree indicates the line of breeding and is valuable, but an animal should not be purchased on the strength of the pedigree alone; take the individuality into consideration.

The bull selected to head the herd should be true to type, of good conformation and show strong masculinity. He will either increase or decrease the production, and incidentally the value and profit of the herd according to his breeding and individual characteristics. An animal which looks cheap and has a cheap pedigree is dear at any price. Do not sacrifice the future value of the herd for the sake of a few extra dollars now. By use of a sire which carried the blood of high producers, and selecting the best heifers, some dairymen have greatly increased the milk yield in a few years. The value of a bull as a transmitter of his inherited good qualities is not apparent until his daughters commence producing. If it turns out, as it sometimes does, that the undesirable instead of the desirable qualities are transmitted, the herd receives a severe setback which may take years of breeding and selecting to overcome. Thus it is of paramount importance that the herd sire be bred right and have good individuality so as to minimize the risk of mediocre animals being produced. When possible it is advisable to select bulls which have daughters in milk, so that it may be definitely known what characteristics he transmits to his offspring. This can only be done in a few cases as some breeder must use the young animals. However, too many really choice sires are sacrificed to the block before they have outlived their period of usefulness as breeders. When adding to the herd do not be influenced in your choice of individuals by one feature alone. It is impossible to secure an animal that is perfect in every detail, but aim at securing the best all round specimen of the breed that may be for sale.

Cow testing eliminates some of the uncertainty from the dairy business, and accounts for profits and losses. It enables the dairyman to regulate the amount of concentrates according to the yield of milk and fat produced. In this way, more economical feeding is done. When the daily milk yield is recorded, there is no guess-work about what a certain individual in the herd has done during a lactation; it is down in black and white. Keeping records may entail a little extra work, but it pays in the end in more ways than one.

THE APIARY.

Spring Work in the Apiary.

Spring is an important and critical period of the bee year, because it is during this season that the bees have to build up their strength, often under trying weather conditions and in a short time, in readiness for the honey flow, and also because colonies that are in bad condition may die if not attended to. The principal object of spring management, therefore, is to get a large number of bees reared in each colony, and also later on to prevent the tendency to swarm. For a maximum production of honey there should be, during the honey flow, an abundance of bees between the ages of two weeks and six weeks.

If the bees have been well prepared for winter no anxiety need be felt about their condition in early spring and they are best left undisturbed for a while, but if any colonies are likely to run short of stores, or if so many bees have died in a colony that is in danger of getting robbed out, or of perishing, a short superficial examination should be made on a mild day when the bees are flying. The weight of stores may often be estimated by lifting the hive. Combs containing stores may be taken from colonies that have more than they need and given to those that are deficient. If it is found there are not enough bees to cover two combs the colony should be united to a stronger one. It is often possible to save the queen of a weak colony by placing the colony on top of the strong one with a queen excluder between the two, care being taken to see that the weak colony has sufficient brood (taken, if need be, earlier in the day from the strong colony) to keep the bees from deserting, and the colonies may be separated a month later.

When the weather improves a warm day on which the bees are flying freely should be selected for making a thorough examination of the brood nest. Evidence of the presence of a fertile queen may now be found in the appearance of worker brood. Any colony that is found to be queenless or to contain a drone-breeding queen should be united to one containing a fertile queen. Colonies may be equalized by shaking bees from the combs of strong colonies in front of the entrance to those to be helped; of course, the queen must not be included, and precautions may have to be taken to avoid fighting.

Since a high temperature is needed for brood rearing, care should be taken to conserve the heat generated by the bees in the hive by providing good insulation. Colonies wintered out-of-doors should be kept in their wintering cases until settled warm weather. In most places this is not until mid-June. The amount of protection to be given to colonies that have been wintered in the cellar will depend on the spring climate and the extent of shelter from wind. In many places it pays to give special protection in the form of an outer case deep enough to cover the sides of the brood chamber and projecting several inches above it, giving room for several sacks or a chaff cushion to be placed over the bee. In exposed places and those subject to great changes in temperature it will be advisable to have the case large enough to take packing material between the hive and the case. The size of the entrance should be kept small in early spring—only an inch or two wide in the case of weak colonies.

Bees need water in spring. If there is none within easy reach it should be supplied in a warm, sheltered place in or near the apiary. The building up of colonies may be seriously delayed by spring dwindling, that is, the dying of the bees that have wintered, faster than young bees can be reared. The common cause of dwindling is bad wintering, the bees having died in large numbers or become enfeebled through age or dysentery, and it is more likely to occur in coastal

regions where the spring is long drawn out than in the interior where the transition from winter to summer is more rapid.

The colonies should be examined weekly, weather permitting, or fortnightly if the weather has been cool, to see that the brood nest is expanding properly, the aim being to get the bees gradually to consume the stores and replace them with brood. If stores accumulate it may be necessary to remove a portion of them and give empty comb.

The best stimulus to breeding is the natural gathering of honey and pollen in favorable weather; these are usually supplied in abundance, first by the willows and later by dandelions, and, where it is plentiful, fruit bloom, as well as from a number of minor sources. In many places there is a short period of dearth between fruit bloom and the opening of the honey flow from alsike and white clover. If the weather during this period is warm and fine a little thin syrup given every evening will maintain breeding, but whether it will pay to do this depends on the duration of the honey flow and other considerations.

Periods of inclement weather preventing the collecting of nectar may occur at any time in the spring. Short periods of this kind may be guarded against by making certain that the bees have a reserve store of a few pounds, but longer periods demand feeding to avert starvation, especially if such periods occur late in the spring or in the summer when the rate of food consumption is high. As spring advances the putting on of supers and preventing preparation for swarming will need attention. Systematic management of the apiary from this time forward is of great importance. (Dominion Bulletin No. 26, Bees and How to Keep Them).

POULTRY.

Bred-to-lay birds do not always lay.

Disinfect the incubator before each setting.

A stunted chick will not make a profitable hen.

Lice are enemies of young turkeys as well as chickens.

Infertile eggs do not spoil as quickly as those which are fertile.

There is good and bad in every breed of fowl. Select the strain that pays its way.

Even if the hens are on free range they require a little grain if they are expected to lay.

Try out the eggs, from the stolen nest, on the home rather than pan them off on the storekeeper.

Many hens refused to work during the past winter when both feed and eggs were high in price.

Grease rubbed on the head, under the wings and around the vent will destroy lice on young chicks.

Put the sitting hen with insect powder a few days before the hatch comes off. It will save trouble with the chicks.

Furnish growing chicks with shade if possible. The orchard or corn field make an excellent run for chickens.

Ease off on the corn and feed more wheat and oats during the summer. Corn is too heating a feed for hot weather.

If remodelling the poultry pen, build so as to avoid dampness or drafts. Supply plenty of glass and cotton space on the south side.

Keep the fowl supplied with fresh, clean water. Potassium permanganate added to color the water serves as a disinfectant.

Many duck eggs are lost by allowing the ducks their liberty too early in the morning. A duck isn't particular where she lays.

Supply the chicks in the brooder with some green feed. Sprouted oats are good. If you haven't these cut a sod and put in the pen.

Prepare now for next winter's egg supply by choosing a strain noted for egg production. Hatch the chicks early, then feed them well.

Separate the male birds from the flock at the end of the breeding season. Many will make a better pot-pie at that time than if kept until fall.

Turkeys have a wandering disposition. Impress upon them, by means of a daily feed of grain, that "there is no place like home", especially at night.

Imitate summer feeding conditions in the winter as far as possible. Note what biddy eats when on free range and store it or a good substitute for next winter.

Infertile eggs from the incubator boiled hard and mixed with bread crumbs in the proportion of one part of the former to three of the latter make excellent feed for newly hatched chicks. When chicks are a few days old give them chick feed and a mash composed of bran, cornmeal, beef meal and bone meal.

Break up the broody hen that you do not want to set by putting her in a slat-bottomed coop and feeding her well. In all probability she will soon decide to lay again.

Most hens lay when the price of eggs is low, but the aim should be to breed, raise and care for the growing brood so that they cannot refuse to lay when eggs are five cents apiece.

Gather the eggs regularly but do not store them where the temperature nears the hundred mark at mid-day. Eggs deteriorate in quality very quickly and a bad egg is worthless.

Vermin increase rapidly in the hen house during warm weather. Give the pen a thorough cleaning with a good disinfectant, then whitewash it. Kerosene applied to the roosts will destroy mites.

Young turkeys are very delicate the first week and require considerable attention until they are a couple of months old. Give them a warm, dry place. Feed hard boiled eggs and bread crumbs or cornmeal bread the first week or two to which is added green stuff in the way of chopped onion tops or dandelions. It is advisable to feed them out of the hand rather than scattering the feed on the ground.

Feeding and Caring For Young Chickens.

Poultrymen claim that there is an unusual demand for day-old chicks. Some small breeders evidently find that it pays to allow someone else to take the trouble of incubating the eggs. It stands to reason that the man who makes a speciality of hatching chickens and has large incubators at his disposal can secure a higher percentage hatch than the amateur. With specially designed cardboard boxes baby chicks can be shipped long distances, and appear none the worse for their railroad journey. It has been definitely proven that it is unwise to feed the young chicks immediately after they come out of the shell. They appear to do much better when feed is withheld for from forty-eight to sixty hours. In this length of time the chicks can be carried a long distance and be ready for their feed when their new owner receives them. Having to do without feed for a certain number of hours may be one reason why greater success is experienced in rearing the imported chicks than those that are hatched on the premises. It seems hard to get away from the practice of placing feed before the birds as soon as they come out of the incubator or from under the hen.

If purchasing day-old chicks, have a brooder or hen ready to receive them. They must have sufficient warmth. Where a large number are being purchased, a brooder is the only practical method of looking after them. There are different designs but practically all work on the same principle. Heat must be generated by some means and conveyed to the hover which is closed in with felt or woolen material. The heat should radiate over the backs of the birds in imitation of the natural method. Where too much heat strikes the floor, there is danger of leg weakness in the birds. The hover may be placed in the colony house with the lamp on the outside. This minimizes danger of fire and works very satisfactorily. A hundred or more chickens can be started in a small colony house. The brooder should be so built and the heat so arranged, that sufficient warmth will be provided for the chickens in any kind of weather. This necessitates some means of regulating the flame from the lamp, as some days the weather is much colder than others. Scatter chaff or cut straw on the bottom of the colony house for the chicks to work in. They must be kept busy in order to keep healthy. This applies to the chicks hatched under the hen, in the home incubator or brought in from some commercial plant. Chickens hatched in an incubator are not nearly so likely to become infested with vermin as those hatched and reared by a hen. However, it is necessary to keep close watch, as a chick will not last long if lice are sapping its strength. A little grease rubbed around the head and under the wings scatters the vermin.

Buying chicks has some features to commend it over the purchasing of eggs. The trouble of incubating is overcome and you know exactly how many birds you are going to have to start with. Of course, those who make a business of selling day-old chicks set a price that will cover loss from infertile eggs or mortality in the shell. However, there is always danger of eggs becoming cracked or chilled in transit, especially if they are shipped early in the season and it is not always that a hen is willing to sit just when the eggs arrive. Equally strong, sturdy chicks cannot be hatched from eggs that are two or three weeks old as from those which are strictly fresh. When only a dozen or two chicks are bought, it is often possible to put them with a hen instead of a brooder. In this case it is well to have hens bringing out chicks about the time the others are expected to arrive. If the hen will not take to the new brood, and a brooder is not available, fix up a small box inside of a larger one and put a jar of hot water in the centre. If this is wrapped in cloth it will keep warm several hours and will furnish sufficient heat for the chicks. After they are a couple of weeks old they will no longer generate sufficient heat to keep themselves warm in the small box. Chicks have been reared in this way without a single loss. Care must be taken to properly feed the young chickens. Bread crumbs slightly moistened in milk, and mixed with hard-boiled, eggs make a splendid ration for the young birds. They should be fed about five times a day at first, but only

what they will clean up each time. When the hen is with them she does not allow feed to lie around and sour. A little clean sand or chick grit should be scattered on the floor of the brooder as it is necessary for the birds' digestion. As they become older, chick feed or small wheat may be added. If it is too early to put the chicks on grass, sprouted oats or young lettuce will be greatly relished and is essential to the health of the birds. Keep the chicks healthy and growing from the time they are hatched, in order that the pullets may be sufficiently developed to commence laying in October or November. Free range in the corn field or orchard, with grains and dry mash available in hoppers at all times, ensures strong, well-fed birds.

How One Flock of Turkeys is Looked After.

EDITOR "THE FARMER'S ADVOCATE":

Considering the profit that can be made from a flock of turkeys that have been properly managed, it is a wonder that more people do not keep this class of fowl. The most essential thing contributing to the success of any business is the liking of the person for that business. A love for the work is necessary in raising turkeys as in any other business, and the next consideration is, will it pay? I answer most emphatically, yes, and hope I shall be able to prove it. "The pay" is the thing which interests the most of us to the greatest degree.

The first and most necessary consideration is the stock. The beginning should be with well-bred stock, and then selection carefully made in order to secure better birds each time. Always save your best turkey hens for next year's breeding purposes, and procure the best gobbler that money can buy. Too many people keep late-hatched and small birds, thinking they will grow during winter, but the vitality is weak and therefore the birds hatched from their eggs are also weak, very often not being able to get out of the shell, and if they do probably succumb to disease the first month. I have often kept my old birds three or four years, but after that they lay such a small number of eggs that they become unprofitable. I have never experienced any difficulty in having my turkeys roam in search of a place to build their nests, because when I notice them "speculating" around about the middle of April I build several nests with old boards and some brush near a tree or along the orchard fence. I then drive the birds near the nests and watch them so that they do not fly over the fence. I put a hen egg in the nest to attract their attention. It may take a week to accomplish this, and may seem a great waste of time, but you will gain in the end, for it saves a long walk to the stolen nest after the egg every day, and it means better attention to the turkeys when hatching, to say nothing about the crows, etc., stealing the eggs. Now when they hatch I don't attempt to feed the poults for forty-eight hours, though it is necessary to examine the nests a couple of times to remove shells. Sometimes another egg will slip into one of the empty shells, and a dead turkey is the result. I feed my little turkeys sour-milk curd (dutch cheese) made by letting separated milk sour and then warming until curdled. I drain off the whey and mix onion tops cut up fine with the curd. After about two weeks I commence feeding a little "chick feed," which can be bought in most feed stores.

The worst enemy I have to fight is lice, and I begin, on the old birds before they commence laying. I seize the fowl by the legs, head downward, and sprinkle a louse killer in the feathers under the wings and below the vent, where lice are most numerous. Don't forget to grease the heads of the young birds when they are about a week old, and also to examine them frequently during the summer, and sprinkle thoroughly with any commercial louse killer.

I usually keep four or five hens, and with good care and management I realize nearly \$200 on an average. Last year was an exceptional good year for price. I received 35 cents a pound, with their necks broken and just the feathers off. I sold twenty gobblers that dressed eighteen pounds apiece, and twenty-one that averaged ten pounds apiece. The turkey business, like every other business to be really successful, requires thought, attention, care and intelligence. When these are exercised, under proper conditions, there is sure to be money in it.

Norfolk Co., Ont.

MRS. FARMER JOHN.

HORTICULTURE.

A Back-Country Garden.

EDITOR "THE FARMER'S ADVOCATE":

I think a garden should be as near the house as possible, for on many occasions a farmer has a few minutes to spare and can do a little work in the garden if it is near the house. Then if the garden is handy it is also convenient for the women folk to get the vegetables for use in the home. Our garden is only a short distance from the house and is a splendid piece of ground. The soil is a clay loam. It is dark, loose soil and easily worked. There is a stream running close by which makes it very easy to get water to water it with in a dry time. There is about one-eighth of an acre in our garden and we consider that quite enough for most farmers to look after.

We grow a little corn for table use, peas, beans, a few potatoes, carrots, beets, onions, parsnips, radishes,

lettuce, cabbage, cauliflower, cucumbers, watermelons, muskmelons, citrons, squash and tomatoes. We also have two kinds of nearly every variety, that is, a late and an early kind. Our garden is longer one way than the other, so we plant it in rows and use a horse cultivator, for a person can do as much in half an hour with the cultivator as could be done in a whole day by hand, and do it better. But if a person be pinched for room, he could grow more on the same ground by planting closer together and working it by hand.

We use a hot-bed to start our cabbages, cauliflower, tomatoes and celery, and sometimes we put in a few other things that we want to get an early start. I dig a hole in the ground about a foot deep and put in six or eight inches of horse manure and cover over with three or four inches of good earth and let it stand for a few days, then I plant the seed and cover with a window. Any old window will do. Plants will come up and grow very quickly if they are watered a little every day. We set them out in the garden when they are about three inches high, as soon as danger of frost is past and the ground is in good condition.

When the plants in the garden are high enough to see easily, I go through with the hoe and loosen up the earth about them, and once a week I go through with the horse cultivator. The first few years I had a garden I had trouble with some of the varieties getting mixed up. I would plant melons and perhaps grow citrons. Now I plant them some distance apart and the bees do not have the same chance to mix them. Different varieties of vines should be planted quite a distance apart, and it is just as easy if the garden is laid out right. We only use the same plot of ground for a garden for a few years at a time; then seeding it down for a few years.

I have no idea what our garden is worth every year in money, as we never sell very much, but I know it is worth considerable for our own use and we have some to give away. Then, every fall we have the honor of getting a few red tickets at both our county and township fairs. I don't see how any farmer, especially if he has a family, can get along without a vegetable garden. Carleton Co., Ont. AN AMATEUR.

Sulphur Dust versus Lime Sulphur in Nova Scotia.

EDITOR "THE FARMER'S ADVOCATE":

The work reported at the recent meeting of the Nova Scotia Fruit Growers' Association regarding the use of sulphur dust as a protection against scab and insect attacks is rather interesting and significant. In this method sulphur and arsenate of lead in the dry state and in an exceedingly fine condition are blown on to the trees without the use of water as a carrier. A special machine is employed for the purpose, consisting of a small fan operated by a gasoline engine which blows out the powder in a dense cloud. The principal experiment was carried out on an orchard of Starks, the property of Fred Parker of King's County, N. S. Two strengths of dust were tested against lime-sulphur, both being put on at the same time and under the same conditions. The applications were made four times at the standard periods for summer sprays. For the first three applications the lime-sulphur had a strength of 1.008, but 1.007 was used in the last, because the stronger mixture caused considerable foliage burning. Arsenate of lead was used in the spray at the rate of 5 lbs. of paste to 100 gallons. The composition of the dust is seen in the tables.

Table No. 1.

Treatment	Materials	Blemished fruit		Apple scab		Insect attacks		Per cent. No. 1's and 2's.
		No.	Per cent.	No.	Per cent.	No.	Per cent.	
Dusted	Sulphur 85%, lead 15%	49	5.2	19	2.0	29	3.1	93.8
Dusted	Sulphur 50%, lead 15%	34	4.9	17	2.45	17	2.45	90.6
Sprayed	Lime sulphur, lead arsenate	87	6.9	2	0.2	84	6.6	88.6
Check		303	28.3	149	13.9	153	14.3	66.4

From this table it may be seen that the smallest amount of blemished fruit and the best pack were obtained on the dusted plots, although lime-sulphur gave results almost as good. Attention should be paid to the fact that the dust did not control apple scab as well as lime-sulphur, but on the other hand it gave much better protection against biting insects. The same conclusion is reached from a consideration of table II. The experiment here recorded was begun too late to put on the first summer spray, but the others were applied at the usual times in an orchard of Ribston.

Table No. 2.

Treatment	Materials used	Blemished fruit		Apple Scab		Insect attacks	
		No.	Per cent.	No.	Per cent.	No.	Per cent.
Dusted	Sulphur 85%, lead 15%	97	2.1	23	0.5	53	1.2
Dusted	Sulphur 50%, lead 15%	236	5.5	42	1.1	158	4.2
Sprayed	Lime sulphur and lead	188	16.0	28	2.4	157	13.4
Check		840	19.1	180	4.1	651	14.8

We may safely conclude from these experiments that in a season like 1916 sulphur dust will control the fungus and insect diseases of apples as well as lime-sulphur. Further experiments will be needed before making a more general statement. The dusting method has many advantages in its favor, among which may be mentioned its speed and care of application, the lower cost of the outfit, and the fact that it allows even the largest growers to cover their orchards at the critical times. It is essentially a method which will appeal first to the largest growers. Against this must be set a higher cost of materials, a difference which is, however, about counterbalanced by the saving in time. The main point which fruit growers of the Annapolis Valley would do well to remember is that sulphur dusting with all its prospective advantages has yet some time to wait until it can be proved that it will control scab under all conditions in Nova Scotia. These experiments are being repeated on a much enlarged scale in the coming season by the Provincial Laboratory of Plant Pathology, and fruit growers will be looking forward with interest to the results.

PAUL A. MURPHY,
Plant Pathologist for P. E. I and N. S.

Gardening For Home and Market.

EDITOR "THE FARMER'S ADVOCATE":

Our vegetable garden, which comprises about 8 acres, is located near the centre of a 100-acre farm and is divided midway by a running stream. The soil is mainly sandy loam, varying in color from yellow to a very dark and in depth from 18 inches to 3 feet. In places there is a strata of gravel with underlying quicksand. The subsoil is clay. The situation is ideal, one-half sloping to the south and the other to the north and northeast, thus permitting the production of a variety of crops. Our main crops are potatoes, strawberries, tomatoes, cabbage, cauliflowers, cucumbers, melons, onions and sweet corn. A limited area is devoted to carrots, celery, beets, peppers and other standard vegetables in about equal proportions. After the crops are harvested a liberal dressing of well-rotted manure is applied and the ground plowed with the twofold object of exposing the pupæ of the white grub, and incorporating the manure with the soil. The disc has been the main implement used in preparing the ground for planting, but we intend spring ploughing this year as an experiment.

A limited quantity of commercial fertilizer (chiefly nitrate of soda) and all the wood ashes available are used to supplement the barnyard manure. These with the exception of the nitrate are broadcasted and harrowed in just previous to planting time.

All crops are planted so as to permit of horse cultivation. We find it more profitable even with such crops as onions, carrots, etc., to space wider than is customary and use a horse in doing the work ordinarily done with a wheel hoe. With a good cultivator, a careful man and a steady horse can cultivate the smallest plants without injury. Regarding rotation and grouping of crops we have no set rule but are governed largely by soil and weather conditions. With the exception of onions we do not consider it advisable to grow any crop two years in succession on the same plot and even with onions frequent changes are likely to lessen insect injury. We aim to follow potatoes with strawberries whenever possible. Occasionally a crop of cabbage or cauliflower will come between with good results.

The proportions of the various crops vary from year to year according to the season and the probable

Gem in the open ground a month later. We plant seeds of early tomatoes and peppers in window boxes about the middle of March and a week or so later prepare the hot-beds which are ready for the seedlings as soon as they are ready to prick out. Late tomato plants are started in the hot beds early in April. The time of planting in the field varies with the seasons, but is usually from the middle of May to June 1, according to the variety. Early cabbage plants are started in cold frames as soon as the soil can be worked. We use glass or cotton covering for the frames as conditions demand. Except in very extreme weather we find cotton covers very satisfactory. Late cabbage and cauliflower plants are started in the ground in the latter part of May and set in the field about July 1.

In our experience with strawberries we have found the Senator Dunlop the best all-round variety and have discarded all others. We have secured the largest yield where quicksand is present. Occasionally we have taken two crops from a plantation, but we find it more profitable to set a new patch every year. The strawberry patch is cultivated as a rule once a week throughout the growing season, and the vegetable plots as often as possible, while the size of the plants will permit.

Returns vary according to the seasons, and the supply and demand. Both 1915 and 1916 were unsatisfactory for truck crops. Our cultural methods not being as intensive as those of the average market grower we do not expect such large returns. Under our system we would consider a net average of \$100 per acre a fair showing in a normal season. The shortage of labor will be keenly felt this year in all branches of agricultural production and particularly in vegetable growing, but present indications are that in the latter case the game will be worth the candle.

Norfolk Co., Ont.

R. E. MILLER.

A Farmer's Garden.

EDITOR "THE FARMER'S ADVOCATE":

Our garden spot is slightly rolling. A small part is clay. About half is sandy loam and the remainder is sand and clayey sand. There are a few small limestone rocks in it, the remains of an old charcoal kiln. A small spur of the Bay of Quinte that formerly was used as a ballast track from an old gravel pit separates the garden from the house. For convenience in getting to it we built a small foot-bridge across the ravine. It is quite well fenced. There is about an acre in the plot.

We plant about half of it to mangels, sweet corn and cabbages. Then there is a small spot for potatoes, near which is a place for onions, tomatoes, carrots, kohlrabi, and rutabagas. We have about one-fourth of an acre in another place planted to Williams and Island King strawberries, Cuthbert raspberries and asparagus. We like them all quite well, with the exception of the way the Cuthberts spread. Coming up in all directions it is hard to keep a path open from which to pick them. We put in a few wild raspberries to see if they would raise anything. The first year they bore well but have been no good since. We have tried to keep a small cherry tree going in the garden, but the black-knot has managed to almost exterminate it.

We do not start our plants in a hot-bed because we haven't any yet, but we generally manage to start the seeds in a box in the house until it is time to transplant them. Last year the cabbage maggots spoiled all of our cabbages. We spend all the time we can on the garden, and yet the clumps of foxtail and everything else would surprise you. Weeds seem to grow a great deal better than good plants anyway. In the summer while the team is busy mowing I go through the garden with a one-horse cultivator. We plant beans, mangels, potatoes, sweet corn and turnips so we can cultivate them in this way. We generally have a separate plot for tomatoes. We get them planted as early as possible for the summers' "eats" and winter tomato soup; then a small spot of late ones for green tomato pickles.

Lennox and Addington Co.

CECIL LUTHER.

The Vegetable Garden.

EDITOR "THE FARMER'S ADVOCATE":

The soil in our garden is a light clay loam. I have the garden within 30 rods of the house and sometimes closer. My reasons for having it near are twofold. First, when the women want any garden product they can get it without going far for it; and second, it is handy to work at, for when I have a few minutes to spare I can go out and hoe or do anything in the garden when it would not be worth while to go any distance to work. We do not go into gardening as extensively as we might. We merely grow enough for our own use, as we are quite a distance from a good market town. Our garden contains about a quarter of an acre, roughly speaking, including a strawberry patch, which is plowed up every year or so and set out afresh where the vegetable part of the garden was. I grow onions, beets, cucumbers, tomatoes, carrots, radishes, beans and a few early potatoes. Also some years I grow squash, citron and watermelon. I plant my vegetables in rows about ten to twelve inches apart and use a hand cultivator; I find that this works fine. I use a narrow hoe to take the weeds from between the vegetables. I plant my strawberries so that I can use a horse cultivator to clean them. I do not use a hot-bed but have often thought of doing so, but as I do not exactly know how to prepare one I have deferred using one. I should be glad if the readers of this would give me some information in regard to making hot-beds through your columns. I use the hoe and cultivator freely in the summer, and in a dry time I water the garden with hose attached to a pump.

I generally, but not always, sow my seed in rows running at least three parts of the length of garden plot, leaving an area for cucumbers, etc., at the end of vegetable rows. I find this method satisfactory, as I can operate a cultivator from one end of the plot to the other. I crop a part of my garden every year with strawberries, plowing them up and setting them in a new place every two or three years. I try not to plant any vegetable in the same place two consecutive years. I think that I save at least \$50 with my garden every year. If I had to buy the vegetables I grow in my garden the expenditure would exceed this. So I think it pays well, don't you? Halton Co., Ont. A FARMER.

The Farm Strawberry Patch.

"God might have made a better berry than the strawberry, but He didn't", said Dr. Butler, and Peter McArthur is sure that "when God wanted to make a better berry than a strawberry, He made another strawberry." There is no use extolling the strawberry as a luscious article of diet for everyone is agreed on that subject and we often wonder why more people with even a few square rods of land at their disposal do not supply their table with this exquisite berry, fit to set before a king. Although the farmer is a busy man, thinking of his cattle, grain and other farm crops, if he thought so he could spare the time to grow some strawberries and other garden delicacies and so provide himself and family with some of the good things of life. Two or three hundred quarts can be grown on a small patch. This would provide one home with plenty and some to give away to friends in town, whose friendship would become deeper and deeper as strawberry time approached.

There are few farm soils in this country that will not produce strawberries. The light sandy land and the heavy clay land, if given a heavy coat of barnyard manure, can be brought into suitable tilth for strawberry culture. The best soil perhaps is the sandy loam, which is retentive of moisture and well drained. One of the best strawberry districts in Canada is about Clarkson, in the southern part of Peel County. Here, in a good many instances the surface soil is overlaid with quicksand, which seems to give up moisture to the vegetation above when other types of soil are suffering from drought. A one-year-old sod plowed down early in the fall before and worked thoroughly is a suitable place to set the new plants, if there are no white grubs present and the land is fairly free from weeds. Even better still is a field that has produced some kind of a hoed crop the previous year and has been kept clean. Potatoes, corn, roots, in fact any kind of a crop that has been manured heavily and kept free from weeds is good to precede strawberries. Even when following a crop that has been manured, it is well to fertilize again with an application of barnyard manure, in preparing the land for strawberries. Thirty loads to the acre is not too much. Bone meal and wood ashes are also good. When manure is put on in the spring it should be cultivated in very thoroughly so the clumps of strawy manure will not interfere with planting or cultivating. The surface should be in fine tilth before setting the plants. The best time for which is usually early in May when showers are frequent. Run a roller over the land to bring the moisture to the surface and then mark out the field with a marker.

Setting the Plants.

In a small garden patch of strawberries, possibly it is best to set them in rows the length of the garden, so they can be cultivated conveniently with the horse cultivator. When setting a larger plantation a marker such as is used for corn answers the purpose very well. The distance of planting varies all the way from three to four feet between the rows. At four feet apart the plants are set from fifteen to twenty-four inches apart in the rows; eighteen to twenty inches is a good average. With three feet between the rows, the plants are set from two to three feet apart in the rows. When the matted-row system is followed, it will be found that the best clusters of large berries will be on the outside of the rows and for this reason the narrow rows with a smaller distance between them commend themselves to many growers. Eighteen to twenty inches between the rows is plenty of space for the pickers to work in. If the plants are set in rows both ways, one can, of course, cultivate both ways at first and thus save considerable hand work, but it is advisable to cultivate in the same direction each time, as in this way many plants are spared that would otherwise be torn out.

Plant only the best and do not select those plants found at the outside of a row, unless they are well grown, for they are usually from the last runners that were formed the previous year and do not have strong root systems. Those with large, white healthy roots are best. Do not set the old black-rooted parent plant or any plant that has been weakened by disease, frost or water. The inferior plants can be distinguished by the dark and discolored roots.

Do not allow the plants to wilt. If the day is a drying one, cover them carefully with an old wet sack or cloth as they are packed into the planting basket. Sometimes the plants have too much top and the grower removes all but two sets of leaves. Some growers do not prune the roots at all, while others find that they start quicker if they are cut back from a quarter to one-third of the total length. A safe rule to follow in transplanting is to leave as much root and as little top as is consistent.

A man and a boy can economize time in planting. The man taking a basket of plants in one hand with a spade in the other and walking backward, makes the hole, while the boy drops in the plant as the spade

is removed. They each press a foot about the plant and thus firm the soil about it before they pass on. When a small patch is being set a trowel is a convenient thing to use. This method is slower but the roots can be spread slightly, always placed in moist earth and thoroughly covered with the soil firmed over them. Many amateurs make mistakes when planting strawberries, getting them either too deep or not deep enough in the soil. The surface of the crowns should be on a level with the surface of the soil. When the crown is elevated above the soil, the plant dries out; when the crown is below the surface particles of soil get into it and cause trouble.

As soon as the planting is done, start the cultivator and after this operation hoe the plants at once. This produces a soil mulch which retains the moisture and furthermore covers the roots of the plants in case any were improperly set. Where weeds are plentiful and persistent, once a week is not too often to hoe the strawberries during the first season. All bloom should be removed the first year and a good growth of foliage encouraged in order to protect the plant against severe winter weather.

Mulching has some disadvantages; the chief one being that it fosters weeds, yet in the majority of cases it is a safe practice to adopt. Many growers leave the mulching between the rows in the spring, as it tends to keep down weeds and conserve moisture.

Varieties.

The choice of varieties is governed very largely by the district in which the crop is to be grown. In the Niagara district around ninety per cent. of the berries grown are Williams. They yield heavily and are good shippers. In the Clarkson district the Glen Mary predominates. In Norfolk County the Sample has yielded well. Thus we see that markets and local conditions influence largely the selection of varieties, but a farmer anywhere would be wise to plant a few of Senator Dunlop, and in a district where berries do well he is sure to be satisfied with this variety. Generally speaking, for domestic purposes it has no superior.

It is almost unnecessary to remind prospective growers that strawberry plants may have either perfect or imperfect flowers. The grower must bear this in mind when making his selection and where a variety with an imperfect flower is desired another kind with a perfect flower must be planted in company with it. The senator Dunlop has a perfect flower.

The Function of a Cold Frame.

It is not a good practice to remove plants, produced in a hotbed or greenhouse, immediately to the garden and transplant them without being first subjected to some hardening process. The cold frame is designed for this special purpose. It is made very similar to the hotbed, except that it is set on ordinary soil and is not supplied with any quantity of manure to induce heat. Storm windows from dwellings may be used to cover the frame but they must be raised and lowered as the temperature changes. Later in the season the glass may be replaced with frames covered with cotton which will permit of a circulation of air and yet prevent too sudden changes of temperature. The soil in the cold frame need not be essentially different from that of the garden. The flats are often taken from the greenhouse or hotbed and placed in the cold frame which does away with the necessity of any special preparation of the soil in the latter.

A recent report states that apples in storage during the first week of April were distributed as follows: Annapolis Valley, 2,500 barrels, nearly all for local sale; Quebec, 2,200 barrels; Montreal, 5,200 barrels, 6,750 boxes; Toronto, 800 barrels, 3,000 boxes; London, 700 boxes; Hamilton, 300 barrels, 300 boxes; St. Thomas, 300 barrels; Winnipeg, 700 barrels, 12,000 boxes; Calgary, 4,000 boxes; Vancouver, 11,000 boxes; Victoria, 6,000 boxes; Kootenay District, 4,000 boxes (60 per cent. imported); Okanagan Valley and Salmon Arm, 1,000 boxes.

FARM BULLETIN

Ayrshire Sale at Woodstock.

The Southern Counties Ayrshire Breeders' Club held their fourth consignment sale in Woodstock on Thursday, April 5. Despite the inclement weather that prevailed there was a fair crowd in attendance, and bidding was especially brisk for cows fresh or due to freshen within a few weeks. The stock was in splendid condition, and much of it was backed by exhibition and record of performance winners. A number of head traced to Jean Armour and Lady Jane, two famous cows of the breed, and to Scottie, a bull that has sired more daughters qualifying in the test than any other Canadian Ayrshire. The Club maintained its reputation of offering only high-quality stock and giving the purchasers good value. A number of females were purchased by men who are laying the foundation of a herd, while others will serve to materially strengthen several well known herds. Some of the stock won in strong competition at Toronto and London in 1916; although in new hands they will be heard of again. Considering the quality and backing, there were some bargains secured, especially among the bulls. The fifty-one animals brought a total of \$8,070. Twenty-nine cows averaged within a few cents of \$200 apiece

The 13 heifers, including several calves, averaged \$113.85, and the 9 bulls \$90. Snow King, a strong, smooth typey two-year-old bull that was grand champion at London was the highest priced male, going to the bid of J. B. Ross for \$185. Considering his breeding and conformation he was a good buy. Beauty of Beachville, a seven-year-old cow from the herd of I. Edwards & Son topped the sale. She is a big, deep, thick cow with excellent quality and large, well-attached udder. E. B. Stansell, Vienna, paid \$365 for her. Lady May 2nd, consigned by J. A. Morrison went to the bid of Laurie Bros. for \$310, and her heifer calf, only a few hours old, was purchased by the same breeders for \$115. Messrs. Moore and Dean wielded the hammer. The consignors were: F. H. Harris, J. L. Stansell, J. A. Morrison, Collier Bros., Isaac Edwards & Son, McConnell & Ferguson, E. D. Hilliker, E. B. Stansell. The following is a list of the animals selling for \$100 and over, together with names and addresses of the purchasers:

Jessamine, E. B. Palmer & Son, Norwich.....	\$170
Buttercup of Fernbrook 6th, C. M. Ross, Nanticoke	160
Star of Wardend, A. Vaillancourt, Chelmsford.....	135
Bonnie Lassie, E. B. Palmer & Son.....	180
Betsy 2nd, A. Schweitzer, Waterloo.....	150
Lady May 2nd, Laurie Bros., Agincourt.....	310
Heifer Calf, Laurie Bros.....	115
Maria of Mapledale, W. J. Connolly, Thedford.....	180
Selwood Violet, Geo. Apel, Mitchell.....	145
Snow King, J. B. Ross, Meadowville.....	185
Stella of Fernbrook 3rd, D. Cropp, St. Davids.....	175
Advances Bessie, B. L. Sherk, St. Catharines.....	180
Minerva 2nd, A. Vaillancourt.....	200
Sprightly 4th, B. L. Sherk.....	110
Bessie of Mapledale, J. B. Ross.....	215
Floss of Fernbrook 3rd, J. Connell, Keswick.....	210
Hillhouse White Rose, Wm. Muegge, Mitchell.....	100
Captain Scott, R. Warren, Beachville.....	100
Airmount Rose, A. Vaillancourt.....	145
Trixy of Mapledale 2nd, H. C. Hamill, Markham.....	170
Jean of Fernbrook 2nd, J. Connell.....	145
Beauty of Beachville, E. B. Stansell.....	365
Beauty of Beachville 2nd, J. H. Fordon, Beachville.....	165
Amelia 2nd, Laurie Bros.....	235
Maria of Sunnybrook, A. Edwards, Chatham.....	235
Daisy of Beachville, A. Vaillancourt.....	255
Beauty of Beachville 3rd, J. W. Waters, Moorefield.....	200
Sunnybrook Miss Denty, T. Dennis, Straffordville.....	105
Stella of Fernbrook 5th, A. Vaillancourt.....	105
Bull Calf, Anderson Bros.....	105
Sunnybrook's Bessie, F. A. Wight, Thedford.....	185
Hillhouse Violet, A. Vaillancourt.....	175
Lady Agnes 2nd, S. Sweitzer, Waterloo.....	180
Floss of Fernbrook 4th, J. A. McKenzie, Innerkip.....	165
Sunnybrook Snowflake, Geo. Apel.....	125
Stella of Fernbrook 4th, E. Morden, Dundas.....	190
Belle of Beachville, H. McPherson, Copetown.....	280
White Rosetta, A. Schweitzer.....	180
Advance's Primrose, A. Vaillancourt.....	135
Brownie 4th, Laurie Bros.....	135
Chief's Buttercup of Fernbrook 5th, E. B. Palmer.....	225
Pet of Menie, A. Vaillancourt.....	175

News of the Pure-Bred Beef Cattle Trade.

While auction sales of pure-bred live stock in Canada have been registering very creditable prices, bids at public auctions in the United States bear out the statement that a keen demand exists and the values recorded here are justified. On March 28, Weaver and Garden, proprietors of the Uppermill Shorthorn herd, sold 51 head by auction at Wapello, Ia. An average of \$744 was made on this offering. Three bulls averaged \$1,541, and 48 females, \$694. The noted bull, Villager, has been doing service in this herd and it was the get of this sire that attracted such a large number of buyers. Villager's Hope, a nine-months-old roan bull calf by Villager, sold for \$1,850, being the top price of the sale. Villager's Diamond, also by Villager, realized \$1,800. Uppermill Crown, a young cow with a calf by Villager, sold for \$1,285, and the show heifer, Marie 5th, went at \$930. On March 29, at Fairfield, Ia., Maasdam and Wheeler sold 47 head of Shorthorns, realizing the average of \$661. Four bulls averaged \$1,020 and 43 females, \$628. It was the stock of imp. Proud Marshall that made this offering so attractive. The top price was for Proud Rose, by this sire, and she sold for \$1,560. In bulls, Roan Star by Proud Marshall, sold for the highest price, namely \$1,350. Proud Archer by the same sire, went at \$1,200 and Type's Villager by Cumberland's Type, realized \$1,125. The Ft. Wayne Shorthorn Breeders' Association, of Indiana, held their initial sale recently to which they consigned 59 head and realized the average price of \$271. Several lots sold from \$300 up to \$625, the latter being the top price of the sale. At Eddyville, Ia., on March 21, Krizer Bros. held a successful Shorthorn sale at which 10 bulls averaged \$246, 31 females, \$380, and the total of 41 head made the fair average of \$347. The highest price, \$610, was bid for Lavender 4th and her calf. M. J. Hickey and J. A. Campbell sold 36 head of Shorthorns, at Manning, Ia., on March 23. The average was \$249. Disturbed freight and transportation services interfered somewhat with the sale of milking Shorthorns at Painesville, Ohio, on March 22. Eleven bulls and 32 females averaged around \$328. The Oris herd furnished the top-priced animal in both males and females. Fillrail Baroness (imp.) went at \$925, and Corporal Clay, a bull from the Oris herd, sold for \$975. Forty-four Shorthorns selling at an average of \$161 was the result of the sale held by the Tri-County Shorthorn

Breeders' Association, at Freeport, Ill., March 22. The 27 bulls averaged \$157, and the 17 females \$126.

A successful auction of Angus cattle was held by Wurzbacher and Miller, at Morley, Ia., on March 22. On that occasion 62 head realized the splendid average of \$571. Twenty-one bulls averaged \$370, and the 41 females, \$674. Belfast was the sire that added color to this sale.

Hereford sales are in no wise lagging. T. J. Hartnett and Son, Jackson, Neb., conducted a sale at Sioux City, Ia., on March 12, and made the average of \$453 on 70 head. Harris Fairfax, a good breeding son of Perfection Fairfax, has been at the head of this herd and was very largely responsible for the liberal bids registered.

Fertilizers—What They Are.

EDITOR "THE FARMER'S ADVOCATE":

Fertilizers are carriers of plant food in an available and concentrated form. They contain the three elements of plant food most needed in crop production—nitrogen, usually referred to as ammonia; phosphorus, known to the buyer as available phosphoric acid; and potassium, known as potash.

With the rapid increase of crop production in this country the supply of stock manure has fallen far short of supplying the growing demand for plant food, hence the increasing use of fertilizers.

The big reason for the growth in the consumption of fertilizers lies in the fact that commercial fertilizers increase profits wherever properly used. Our soils are still being robbed of their available fertility, and consequently, in many cases, they are not paying reasonable profits.

What Plant Food Does.

There is no mystery about the action of fertilizers in plant growth. Nitrogen or ammonia causes quick and vigorous growth of stalk or stem. It gives plants a quick start when planted and a nice green color.

Potash, the third plant food in fertilizers, strengthens the straw or stalk and helps to plump and fill the grain and fruit.

Hay is grown for the stalk or stem, hence needs a larger proportion of ammonia than grain crops. Wheat is grown for the grain, therefore needs larger amounts of available phosphoric acid and potash than does hay.

in which the natural plant food is in the best proportion to produce the best crops, because the yearly drain on the plant food is uneven.

Speaking generally, it has been proved that the use of a fertilizer containing all three of the essential elements of plant food gives best all-round results under average conditions.

Every farmer should study his soils and crops until he knows what proportion of plant food will be best suited to making up the deficiencies in his soil with fertilizers.

There is just as much science and profits too, in using fertilizers intelligently as there is in properly feeding and balancing the ration for a dairy cow. At the same time every farmer should remember that the use of fertilizers is but one factor necessary in a well-rounded system of agriculture.

HENRY G. BELL.

Belleville Holstein Breeders Have Record Sale.

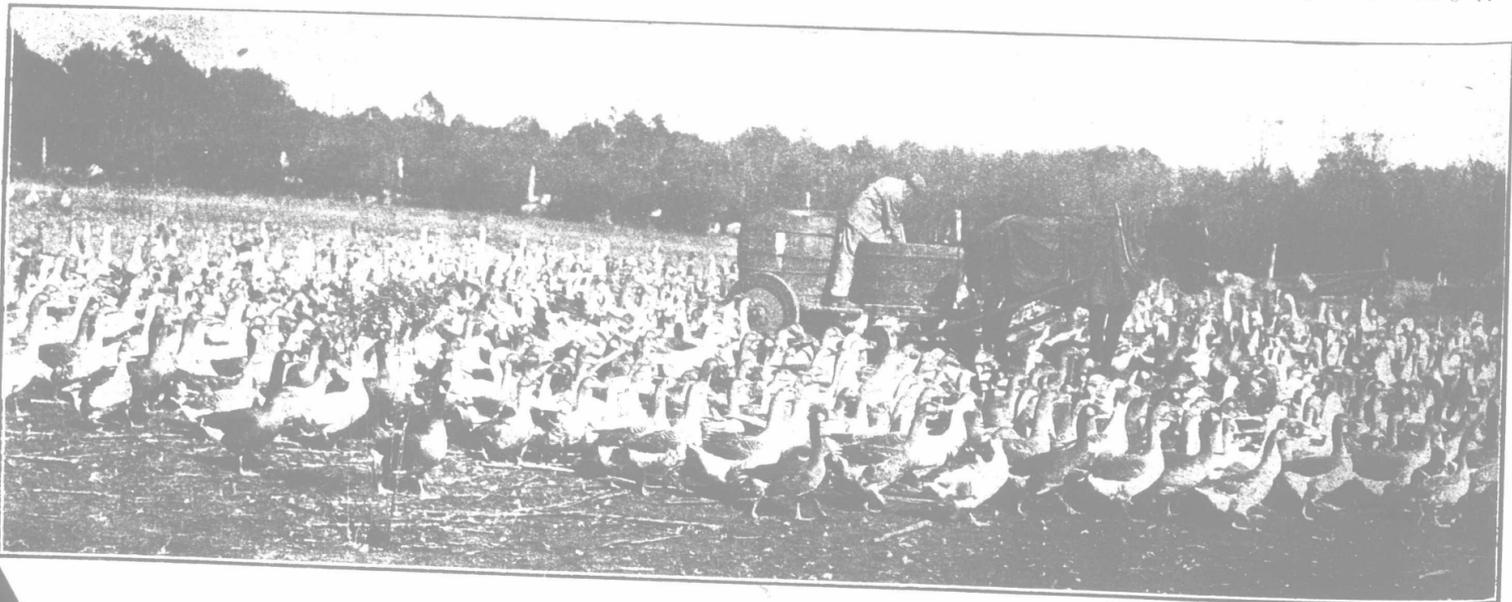
At their seventh annual sale of Holsteins, held on Wednesday of last week in the city of Belleville, the Belleville District Holstein Breeders' Club established a new record for 1917 consignment sales of dairy cattle in Canada; the seventy-two head catalogued selling for the grand total of \$13,840, an average of \$192.20 per head.

There was a record crowd present, standing room only, and very little of that was available in the large tent, which in former years furnished ample space for all spectators as well as buyers.

Table listing various breeders and their sales, including names like Pietertje Hengerveld, Clara Segis Hengerveld, and various locations and prices.

Clover and Wheat Look Well.

A trip through Middlesex, Oxford and the other Counties between Oxford and York, and then up through York County, Simcoe, and into Grey, shows that the fall wheat and new seeding have come through the winter in very good condition.



20,000 Geese a Year from One Farm. The Austin Farm at Mansfield, Mass., raises geese in thousands and sends them to all parts of the country. International Film Service

APRIL to be a all along rush, an the plo snow in the snow Live as far in low to the however steers at had bee delivery scarcity prices fo Ellis Indepen the abov "Did thing fo day labo being sho prieto. "Why "You do munity v unquestio do you?" "I be sincerely. You must after info are pract ganization "There great ent who are n practicals The M number o way woul them the "Every "It keeps t value of It develop coddles an self-restrai "Very in served the would hav such as th very happy work!" "It w reformers a replied the are alway claiming th out of it. "It mus what do th "They w good coul "Please o Mars. "No had severa "Oh, yes "In wha may I ask? "Why— that my—a That woul be very self for, don't yo Torc Receipts Stock Yards April 9, were cattle, 90 cal Active and cattle, cows a cents higher. milkers and s Calves, sheep \$15.90, fed ar The total City and Uni week were: Cars. Cattle. Calves. Hogs. Sheep. Horses. The total r of 1916 were:

to be above the average in some districts. Farmers all along the line are busy getting ready for the spring rush, and in one or two places even up in Grey, we saw the plows going in sod, while there was still considerable snow in some spots in the roads. In most districts the snow came early and the frost was not in very deep. Live stock seems to have wintered very satisfactorily as far as health is concerned, but considerable of it is in low condition, due to the shortage of feed, owing to the light crop last year. We have seen this year, however, a large number of unusually well-finished steers and some of the feeders in Grey stated that they had been offered as high as 12 1/4c. a pound for May delivery. There seems to be, in this section, an unusual scarcity of hogs and sheep, and feeders are getting good prices for both classes of stock.

"The Law and The Profits."

Ellis O. Jones, in a recent issue of the New York Independent, discusses the child labor question under the above heading as follows:

"Did I understand you to say that it was a good thing for the children to be thus employed at hard day labor?" inquired the Man from Mars, as he was being shown through the mill by the Pompous Proprietor.

"Why, yes," replied the Pompous Proprietor. "You don't suppose a man of my standing in the community would be a party to anything that was not unquestionably beneficial to the younger generation, do you?"

"I beg your pardon," said the Man from Mars sincerely. "There was no implication in my question. You must remember that I am merely a humble seeker after information. Of course, I must assume that you are practical. Otherwise, this mammoth business organization would be impossible."

"There you've hit it!" exclaimed the other with great enthusiasm. "Practical! The very word. Those who are not practical, the theorists and maudlin sentimentalists, claim that child labor is injurious, but we practical men know better."

The Man from Mars stopped and scrutinized a number of the little workers at close range. "In what way would you say briefly that this sort of thing benefited them the most?" he asked at length.

"Every way," declared the Pompous Proprietor. "It keeps them out of mischief. It increases the economic value of young manhood and young womanhood. It develops initiative. It keeps them from being molly-coddles and inefficient. It makes for morality, industry, self-restraint."

"Very interesting and enlightening, I'm sure," observed the Man from Mars thoughtfully. "It never would have occurred to me to look upon an institution such as this as being so ideally philanthropic. How very happy it must make you to be able to do such a work!"

"It would make me happy, very happy indeed, if the reformers and the legislators would only let me alone," replied the Pompous Proprietor a little sadly. "They are always wanting to regulate the labor of the children, claiming that my chief incentive is the profit I make out of it. That, of course, is absurd."

"It must be," rejoined the Man from Mars. "But what do the reformers want to do with the children?"

"They want to put them into school. Bah! What good could that do them?"

"Please don't ask me!" protested the Man from Mars. "Now as to your own children. You said you had several, did you not?"

"Oh, yes, indeed," replied the Pompous Proprietor. "In what department of your factory do they work, may I ask?"

"Why—ah—as to that—of course, you understand that my—ah—my own children do not work here. That would be—ah—well, to tell the truth, it would be very selfish of me to put my own children in here, for, don't you see, that would simply mean taking the

jobs away from poor children who needed the work. I am really sorry, however, that you can't meet my children. My girls are away at finishing school and my boys are at college. Of course, you understand it is very self-sacrificing for me to treat them in this way, but I must say that, considering the disadvantages I have given them, they compare very favorably, very favorably."

More Birds, Fewer Insects and Weed Seeds.

Birds are among man's best friends and yet we are sometimes prone to wantonly destroy members of the feathered tribe. True there are certain classes of birds that apparently injure the agriculturist and call forth his wrath. However, even the despised crow, sparrow and hawk which at times transgress and destroy some corn or wheat or carry off a few chickens are busy the greater portion of the year feeding on grubs, insects and seeds which are ever working to reduce crop yields. We complain at the increase in number of pests which attack the growing crops and yet man is largely responsible for upsetting the balance of nature, by permitting the destruction of the birds. Apparently the strong prey on the weak. All have seen the tiniest birds devouring small insects and seeds and the larger birds fighting them, driving them from their nests and destroying the eggs or the young. It is not an uncommon sight to see two or three small birds co-operating in driving away a crow or butcher bird. Then man and his agents step in and attack the larger birds. The removal of trees deprives many birds of their natural nesting places and they are forced to resort to less secure locations and run the risk of cats, snakes, etc., devouring their fledglings. By a combination of circumstances the bird population has been greatly reduced and man is the loser.

Birds are of great economic value to man and those which do frequent our premises prevent the undue increase of insects, wild seeds, harmful plants and rodents. In one sense they serve as scavengers and tend to make the earth a healthier place on which to live. It is estimated that insects cause around two hundred million dollars loss every year to the farmers of the United States. Proportionately the loss is believed to be equally great in Canada. Without the birds the loss would be beyond our comprehension. During the day swallows dart hither and thither in search of insects which constitute their sole food. The work is taken up at night by Whip-poor-wills, Nighthawks, etc., which chase moths and other nocturnal insects. Warblers, Hummingbirds and Vireos search the foliage of trees and shrubs for insects, while the class represented by Woodpeckers and Nuthatches drill into the trunks and limbs for eggs and larvae. The Graybird's family are content with devouring the terrestrial insects. The crow tribe warily follow the plow or cultivator and are instrumental in ridding the fields of numberless white grubs and cut worms which are not above totally destroying a corn or potato crop. Besides insects, birds feed on seeds and many noxious plants are prevented from spreading profusely by the watchfulness of our feathered friends, and yet, some people delight in shooting these innocent benefactors of man.

It is difficult to estimate the amount of seeds and insects consumed by a bird in a day. However, there is every reason to believe that it is enormous for the size of the consumer. Ornithologists have spent a good deal of time and study on the subject and find that birds are ravenous eaters. In "Bird-Life" by Frank M. Chapman, the results of some investigation work are to the effect that "the stomachs of four Chickadees contained one thousand and twenty-eight eggs of the cankerworm. The stomachs of four other birds of the same species contained about six hundred eggs and one hundred and five female moths of the cankerworm." The average number of eggs found in twenty of these moths was one hundred and eighty-five. Thus, it will

be seen what eight small birds were able to do in a single day to destroy enemies of foliage. While some birds are feeding on insects or their eggs others are industriously consuming numberless weed seeds, which if allowed to grow and reproduce would soon crowd out cultivated plants. Birds are truly the farmers' allies and should be carefully protected and encouraged to build their homes on the premises. Don't condemn the whole bird tribe because two or three members become bold and saucy. There is some good in the worst. Instead of hunting them with a gun use a good field glass and study their mode of living.

The domestic cat preys on birds and their nests and is largely responsible for the reduction of many species which ordinarily frequent the orchard and lawn. Ardent bird lovers swear vengeance on cats and would have them destroyed. Like the birds, cats have a service to perform. Building nesting places in suitable places near the house and putting out a little feed will attract different kinds of birds.

Apart from the economical value of birds their song and beauty should be sufficient to warrant protection. More interest is being taken each year in birds and bird life and it is reasonable to expect that the population will increase in the future rather than suffer a further decrease. Without birds the farmers' difficulties would be more arduous.

Farm Help.

EDITOR "THE FARMER'S ADVOCATE":

Never before was farm help so scarce in Ontario. Never before were prices so high for farm produce.

The farmer says "if I cannot get help I will have to do the best I can without it, and if the prices keep up I will do very well anyway, even with reduced acreage."

The townspeople are worrying about the next crop. Boards of Trade, Patriotic Societies and other organizations are holding meetings and trying to induce retired farmers and citizens generally to turn out and help the farmer during the season. High School boys are also being induced to enlist for farm work. Now the city people are in dead earnest; the farmers are just as much in earnest. Then why is everybody excited about greater production? It seems to me there are three reasons and all of them most important:

(1) The Allies are not getting all the food they need. The world is short of food. Ten nations are on short rations and 6 nations are on the verge of starvation.

(2) Great Britain lacks food for her people at home. The wheat of Russia is inaccessible. The Argentine has a short crop. India is 7,000 miles away and Australia 13,000 miles from Great Britain. A ship can make four round trips from Canada to England while it is making one trip from Australia. The great need, therefore, of Great Britain at the present time is an inexhaustible pile of foodstuffs on the Canadian Atlantic seaboard.

(3) Surely it is our great patriotic duty to see that our boys are properly fed in the trenches! What a shame and what a farce it would be if these splendid Canadian young men who are offering their lives for the freedom of the world should be rendered powerless for the want of food.

I do not know how much reliable help it is possible to get for our farmers for the seed time, but I believe it is the patriotic duty of every Ontario farmer at this time to sow all the crop he can possibly get in, and give it such attention as he can during the growing period. When harvest comes I think I can assure him that help will be available for the actual harvesting of his crop. If the men from the cities and towns are really serious, and I think they are, if boys who cannot go to the front want to do their bit, if Governments and municipalities and employers of labor realize the situation, and I think they do, then if it is necessary to close the schools and the shops and the factories in order to harvest the crop this will be done, rather than any soldier of the Empire at this crisis should go without food!

G. C. CREBLMAN, Commissioner of Agriculture.

Toronto, Montreal, Buffalo, and Other Leading Markets

Toronto.

Receipts of live stock at the Union Stock Yards, West Toronto, on Monday, April 9, were 71 cars, comprising 1,336 cattle, 90 calves, 424 hogs, and 22 sheep. Active and strong market. Butchers' cattle, cows and bulls, a good twenty-five cents higher. Stockers and feeders, and milkers and springers, slow; prices steady. Calves, sheep and lambs, steady. Hogs, \$15.90, fed and watered.

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

	City	Union	Total
Cars.....	48	413	461
Cattle.....	482	3,634	4,116
Calves.....	202	1,588	1,790
Hogs.....	601	8,286	8,887
Sheep.....	202	223	425
Horses.....	57	2,223	2,280

The total receipts of live stock at the two markets for the corresponding week of 1916 were:

	City	Union	Total
Cars.....	44	403	447
Cattle.....	588	4,485	5,073
Calves.....	305	885	1,190
Hogs.....	745	7,461	8,206
Sheep.....	76	233	309
Horses.....	62	1,369	1,431

The combined receipts of live stock at the two markets for the past week show an increase of 14 cars, 690 calves, 681 hogs, 116 sheep and lambs, and 841 horses, but a decrease of 957 cattle, compared with the corresponding week of 1916.

The Toronto live-stock market opened on Monday with some 1,950 cattle of all grades on sale. The quality of which was not nearly so good as the previous week. Trade was slow and draggy all day. Some choice butcher cattle sold at steady prices, while others were from 10c. to 25c. lower than the previous week's close. Good to choice baby beef was in demand and sold as follows: 6, 790 lbs. at \$12.50; 8, 700 lbs. at \$12; 3, 740 lbs. at \$12.25; 1, 740 lbs. at \$13; 2, 770 lbs. at \$11.75. For straight carloads of butcher cattle \$11.25 per cwt. was the best price paid, but there were quite a number of small lots that sold at \$11.75

to \$12.50 per cwt. For the balance of the week the runs of cattle have been very light, the market closing with butcher cattle selling strong and from 10c. to 25c. higher than Monday. There was no change in the price of cows and bulls this week, both being steady to strong at prices the same as the previous week. Stockers and feeders were slow and weak, especially common to medium animals, which were from 25c. to 35c. lower. Grass cows were strong and in demand at prices 25c. higher. Milkers and springers were fairly steady; best cows selling at \$90 to \$110; a few choice selling at \$115 to \$130 each. Sheep and lambs were strong, especially good, grain-fed animals; choice lambs selling at 14c. to 15c. per lb., and light butcher sheep at 10 1/2c. to 11 1/2c., with a few real choice at 12c. to 12 1/2c. per lb. Spring lambs sold at from \$7 to \$16 each. The \$16 lambs being 3 months old and weighing 73 to 78 lbs. each. Calves were strong most of the week, but closed a shade weaker. The hog market opened on Monday with fed and watered selling at \$16. For the balance of the week they were slow, and closed with fed and watered selling at \$15.90, and weighed off cars at \$16.15.

Live Stock Quotations.—Heavy steers choice, \$11.50 to \$11.75; good, \$10.75 to \$11.25. Butcher steers and heifers, choice \$10.75 to \$11.25; good, \$10.25 to \$10.50; medium, \$9.50 to \$9.85; common, \$3.50 to \$9.25. Cows, choice, \$9.50 to \$10; good, \$8.75 to \$9; medium, \$7.75 to \$8.25; common, \$6.75 to \$7.25. Canners and cutters, \$5.50 to \$6.50. Bulls, choice, \$9.75 to \$10.25; good, \$9.25 to \$9.50; medium, \$8.25 to \$8.75; common, \$7 to \$7.75. Stockers and feeders, choice, \$9.50 to \$10.25; medium, \$8.50 to \$9; common, \$7 to \$8. Grass cows, \$6.75 to \$7.50. Milkers and springers, best, \$90 to \$110; medium, \$83 to \$95; common, \$50 to \$60. Lambs, spring lambs, \$7 to \$14 each; yearling lambs, choice, 14c. to 15 1/2c. per lb.; culls, 9c. to 12c. per lb. Sheep, light, 10 1/2c. to 11 1/2c. per lb.; heavy, 8 1/2c. to 9 1/2c. per lb. Calves, choice, 14c. to 15c. per lb.; medium, 11c. to 13c. per lb.; common, 6c. to 8 1/2c. per lb.; heavy, fat, 7c. to 9 1/2c. per lb. Hogs, fed and watered \$15.90; weighed off cars, \$16.15. Less \$2 to \$2.50 off sows, \$4 to \$5 off stags, \$1 off light hogs, and \$2 off thin feeder pigs, and half of one per cent. government condemnation loss.

THE ROYAL BANK OF CANADA

Capital Authorized - - - \$ 25,000,000
Capital Paid Up - - - 12,900,000
Reserve Funds - - - 14,300,000
Total Assets - - - 270,000,000

HEAD OFFICE: MONTREAL

Branches throughout every Province of the Dominion of Canada

Accounts of Farmers Invited
Sale Notes Collected

Savings Department at all Branches

Breadstuffs.

Wheat.—Ontario, No. 2, winter, new, per car lot, \$1.92 to \$1.94; No. 3, winter, per car lot, \$1.90 to \$1.92, (according to freights outside). Manitoba track, bay ports—No. 1 northern, \$2.20½; No. 2, northern \$2.17½; No. 3 northern, \$2.10½; No. 4 wheat, \$2.01.

Oats.—Ontario, No. 2 white, 70c. to 72c. nominal; No. 3 white, 69c. to 71c., nominal. Manitoba oats, (all rail delivered)—No. 2 C. W., 78½c.; No. 3 C. W., 77½c.; extra No. 1 feed, 77½c.; No. 1 feed, 75½c.

Barley.—Malting barley, according to freights outside, \$1.21 to \$1.23.

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

Buckwheat.—According to freights outside, \$1.35.

Corn.—American (track, Toronto), No. 3 yellow, \$1.37, subject to embargo.

Rye.—No. 2, \$1.58 to \$1.60.

Flour.—Manitoba first patents, in jute bags, \$10; second patents, in jute bags, \$9.50; strong bakers', in jute bags, \$9.10; Ontario, winter, according to sample, in bags, \$8 to \$8.10, track, Toronto; \$7.75 to \$7.80 bulk, seaboard, export.

Hay and Millfeed.

Hay.—Track, Toronto, extra No. 2, per ton, \$11.50 to \$12; mixed, per ton, \$8.50 to \$11.

Straw.—Car lots, per ton, \$7 to \$7.50, track, Toronto.

Bran.—Per ton, \$38.

Shorts.—Per ton, \$40 to \$42; middlings, per ton, \$43 to \$45.

Good feed flour, per bag, \$2.70 to \$2.80.

Hides and Skins.

City hides, flat, 20c.; country hides, cured, 20c.; country hides, part cured, 18c.; country hides, green, 17½c.; calf skins, per lb., 25c.; kip skins, per lb., 20c.; sheep skins, city, \$2.50 to \$3.50; sheep skins, country, \$1.50 to \$3; lamb skins, spring, per lb., 30c. to 60c.; horse hair, per lb., 42c.; horse hides, No. 1, \$6 to \$7; No. 2 \$5 to \$6; wool, washed, 44c. to 47c. per lb.; wool, rejections, 35c. to 38c. per lb.; wool, unwashed, 34c. to 37c. per lb. Tallow, No. 1 cake, 9c. to 10c. per lb.; tallow, solids, 8c. to 9c. per lb.

Country Produce.

Butter.—Butter of all classes remained stationary in price on the wholesales during the past week, selling as follows: Creamery, fresh-made pound squares, 43c. to 45c. per lb.; creamery solids, 40c. to 41c. per lb.; dairy, 35c. to 37c. per lb.; separator dairy, 40c. to 42c. per lb.

Eggs.—New-laid eggs firmed slightly during the middle of the week, later becoming a little easier, and closed at 38c. per dozen wholesale.

Cheese.—The cheese market is very firm—the prices having advanced; June cheese, 27c. to 28c. per lb.; new cheese at 27c. to 28c. per lb.; twins, 28½c. to 29c. per lb.

Honey remained stationary—with the supply gradually decreasing. Sixty-lb. tins, extracted, 12c. to 13½c. per lb.; the glass jars at \$1 to \$2 per dozen, and one-pound sections of comb honey bringing \$2 to \$3 per dozen.

New maple syrup began to arrive during the past week. Imperial gallons selling at \$1.75 and 8½-lb. tins at \$1.25.

Poultry.—Poultry kept about stationary in price, selling as quoted below: Chickens, 22c. per lb.; fowl under 4 lbs., 18c. per lb.; fowl 4 to 5 lbs., 22c. per lb.; fowl 6 lbs. and over, 25c. per lb.

Wholesale Fruits and Vegetables.

Apples continued to be scarce; the few Spys which were offered selling at \$5 to \$8 per bbl.; Baldwins at \$5 to \$7 per bbl.; Rome Beauties, at \$2.75 to \$3 per box, and Newtown Pippins, at \$2.50 to \$2.75 per box.

Bananas brought from \$2.25 to \$3 per bunch, according to quality.

Lemons.—Messina lemons, which have been off the market for some time, arrived during the week and sold at \$3.75 to \$4 per case; Californias going at \$4 to \$4.25 per case.

The orange market was firm for desirable sizes, California Navels of that class selling at \$2.75 to \$3.25 per case; Floridas selling at \$3.75 to \$4 per case.

Pineapples remained stationary in price, Port Ricos selling at \$4.75 to \$5 per case; Cubans selling at \$4 and \$4.50 per case.

Rhubarb (hot-house) came in a little more freely the past few days; choice quality selling at \$1.25 per dozen bunches; poor grade going at 90c. to \$1.

Strawberries.—Seven tanks of Floridas arrived towards the end of the week and sold at 50c. to 60c. per box, according to quality; Louisianas also came in and sold at 18c. to 20c. per box.

California asparagus arrived in increasing shipments and sold at 75c. to 85c. per large bunch, also \$10.50 per dozen and two dozen cases of sectional variety going at \$4.

Beets are becoming scarce; the few offered selling at \$2.25 per box.

Beans.—New green beans came in and sold at \$7 to \$8 per hamper.

Florida celery arrived freely, selling at \$4.25, \$4.75 and \$5.50 per case.

Leaf lettuce had a good demand, and sold well at 30c. to 40c. per dozen.

Cucumbers kept practically stationary in price. Imported selling at \$2.50 to \$2.75 per dozen, while Leamingtons brought \$4 to \$4.50 per 11-qt. basket.

Onions.—The market kept firm; New Zealand selling at \$9.50 per 95-lb. crate; Spanish at \$4.50 per half case, and Yellow Danver at \$8 to \$9 per 75-lb. bag.

Parsnips are very scarce at \$2.50 per bag.

Potatoes.—The potato market is quite firm again; New Brunswick Delawares were practically off the market the past few days; the few offered bringing \$3.75 per bag; some choice quality Westerns bringing \$3.50 per bag, and Ontarios \$3.25 per bag.

Radishes continued to be shipped lightly and were a quick sale at 50c. per dozen bunches.

Turnips declined slightly, selling at 90c. per bag.

Montreal.

The offerings of cattle on the local market during the past week included some fine stock for the Easter trade, which brought 12c. and more per lb. This was for fancy. Choice steers sold generally at 11½c. to 12c. per lb., while good ran all the way down to 11c. Some steers were offered as low as 9c., but the quality was very ordinary. Butchers' cows ranged in price from 8c. to 10c., while bulls ranged from 8½c. to 10½c. or 11c., overing poor to finest. The delivery of calves was quite large, and there was an active demand both for local and out-of-town trade. In addition, the United States was in the market and purchased quite a few animals. The result was that the market was firm, and milk-fed stock sold at 8c. to 12c. per lb., while common stock brought 5c. to 7c. per lb. Spring lambs were still very scarce, but some were purchased at \$12 to \$15 each. Some old sheep sold at 9½c. to 10½c. per lb. The market for hogs was rather easier, and selected lots changed hands at 16½c. to 16¾c. per lb.

Horses.—The demand for carters was moderately active, and it is understood that the British Government is once more in the market for artillery and cavalry horses. Prices continued as heretofore, as follows: Heavy draft horses, weighing 1,500 to 1,700 lbs., \$200 to \$250 each; light draft horses, weighing 1,400 to 1,500 lbs., \$150 to \$200 each; small horses, \$100 to \$125 each; culls, \$50 to \$75; choice saddle and carriage horses \$200 to \$225 each.

Poultry.—The poultry market was very dull, although the Easter demand contributed somewhat to activity. Prices were about steady at 26c. to 30c. per lb. for turkeys; 22c. to 27c. for chickens; 10c. to 21c. for fowl and geese; 19c. to 21c. for ducks.

Dressed Hogs.—This market was not

affected by the Easter trade to the same extent as was the market in fresh meats. At the same time, there was some extra demand. Prices continued steady to a shade firmer, at 22½c. to 23c. for fresh killed, abattoir-dressed stock.

Potatoes.—There was a slightly better demand for potatoes last week, and the market held firm, being somewhat higher for Quebec stock. Green Mountains sold at about \$3.15 per bag, while Quebec whites were \$3, and reds \$2.75 per bag, of 80 lbs., ex-store.

Maple Syrup and Honey.—New crop syrup was in good demand and was quoted at \$1.25 to \$1.40 per 13-lb. tin; 8-lb. tins are 95c.; 10-lb. tins, \$1.05. Sugar sold at about 14c. per lb. Honey showed little change, being 15c. per lb. for white clover comb; 12c. to 12¼c. for brown clover or white extracted; 11c. for brown extracted, and 10c. for buckwheat honey.

Eggs.—The Easter trade, as usual, brought about a slight advance. As much as 42c. per dozen was obtained, but the market afterwards fell back to 40c. Demand was very active, and offerings of finest quality were moderately large.

Butter.—The Easter trade was productive of an active demand in the butter market, and as supplies were still limited prices continued fairly steady. Finest held creamery was quoted at 43c., while fine was around 42c.; winter makes sold at 41c., and undergrades at 40c., while dairies ranged from 36c. to 38c.

Grain.—The grain markets were quite strong throughout during last week. Oats advanced, and No. 2 Canadian Western were quoted at 78c. per bushel, ex-store. No. 3 Canadian Western and extra No. 1 feed were 76c. per bushel; No. 1 feed, 75½c., and No. 2 feed, 74½c. ex-store. American corn was quoted at \$1.40 to \$1.43, and Manitoba feed wheat was \$1.25 to \$1.30. May wheat at Chicago sold up to \$2.06 per bushel. Beans were steady at \$7.50 to \$7.75 per bushel for Canadian hand picked; \$7 to \$7.25 for 3 lb. pickers; \$6.50 to \$6.75 for 5 lb. pickers; \$6 to \$6.25 for 6 to 7 lb. pickers.

Flour.—The market for Manitoba flour advanced 30 cents per barrel, owing to the strength of wheat, and the quotation was \$10.40 per barrel for first patents, in bags; \$9.90 for seconds, and \$9.70 for strong bakers'. Ontarios were \$8.70 to \$9 per barrel, in wood, for 90 per cent. patents, and \$4.20 to \$4.35 per bag.

Millfeed.—Prices of millfeed continued firm but steady, with sales of bran at \$36 to \$38 per ton, in bags; shorts, \$39 to \$40; middlings, \$41 to \$42; mixed mouille, \$45 per ton; and pure grain mouille, \$48 to \$50.

Hay.—The market was steady and demand was good. No. 2 hay was quoted at \$13.50 per ton; No. 3 was \$12 to \$12.50 and clover mixed, \$11 to \$11.50, ex-track.

Seeds.—Demand was good at \$7 to \$12 per 100 lbs. for timothy, on track, Montreal, Government standards 3, 2 and 1; \$20 to \$25 for red clover; \$15 to \$25 for alsike.

Hides.—Spring lamb skins were 25c. each and sheep \$3.90 each; calf skins were 42c. and 40c. per lb. Beef hides 20c., 25c. and 24c. per lb. Horse hides, \$7.50 each; tallow 3c. to 5c. per lb. for rough, and 8c. to 9c. for rendered.

Buffalo.

Cattle.—Prices on good cattle at Buffalo last week were advanced from a big quarter to forty cents, and the demand was strong. Best shipping steers offered ranged from \$11.75 to \$12.25, and the best handy weight steers from \$10.50 to \$11.50. All classes of steers moved readily. On fat cows and heifers a strong trade prevailed, fancy heavy fat cows selling up to \$9.50 to \$10.50 for the Jewish holiday demand. Stockers and feeders brought firm prices, best feeders ranged up to \$8.75 to \$9, the latter being good weight kinds. Bulls of all classes sold high and were a quarter above the previous week. Milk-cow and springer trade was unchanged. Few of the latter are coming to the market, and a larger supply would produce a better demand, as the eastern dealers show little disposition to take hold unless the runs are in sufficient number to interest them. Offerings for the week totaled 4,000 head as against 4,675 head for the previous week, and 4,125 head for the corresponding week last year. Quotations:

Shipping Steers.—Choice to prime natives, \$11.50 to \$12.25; fair to good, \$10.50 to \$11; plain, \$10 to \$10.25; very

coarse and common, \$9.50 to \$9.75; best heavy Canadians, \$11 to \$12; fair to good, \$10 to \$10.50; common and plain, \$9.25 to \$9.75.

Butchering Steers.—Choice heavy, \$11 to \$11.50; fair to good, \$10.25 to \$10.75; best handy, \$10.50 to \$11; fair to good, \$10 to \$10.25; light and common, \$9 to \$9.50; yearlings, prime, \$11.50 to \$12; fair to good, \$10.25 to \$11.

Cows and Heifers.—Best heavy heifers, \$9.50 to \$10; best butchering heifers, \$8.75 to \$9.25; fair butchering heifers, \$8 to \$8.50; light and common, \$6.50 to \$7.50; best heavy fat cows, \$9 to \$9.50; good butchering cows, \$7.75 to \$8.50; medium to fair, \$6.50 to \$7.50; cutters, \$5.75 to \$6; canners, \$4.50 to \$5.50.

Bulls.—Best heavy, \$8.50 to \$9.50; good butchering, \$7.75 to \$8.25.

Stockers and Feeders.—Best feeders, \$7.50 to \$8.50; common to fair, \$6.25 to \$7; best stockers, \$7 to \$7.50; common to good, \$6 to \$7.

Milchers and Springers.—Good to best, in small lots, \$90 to \$110; in carloads, \$75 to \$85.

Hogs.—Prices were lower the first half of last week, but after Wednesday the market reacted, and before the week was out buyers were paying record prices.

On Monday the top was \$15.95, while bulk of the sales were \$15.70; Wednesday was the low day, when nothing sold above \$15.75 and majority landed at \$15.50 to \$15.60; Thursday best hogs were jumped to \$15.90, and Friday all previous records were broken, when one deck made \$16.25, and bulk of the York-weight grades landed at \$16. The fore part of the week good pigs sold from \$12.50 to \$13, with light ones as low as \$10, and before the week was out, or on Friday, best pigs sold up to \$14 and \$14.25. Roughs sold from \$13.75 to \$14.25, and stags \$12.50 down.

Last week receipts were 18,600 head, as against 23,871 head for the week before, and 23,500 head for the same week a year ago.

Sheep and Lambs.—Last week started with top lambs selling generally at \$15.50, and the next few days values were strong. Tuesday's top was \$15.60; Wednesday several loads made \$15.75; Thursday bulk moved at \$15.85, with one load \$16, and Friday practically all of the choice handy lots sold at \$16. Cull lambs sold well, bringing up to \$15.50. No sheep were here and prices on these were quoted as high as any previous time in the history of the trade. Clipped lambs sold at \$2.50 to \$3 per cwt., under the wools, showing the same weight and quality.

Receipts last week were 10,800 head, as against 15,998 head for the week before and 17,800 head for the same week a year ago.

Calves.—Trade was good the first three days of last week. Monday bulk sold at \$16; Tuesday and Wednesday the majority went at \$15.50; Wednesday prices were lower, top going at \$14.50 and \$15, and Friday the bulk landed at \$14.75. Cull grades brought up to \$13.50 the past week, but on Friday they could not be placed above \$13. Offerings last week aggregated 4,550 head, as compared with 4,306 head for the week before, and 3,725 head for the same week a year ago.

Chicago.

Cattle.—Beeves, \$9.25 to \$13.15; stockers and feeders, \$7.25 to \$10; cows and heifers, \$5.60 to \$11; calves, \$9.25 to \$13.75.

Hogs.—Light, \$15.05 to \$15.95; mixed, \$15.35 to \$16; heavy, \$15.25 to \$16; rough, \$15.25 to \$15.40; pigs, \$11.25 to \$14.75.

Sheep.—Lambs, native, \$11.75 to \$15.50.

Cheese Markets.

Montreal, finest westerns, 26½c. to 27c.; finest easterns, 25½c. to 26c.; New York, specials, 24¾c. to 25½c.; average fancy, 24¾c. to 25c.

Sale Dates.

April 26.—J. E. Arnold, Grenville, Que.; Holsteins and horses.

May 8.—Southern Ontario Consignment Sale Co., Tillsonburg, Ont.; Holsteins.

May 9.—The York County Holstein Friesian Breeders' Club, at Richmond Hill; Holsteins.

May 23.—A. C. Hallman, R. 2, Breslau, Ont.; Holsteins.



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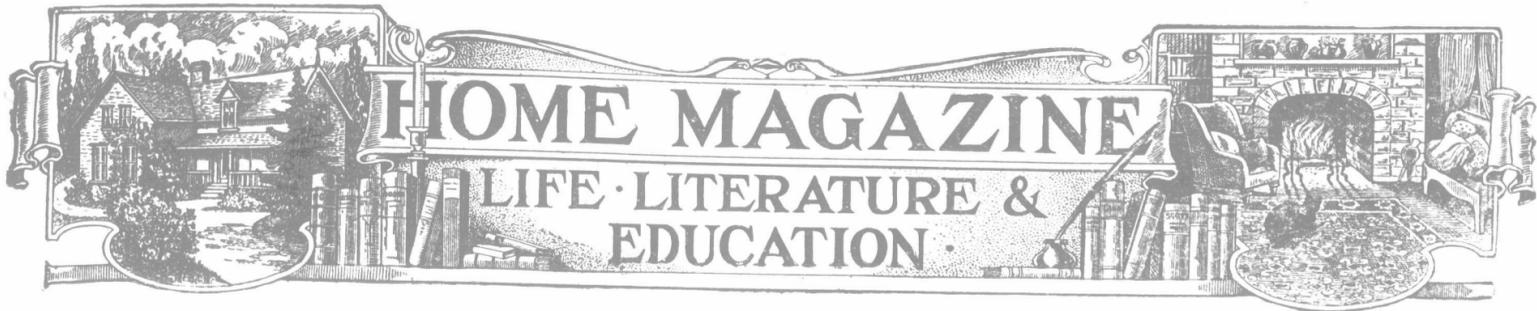
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"It's everybody's business, in this world of ours, To root up all the weeds we find, To make room for the flowers; So that every little garden, no matter where it lies, May look like the one God made, And called it Paradise."

Flower Garden Talk.

The Long Border.

Except in a very small garden devoted entirely to bedding, flower-beds have been regarded as somewhat in bad taste of late years, their place having been taken by "borders," that is by long strips of flowers along walks, or fences, or on the edges of the lawn.

Needless to say a border must be a worth-while one, if it is to look worth the trouble. The plants must be luxurious, and their foliage should be as attractive as possible during the whole summer; roses, which are only attractive when in bloom, are very poor border shrubs, with the exception of the hardy hybrid perpetuals which are long bloomers.

The border may be of shrubs, planted irregularly, unless the situation seems to demand a straight line; or it may be of perennials alone, or perennials and annuals mixed. If of shrubs a good variety will be found in the following: Forsythia or golden bells (yellow) and Japonica (red and pink) for early bloom; weigelia (pink) and flowering almond to follow; then smoke bush, flowering currant, and honeysuckle bushes; with garden hydrangea for fall, and barberries and red-twigged dogwood for winter beauty.

If the border be of perennials and self-sowing biennials, which are practically perennial, choice will be found in this list: hollyhocks, foxgloves, perennial phlox in all colors, perennial larkspur, Russian sunflower, tiger lilies, June lilies, Oriental poppies, with all the bulbs for early blooming, and salvias and cosmos (both annual) for late fall. Speaking of late fall one must not forget the fall anemones, white and pink, most beautiful, perhaps, of all.

A border of annuals gives endless opportunity for variety in species—also for endless work, as annuals require much more coddling than perennials, that grow year after year.

Whatever be chosen, the border should present an attractive appearance from spring until fall, and there should be flower surprises at all times, from the crocuses and scillas of early spring to the last scarlet dash of salvia in the late autumn. Always the tallest plants should be at the back of the border, or center if the border is exposed to view from both sides. If an edging is wanted it may be of feverfew, dusty miller or sweet alyssum, which is, perhaps the best of all. Study the color combinations, and use plenty of white to separate wherever there seems danger of a clash.

The Rock Garden.

As a rule rockeries and rock gardens are to be avoided, as, unless when well managed, they are likely to be hopeless failures, the plants scraggly and starved looking, and the rockwork wholly extraneous to its surroundings. But occasionally there is a garden-situation that is naturally so rocky that nothing but rock-gardening will do. Here rockwork borders may be built up to heart's desire, the only requisite being to remember that deep pockets of rich earth must be provided if the luxuriance of growth that is necessary is to be expected.

Vines are always delightful on stone-work, whether on stone fences or rockwork borders. Perennial peas are good, also the climbing bittersweets of the woods, including the species whose flowers resemble those of the potato plant

in form although purple in color, and are followed by clusters of bright, orange-red berries. Partridge vine and ferns (rock ferns) also cover well, while live-forever will thrive in the driest situations, and moss pink, rock cress, and alyssum in the pockets.

The Damp Spot Garden.

In many gardens there is a damp spot, which sometimes affords a problem. But it need not. Plants that will grow in any damp place in the woods or marshes will grow here—wild iris, turtle head, cardinal flower, blue vervain, gentian,

surprised at the variety you will have. In early spring there will be the hepaticas, little pink-striped "May-flowers" or "spring beauty," yellow dog's tooth violet with its brown mottled leaves, and snowy bloodroot. A little later, even so close as to overlap somewhat, will come the trilliums, white and red; Solomon's seal with its graceful drooping sprays; dainty white foam flower and bishop's cap; "twisted stalk" or bellwort with its pale, yellow drooping bells that look too shy to open up; and violets in all colors. Overlapping again will be the red columbine and the tiny pink wood's geranium,

they are found growing in the woods. You have no idea, unless you have already seen a wood-garden, what splendid effects may be achieved. One of the prettiest borders I have ever seen was made up of a solid mass of hepatica, behind which grew violets, then ferns mingled with dozens of varieties kidnapped from the woods and marshes and given protection at all seasons from browsing animals.

"But," you say, "how am I going to know these flowers? It is all very well to talk—but—"

To this the reply might be given that there are many books on the subject. One of the best for the home, also one of the cheapest in price (though not in quality) is published by Moffat, Yard & Co., Publishers, New York. Its name is "Who's Who Among the Wild Flowers," by Beecroft. It contains pictures of all the varieties described, also blank pages for notes and drawings, and costs only \$1.00. Its possession alone is sufficient to open a new world to those who are unacquainted with our wild flowers. A more elaborate book, which may also be highly recommended, is Alice Lounsberry's "A Guide to the Wild Flowers." It is beautifully illustrated in color—a perfect delight to own. The price may be obtained by writing to the publishers, Frederick A. Stokes Publishing Co., New York. Splendid pocket manuals on both birds and flowers are published by the Musson Book Co., Toronto.

The Old-Fashioned Garden.

Perhaps, when all has been said, there is no other kind of garden which appeals to as many people as the old-fashioned garden, the one that contains all the dear old blooms beloved by our grandmothers.

It will begin in spring with crocuses and daffodils—"daffydowndillies." Star of Bethlehem will be there too, bleeding hearts and Jacob's ladder, backed by tall hedges of lilacs, purple and white. Later in the season there will be sweet William hobnobbing with green leaves of sweet Mary, peonies—"piny roses"—Canterbury bells and foxgloves, little yellow bachelor's buttons and variegated cornflowers, marigolds in yellow and velvety brown, larkspurs growing with white June lilies, marvel of Peru and tall tiger lilies, not to speak of the sweet old cabbage roses and phlox in all colors.

Nor will the herb corner be forgotten, in which will grow horehound for cough candy, wormwood for liniments, with sweet-smelling thyme and lavender, summer savoy and sage for the Christmas goose.

Yes, it is a dear spot, this grandmother's garden, and well worthy the consideration of the flower-lover.

The Modern Garden.

If, however, one chooses to be very modern in gardens as in all other things, one may branch far out from this old-time spot, and all one needs to do to find the way is to send to some reliable firm for a seed catalogue. All growers nowadays make a specialty of novelties while keeping still a full selection of the old favorites. True, some of the swans exploited may be only geese, but as a rule species that are very highly praised are worth while; a reliable firm cannot afford to lose its reputation by recommending frauds. Speaking of the newer varieties—do you know the Darwin tulip? It is as much superior to the old stiff kind as the modern gladiolus is superior to the little old species from which the scientists have developed such wonders of form and color. And do you know the splendid single varieties of dahlias and peonies? They are very much prettier and more artistic than the old stiff, double kinds. So are the new Zinnias, richly gorgeous in coloring, superior to the old magenta horrors that some of us remember—and—but one scarcely knows where to stop. Study the catalogues.



A Rockwork Border—It is Covered with Vines.

ferns, orchids, meadow rue, with its feathery white bloom, even white-flowered arrowhead, if the soil be moist enough, to say nothing of blue violets by the thousand.

If you have a taste for exotics, even in the damp spot, then put in day lilies (white and yellow), lemon lilies, and a half dozen kinds of iris.

The Wild Flower Garden.

Perhaps there are tall trees about your garden, sturdy old trees that have cast

which also rejoices in the name "Herb Robert."

Later in the season the wild gardens may be gay with purple asters, scarlet bee-balm, clumps of golden rod, white boneset and its cousin the pinkish Joe Pye weed. All of these as well as the swamp flowers—blue gentian, golden ragwort, scarlet cardinal flower, pink moccasin flower, white anemones, and white meadow rue—grow best in a damp spot. Ferns may be found to suit any situation. Nor would one forget the wild vines,



Wild Flowers in the Home Garden—"Showy Lady's Slipper."

their leaves year after year until the soil has become black and rich like that of the woods. Then you have opportunities for a very interesting garden—that is if you love wild flowers, for the selection which we are about to suggest will not be showy.

Go up to the woods in spring and take up very carefully, so that plenty of earth adheres and the roots cannot dry out, basketfuls of the flowers that appeal to you. Plant them with loving care in your garden, adding to the collection as opportunity offers, and you will soon be

the bittersweets, wild grapes, and—prettiest of all—the wild clematis with its clusters of tiny white flowers, followed by the curious, silky tufted seeds which have given to the vine the quaint name "old man's beard," scarcely so poetical as the others by which it is sometimes known, "traveller's joy" and "virgin's bower."

There are many other flowers of the woods and swamps which will grow quite well in the shaded home garden, if a very simple rule be followed: Try to give all wild flowers the exact conditions in which

Noted Women.

Lady Warwick.

WHO FOUNDED AN AGRICULTURAL COLLEGE FOR WOMEN.

Lady Warwick is generally regarded as the most brilliant woman writer on social and socialistic subjects in the English-speaking world. Since the early seventies when, as a child—and a marvellously beautiful child—she was taken by Benjamin Disraeli to see Romeo and Juliet, she has been constantly before the public. Emperors, kings and princes have been among her close friends but this friendship has heightened rather than lessened her belief in republican forms of government. She herself says that when she was eighteen her moods were distinctly pessimistic. But when she became older, knowledge brought her new views of life and because of what she learned and by putting her experiences and knowledge to the best uses, she soon understood how to enjoy to the full the days that were given her. A few years ago she was asked by an American interviewer what she considered the best time of life and she replied: "Always after the age of thirty. Better than that, after forty. The very best time is fifty—which is my age."

Her Castle.

Before her marriage Frances Evelyn Warwick was Miss Maynard, generally considered the most beautiful girl in England. Her grandfather was the last Viscount Maynard, her father dying before the viscount. She is a half-sister of the Duchess of Sutherland and the Earl of Roslyn. She married Lord Brooke in 1881, her husband succeeding to the Earldom of Warwick twelve years later. Lady Warwick herself has written the story of the famous castle in her book, "Warwick Castle and Its Earls" which makes fascinating reading. Warwick Castle stands high above the River Avon, a little less than a hundred miles from London. Within its massive walls are extensive lawns and gardens, the walls being flanked by towers measuring one hundred and seventeen feet in height. The view from the castle along the Avon, with its deeply wooded banks, is one of the most beautiful in England. The castle was the scene of a fire in 1871, but the Great Hall and the other apartments which suffered were restored. For many years the castle was involved in England's early wars. It was strengthened after the Norman Conquest, and much of the pile as it stands to-day is of more recent date than the Battle of Hastings. The first Castle of Warwick dates back to the time of Ethelfreda, daughter of King Alfred. Henry III made the castle his headquarters in the wars against the barons, while Edward IV was imprisoned there. Other sovereigns have been more hospitably entertained within its walls. Queen Elizabeth was one of these, magnificent pageants being arranged for her special edification.

"The Radical Countess."

In 1899 Lady Warwick became a socialist, and since then has well earned her title of "the radical Countess." In one of her campaigns she toured England in a motor car and delivered speeches in some forty-five parliamentary districts in which representatives of organized labor were offering themselves for election and at the same time she was speaking for the state education of children and adult suffrage—she is a tireless organizer and a brilliant speaker. Some years ago she founded an agricultural college for women, and the demand for its graduates has always been larger than the supply. She also helped to form the Anti-Dress League, members of which pledged themselves to have, besides one tea gown, only two dresses a season, one for day-wear and one for evening. Lady Warwick is still one of the most gifted and attractive women in England. Distinguished as a painter, a musician and an author, she was in her youth an intrepid rider to hounds, a four-in-hand whip and has always been a sparkling conversationalist. To-day, although she probably no longer rides to hounds or tools a coach, she is a dominating figure in the social life of Great Britain and a trenchant writer on all subjects which call for reform. *The Bookman.*

Hope's Quiet Hour

The Quest of the Soul.

Art thou he that should come, or do we look for another?—S. Matt. 11:3.
What is truth?—S. John 18:38.

"But I have always had one lode star,—now, As I look back, I see that I have halted Or hastened as I looked towards that star, A need, a trust, a yearning after God."



The Old-fashioned Garden—Foxgloves on the Right, Phlox on the Left.

We belong to a "Christian nation"—so-called—but that fact does not make anyone a Christian. In this matter each soul must stand alone, for the kingdom Christ desires is a spiritual kingdom. He could never be satisfied to reign, in outward seeming only, over a great kingdom—like the emperor of Russia, who fell so precipitately from his lofty position. The outward greatness of the Christian Church is not a vital thing. The church is rich and powerful to-day, as compared with the church of the early days of our era; but is the love of Christ the inspiring force of everyday life to-day? Is our business in life—from

Sunday morning to Saturday night—to do His will?

I firmly believe that St. Augustine's oft-quoted saying (about the soul of man being always restless until it rests on God) is a truism. Restlessness is a very common symptom of our generation, and it is the natural result of want of faith. But there are two kinds of doubters, two widely-different classes of questioners; as our two texts tell us. St. John the Baptist's question: "Art thou he that should come, or do we look for another?" was a vital matter. On the answer depended all his hopes. He had proclaimed his Kinsman as the real Sacrifice, the Lamb God had provided

Jews to agree to the release of One whom he many times declared to be innocent. He was weakly "pleading", when—as he himself acknowledged—he had in his own hands the "power to release"—which he could not do. He wanted to do the thing which he plainly saw to be just and right, but he did not set the whole force of his will in that direction. If he could set this blameless prisoner free, without incurring danger or unpleasantness himself, he would gladly do so. But his heart was not set on righteousness as the first necessity of existence. He did not grasp the fact that to gain any worldly advantage, in exchange for his own soul, was to make a mad and desperate bargain.

How could he, how dared he wait for the answer to his question?—an answer he had not made up his mind to obey.

Many who read these words are in a state of restless uncertainty and perplexity. Though they live in a Christian country, though they—perhaps—"say their prayers" every day, though they go to church regularly and say nothing to anyone about their doubts, yet they are swayed this way and that by their own moods or by the people they happen to be with. One day they feel pretty sure that the Christian religion is true. Another day they wonder whether it is all a mistake. Some people even venture to declare that it is impossible to find out the truth with any degree of certainty. They think, in contemptuous pity, that anyone who is sure that he has found the Living Christ is simply self-deceived. But such people are bound to be very restless. "No one can be sure of God!" they say; and then they see some really happy person, who is sure of God, and they find that their confidence in their own scepticism is shaky. They don't know God,—is that any proof that God cannot be known?

What is the best way to deal with what is called "honest doubt" in one's own heart? Is it wise to crush it out of sight, to refuse to face it?

If you do that you are not honest. It is not honest to pretend a thing is not there when you know it is there. And it is not safe. The doubt which is not faced is not cured. It may grow until it has slowly choked the higher desires of the spirit.

If we don't treat doubt as the Great Fore-runner of Christ treated it, we may one day be like Pilate, who did not want a true answer to his easy question: "What is truth?"

When John the Baptist was rejoicing in his free open-air life, when crowds were eagerly listening to the message God had put into his mouth, he had no doubts. But look at him as he sends that appealing question to Jesus! The strong young man is crushed beneath a load of undesired misery. Instead of breathing the fragrant air of the hills, he is gasping in a stifling and horrible dungeon. He had fearlessly denounced the wickedness of Herod and now he is suffering for his courage. The Kinsman he had so loyally served, whose shoe he had felt unworthy to touch, was going on His way in apparent forgetfulness of the helpless prisoner. Others were healed and cheered by the Prophet from Nazareth, but His friend and cousin was left, in loneliness and sadness, to wonder whether his faith had been a mistake after all. What did he do? Did he try to think of other things, and forget his doubts? How could he do that, when the matter was vital? It was either Christ or despair. So he sent that trustful message which was gently and fully answered: "Art thou He that should come?" I say it was a "trustful" message, because he seemed so sure that it would be truthfully answered. When men had come to him with the same question, he had answered "No". If Jesus should answer "Yes", he would know all was well. Even His enemies knew that Jesus would not tell a lie to save His life.—S. Matt. 22:16.

The answer was reassuring, showing the perplexed prisoner that Jesus was exercising Divine power and love. If he still had to suffer, it was not because love and power were wanting but for some hidden reason. In the confidence of mighty faith he could wait until death should scatter the mists of earthly perplexity.

Now, how are you to deal with the doubts that sometimes trouble you? Take them straight to Christ, with the strong purpose of following the Truth



Lady Warwick and Her Son.

when it is to do the whether —S. John Pilate adopt th If unrig expedient justice, ly—cond ful death no matte in conseq Such a see the V heard a find the If you —if you matter as What can whole wor Those persistent find it. I double qu self the r Shepherd. He finds i speak to He is mo speak. Are any for earthly I don't un be; becau great mys What lies The "athe beyond it; that states say that n God. Is he tried to fi set to do H No one remember t unless you are the pu see God". of the soul sin, and ex them. Let ever truth take o to find want and Friend and persiste

"But in th My window Dear God! and pra And it suffic

The

Alexander telephone, M engineer of presented las with the Cis for distinguis

A Russian, article in Th revolution in most crushing cracy of Rus Germany as government other for one must of r of the other. ably rest assu will not await to receive 'ed of their reacti near future t hands by fo fatherland in Russians have

Portland, O "Rose City" tion give to th flower. Each held, and last roses were us the homes, " It is a pretty io certain flower district.

Kill Flie The large f spring are lema every one of t house or stabl

when it is made clear. If any man willeth to do the Will of God, he shall know whether Jesus is He that should come.—S. John 7:17.

Pilate willed to do his own will, to adopt the worldly maxim of expediency. If unrighteous conduct seemed more expedient than the straight path of justice, then he would—though unwillingly—condemn the innocent to a frightful death. He willed to save himself, no matter what wrong others might suffer in consequence.

Such a dishonest doubter could not see the Vision of God. Only a single-hearted seeker after righteousness can find the Truth.

If you are restless and doubtful, don't—if you value your soul!—push the matter aside as lightly as Pilate did. What can it profit a man to gain the whole world and lose himself?

Those who earnestly, honestly and persistently seek to know Truth shall find it. For the quest of the soul is a double quest. The One sought is Himself the most determined Seeker. The Shepherd seeks His straying sheep until He finds it. God is far more desirous to speak to us than we are to hear Him. He is more ready to hear than we to speak.

Are any souls satisfied to live only for earthly and passing things? God knows I don't understand how such a thing can be; because, right ahead of us, is the great mystery which we call "Death". What lies beyond that veiled gateway? The "atheist" may say that nothing lies beyond it; but he can offer no proof of that statement. The "agnostic" may say that no one can know anything of God. Is he quite sure that he has honestly tried to find God—tried, with purpose set to do His Will when found?

No one can find God for you. But remember that it is useless to seek Him unless you are prepared to obey. "Blessed are the pure in heart: for they shall see God". We cannot soil the windows of the soul, by indulging in any wilful sin, and expect to see clearly through them.

Let every pure-minded seeker after truth take courage, for the God he longs to find wants to be his closest Companion and Friend. One, who had earnestly and persistently tried to find God, wrote:

"But in the evening as I sat alone, My window open to the vanishing day, Dear God! I could not choose but kneel and pray, And it sufficed that I was found of Thee." DORA FARNCOMB.

The Windrow

Alexander Graham Bell, inventor of the telephone, Mr. Edison, and Col. Goethals, engineer of the Panama Canal, were presented last week by the United States with the Civic Forum's medal of honor for distinguished public service.

A Russian, G. J. Sosnowsky, in a recent article in The Independent, refers to the revolution in Russia as follows: "It is a most crushing blow not only to the autocracy of Russia, but to the autocracy of Germany as well. Those two absolute governments have been upholding each other for centuries, and the downfall of one must of necessity shatter the prestige of the other. . . . We may unquestionably rest assured that the German people will not await the end of the war in order to receive 'equal rights' from the hands of their reactionary ruler, but in the very near future they will take in their own hands by force the destiny of their fatherland in the same manner as the Russians have done."

Portland, Oregon, is known as the "Rose City" because of the specialization given to the growing of this beautiful flower. Each June a Rose Festival is held, and last year more than 20,000,000 roses were used for the decoration of the homes, "floats" of the parade, etc. It is a pretty idea—this specialization of a certain flower in a village, town, city or district.

Kill Flies in Early Spring.

The large flies that appear in early spring are females laden with eggs. Kill every one of them that comes into the house or stables. They lay myriads of

eggs, preferably in stable manure, if they can get at it. These soon hatch into maggots which develop into flies, and so the endless chain of fly-creation in summer begins. Flies are always filthy, and are a prolific source of disease-carrying.

Current Events.

Enlistments in Canadian Expeditionary Forces to the end of March totalled 407,302.

Fifty thousand sledges are carrying convicts back to freedom from the snowy wilds of Siberia. They are taken to the nearest points on the Trans-Siberian railway where they are entrained for home. Most of them were exiled for political reasons, and many were highly educated. They are said to be returning shaggy and uncouth, and in many cases emaciated. As they arrive at the stations they are cheered by the crowds.

The American steamer Aztec was torpedoed and sunk off the coast of France on April 1st. The Brazilian steamer Parana was also sunk, and Brazil is threatening to declare war on Germany.

On April 2nd, in an extraordinary season of Congress at Washington, President Wilson, in a speech said to have been one of the finest and most telling utterances ever made to Congress, stated that the lawlessness of Prussian autocracy had virtually declared war against the United States, which must therefore accept the status of belligerent. Two days later the Senate passed the war Bill by an overwhelming majority, and on April 6th the President signed the joint war resolution of both branches of Congress. The news was received with the wildest acclamation in every part of the United States, and at once the German vessels in the ports, 91 in number, totalling a value of \$126,540,000, were seized.

The United States will at once provide 500,000 men by conscription, the number to be increased as needed to 1,000,000. Unlimited money will also be voted for the prosecution of the war against (in President Wilson's words) "the enemy of the world's liberty and democracy".

Bad weather has hampered somewhat the war operations in Europe, but reports of two advances have been received. Gen. Nivelle's forces have made gains in the vicinity of Rheims, and the British have taken another large salient near St. Quentin. At time of going to press the greatest aerial battle since the beginning of the war is in progress, with the advantage greatly on the side of the allied airmen.

The Dollar Chain

A fund maintained by readers of The Farmer's Advocate and Home Magazine for the soldiers and all who are suffering because of the war. Contributions from March 30th to April 5th.

"Helper", \$5.00; "Toronto", \$2.00; I. H. G., \$1.00; Dorothy and St. Clair, \$1.25; Robt. Cox, R. 3, Milton, Ont., 50 cents; Ladies Aid of Siloam Church, London Tp., \$10.00.

For Byron Military Hospital: Florence and Norah Petty, R. 2, Hensall, Ont., \$5.00; R. W. Asselstine, Marlbank, Ont., \$2.00; Oakdale "Jack Canuck" League, Florence, \$30.00; "Scotia", London, Ont., \$1.00; Miss D. Boskill, Ross Mount, Ont., \$1.00.

We have now on hand for the Byron Military Hospital \$259.50, leaving \$240.50 still to be added.

Total amount previously acknowledged \$4,253.00

Total amount to April 5th \$4,311.75

A Letter from the "Jack Canuck" League.

It is with great pleasure that we publish a letter from the Secretary of the Oakdale "Jack Canuck" League, R. R. 3, Florence, Ont.

EDITOR "THE FARMER'S ADVOCATE": In our school we have organized a Patriotic Club, and have been working during the winter to help "Our Boys". Last week the club gave a concert and wish to send part of the proceeds in aid of the Byron Hospital. The enclosed amount (\$30.00) is our donation to this worthy cause.

Helping our "mite" will do a little good and wishing your efforts every success we are,

Very truly yours,
The Oakdale Jack Canuck League
(Miss ADA THOMPSON, Sec.-Treas.)

The Psalm of the Country Woman.

BY HELEN CHRISTINE BENNETT.

I am a country woman,
When the sun shines, my pulses beat with gladness.
At night, when I have ceased my labors,
I look upon the stars. When I see the myriads shining above me—each, perchance, a world as my own—I know that life is not futile nor finite.

I cannot count the stars, there are so many. How then can I hope to grasp infinity?

The sting of Death has touched me, but altho it has robbed me of a Presence, yet may I rejoice.

For every Spring I see again the miracle of resurrection. I have planted the tiny seed and have guarded its growth until I have the tiny seed within my hands again. So I comprehend dimly a cycle that has neither beginning nor end.

By day I work with my hands and under them I see transformed the sustenance of life.

It is good to see butter come gold in the churn.

There are those who come from the places where many dwell, from the cities where these things are not. Such say to me,

"Is not life here monotonous?" I smile within my secret self to hear them.

For they know not of the drama that is held in producing the means of life, the never-ceasing battle waged with Nature, nor of the joy of victory.

The wild carrot grows by my doorstep. I have seen it countless times, yet ever is it a thing of exceeding beauty.

And it is but one of uncounted beauties about me.

The air is sweet.

The arms of my mate are strong.

My children, brown under the sun-kiss, discover each day new wonders in the fields and woods.

I have pity for the blindness of those who thus speak to me.

For I have known the fulness of life and my eyes can see.—Pictorial Review.



The Duma which Carried Out the Revolution in Russia.

International Film Service.

The Fashions.

How to Order Patterns.

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

See under illustrations for price of patterns shown in this week's issue.

When ordering, please use this form—Send the following pattern to:

Name.....
 Post Office.....
 County.....
 Province.....
 Number of Pattern.....
 Age (if child or misses' pattern).....
 Measurement—Waist..... Bust.....
 Date of issue in which pattern appeared.....



9347 Box Plaited Blouse 34 to 42 bust. Price 15 cents.

9378 Corset Cover, 34 or 36, 38 or 40, 42 or 44 bust. Price 10 cts.

9348 Skirt with Box Plaits, 14 to 32 waist. Price 15 cts.

9361 Five-Cored Petticoat, 26 to 36 waist. Price 10 cts.

9362 House Gown, 34 or 36, 38 or 40, 42 or 44 bust. Price 15 cts.

9369 Girl's Dress 10 to 14 years. Price 15 cts.



9350 Dress or Apron 34 or 36, 38 or 40, 42 or 44 bust. Price 15 cts.

9314 Two-Piece Skirt 24 to 34 bust. Price 10 cts.



9356 Collars for Coats or Dresses one size. Price 10 cts.

9354 Boy's Reefer, 4 to 12 years. Price 10 cts.



9247 Four-Gored Skirt, 24 to 32 waist. Price 15 cts.

9346 Boy's Norfolk Suit 8 to 14 years. Price 15 cents.



9357 Girl's Dress 10 to 14 years. Price 15 cts.

9325 Gathered Skirt with Front Folds 24 to 32 waist. Price 15 cts.



9368 Dress, sizes 16 and 18 years. Price 15 cts.

9328 Girl's Dress 8 to 14 years. Price 15 cts.



9363 Child's Paplan Coat, 4 and 6 years. Price 10 cts.

9360 Child's Empire Dress 4 to 10 yrs. Price 10 cts.



9361 Sailor Dress 10 to 12 years. Price 15 cts.

9340 Girl's Dress, 8 to 14 years. Price 15 cents.

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.]

Dorothea and I were talking, the other day, about a strange peculiarity in Browning's eyes. I may quote the passage about it, for you, as given in Prof. W. L. Phelps' new book, "Browning and How to Know Him":—"Browning's eyes were peculiar, one having a long focus, the other very short. He had the unusual accomplishment (try it and prove) of closing either eye without 'squinting,' and without any apparent effort, though sometimes on the street in strong sunshine his face would be a bit distorted. He did all his reading and writing with one eye, closing the long one as he sat down at his desk. . . . When he left the house to go for a walk, he shut the short eye and opened the long one, with which he could see an immense distance."

—Perhaps typical of the true poet-nature, that—a singleness of vision for the little near things of life, nothing trilling everything of tremendous importance—another singleness of vision for the far-away things, the great, vast truths of the Universe whose outer rim can be touched by the sight that can see far enough, and that hopes to see more and more as the days and years go by.

We had been talking about this, and Dorothea went on to tell about a friend of hers who is very "short-sighted." When this friend was a little girl the deficiency was not noticed for some years, then, one day, someone discovered it and correcting glasses were bought. Immediately there was a great revelation. Far things became near; many things became visible that had been all but invisible. To this day the memory remains of the wonder and joy with which the new vision came.

It is just the same, isn't it? with the mental vision. We are in a rut of thinking and seeing; perhaps it seems, at times, that there is not much that is very interesting in the life that is for us. Then, one day, a flash comes; someone or something has adjusted glasses that give a new vision, and at once everything is transformed. The inspiration that has come may be a great new affection, a clear vision of something that can be done, a new hope when things have been hopeless,

a new interest where things have become dull. It does not matter. The fact remains that vision has been broadened. We can see further, clearer than before, and the inkling comes to us that Eternity may just be a succession of new seeings.—Interesting, isn't it? And, doesn't the revelation seem to make life worth living? It does not matter how things seem to be marking time now,—change, new vision must sometime come. And again and again forever, for to be here at all means Purpose and Growth. No doubt to-day we have not the slightest inkling of the things we shall yet see and know.

It is a great mistake for people who have reached middle life to sit back and cease making effort. Last week I had the opportunity of talking with two women, both past middle life, who were a real lesson in this respect. Both of them, by the way, live in Toronto, and the children of both are grown-ups, so that time for doing things outside of attending to the wants of little ones, has again come: One of them, at the age of fifty-two, began to take lessons in sculpturing—at the new Technical School, by the way, which is so well known to Women's Institute delegates to Toronto, because of the conventions held there. Already she has completed several pieces—copies in clay of the "winged victory of Samothrace," busts, and a few figures from life. She is intensely interested, and has found that the venture has opened a new chapter in life.

The other of whom I have spoken, the wife of Professor Ballantyne of Knox College, has begun to compose music, so successfully, too, that the attention of the musicians of Toronto is being attracted, some of them taking up her compositions for public entertainments. I have told you her name, because the profits of her patriotic songs are being devoted to Red Cross purposes, and, if any of you are on the lookout for music of this kind I want to direct your attention to her, and, in particular, to one of her songs, "The Call We Must Obey." Price 50 cents. Her address is 262 St. George St., Toronto.

Mrs. Ballantyne, who is a finished musician, played this for me, and I feel that I can cordially recommend it. "I wanted to do something for the Red Cross that would be of my best endeavor," she said, "and so I began to write these songs and set the music to them."

It seemed quite wonderful to me, and yet quite natural too, to see these women beginning to do things at an age when so many people begin to feel that they should "stop work and rest." Surely they are on the right track. To rest overmuch most certainly means to rust, no matter what age one has reached.—And who wants to rust?

Not all, perhaps, can begin with the fine arts as have these two of whom I have spoken, but there is no one who has not some gift or liking for some especial work. With the lull of middle age may come the great opportunity, and so life may be made to take on a new lease, and the enthusiasms of youth may come back. JUNIA.

A Letter of Thanks From Northern Ontario.

Dear Junia.—I am writing in behalf of St. Luke's Guild, Hanbury, to thank the many friends who assisted us to clothe our people who suffered from the fire of August 22nd.

When I appealed to you for help I had no idea of the amount of clothing that would be sent, but we have helped all whom we could reach. I have tried to write to each donor personally, but find my letters have not reached quite a few. I hope they will see this. All the parcels sent have, as far as we know, been received and distributed. I do not think any more is needed in this locality. I find also that there have been appeals sent out by individuals who were not sufferers from the fire for themselves.

I am only writing of the August fire section; the region burned over in July was greater than this; so there may be more need up there yet. I hope something can be done to control fire in future and save such terrible suffering. Some of our people suffered great hardships, both themselves and their stock, before they got suitable buildings, as the very wet weather began soon after the fire. Again thanking all who so generously helped us, I remain, yours sincerely,

MRS. J. C. LUSK.
 Hanbury, Northern Ontario.

Queries.

Can you give me name and address of some good hair dresser?

I have been bothered very much with dandruff. Can you tell me what is the cause of this, also can anything be done to this dandruff in order to stop it?

Can you give me any receipt for falling hair?

Would like to know the name of some good hair bleach.

Do you know of anything to make hair grow rapidly?

What education must a girl have to enter a hospital to train for nurse?

Would like to have receipt for a suet pudding, not adding any spices, so as the pudding will remain white, and also the receipt for Roly Poly Pudding. Thanking you in advance.

TOOTSIE.

Enquire in your nearest large town or city for address of someone who dresses and gives treatments for hair.

Try the following for dandruff: Wash the hair with Packer's tar soap and soft water once every two or three weeks, rinsing it well. Afterwards rub a little olive oil or vaseline into the scalp, massaging well with the fingers. If the treatment does not make the scalp healthy within a reasonable time try one of the dandruff removers sold for the purpose. Massage your scalp well every night until it is in aglow, and brush the hair well every night and morning. The massaging will help to keep the hair from falling.

Peroxide of hydrogen is used for bleaching the hair, but we strongly advise you not to use any bleach whatever. Bleached hair always looks artificial, and nice people regard it as in very bad taste.

You cannot make some hair grow rapidly, because it is not its nature to do so. Care, however, will do a great deal, and the use of a little olive oil (rubbed into the scalp, not rubbed upon the hair) if the scalp is dry and the hair harsh.

Educational requirements for nurses differ in different hospitals. Write to the Superintendent of the one you would like to enter.

Suet Pudding.—Take 1/2 lb. flour (2 small cupfuls), 1/4 lb. suet chopped fine, 1/2 teaspoon baking powder, a little salt. Mix flour, baking powder and salt thoroughly, add the suet, then make into a stiff dough with cold water. Dip a pudding-cloth in boiling water and flour it well. Put in the pudding and tie it up securely, leaving room for it to swell. Place in plenty of boiling water and boil 1 1/2 hours. Serve at once, very hot, with maple syrup or butter and jam.

Roly-Poly.—Take 3 small cups flour, 1/4 lb. suet chopped fine, pinch salt, 2 or 3 tablespoons jam, a small teaspoon baking-powder, cold water. Sift together the flour, baking-powder and salt, then mix in the suet and mix all to a paste with cold water. Roll out on a floured board into a long strip. Spread with jam to within an inch of the edge. Wet the edges, roll up the strip, press the edges together. Dip a pudding-cloth in boiling water, flour it well, then put in the roly-poly. Tie up the two ends securely and baste along the middle with thread. Place in boiling water and boil for 2 hours. Serve on a hot dish.

A nicely baked roly-poly can be made with ordinary pie pastry made not too rich. Spread with jam as above, roll up, brush over with milk and bake.

Cleaning a Panama Hat. To Remove Freckles.

There are hat-cleaners sold at the drug-stores for cleaning Panama hats. They look very well when scrubbed with a brush, ivory soap and soft water. Rinse with clear water to which a little glycerine has been added, and dry in the hot sun.

Lemon juice applied persistently will help to keep freckles and tan in check. "Scientific American" gives the following recipe for making a freckle remover: Borax, 2 ozs.; potassium chlorate, 1 oz.; glycerine, 4 ozs.; alcohol, 2 ozs.; rose water, 10 ozs. Add the alcohol last, filter and apply several times a day.

Peroxide of hydrogen is also a good bleach. If it irritates the skin apply a little warm water with boric acid and glycerine.

A home remedy is to mix together corn-meal, grated horseradish and buttermilk. Spread between thin muslin and place on the affected parts at night, leaving it on as long as possible and keeping it away from the eyes.

On which side of the book is YOUR cream separator?

ASK yourself this question, "Which will pay me better, (1) to buy an ordinary separator that costs, say, \$55.00, and loses a whole pound of cream to every 1,000 pounds of milk skimmed, or (2) to invest in the

Standard
SEPARATOR
Gets all but 1/10 pound of cream in 1000 pounds of milk skimmed

Ordinary separators lose a whole pound

in 1000 pounds of milk skimmed

Old pan-skimming method

Standard

—the separator that gets all but one-tenth of a pound of cream per 1,000 pounds of milk skimmed and costs, say, \$75.00?"

The answer is that with a Standard you save in one year, with twenty cows, no less than \$27.25. Here are the figures:

	Standard	Ordinary	Pan Skimming
First cost	\$ 75.00	\$ 55.00	
	7%	7%	
Interest	\$ 5.25	\$ 3.75	
Add Depreciation	3.75 (5%)	3.50 (10%)	
Add Loss in Cream	3.00	30.00	\$ 70.00
	\$ 12.00	\$ 39.25	\$ 70.00

Saving over ordinary separators, \$27.25. Saving over old pan-skimming method, \$58.00.

The Standard's close skimming is substantiated by tests made at Government Dairy Schools. The Standard soon pays for itself, not only by saving cream, but by its longer service capacity. That is why only 5% is figured above for depreciation in the Standard, and 10% for ordinary separators.

The Standard gives more years of service, due to its self-oiling system, which decreases wear and tear (all bearings run in a mist of oil), spindle shafts made of tool steel, instead of ordinary cold rolled steel, centre balanced bowl, etc., etc.

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	Per Bushel	Blossom	20c. & 22c. lb.
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Longfellow	3.25	Montana Grown No. 1	15.00
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Compton's	3.25	(almost No. 1)	\$23.00 to 25.00
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Rack cured in bags at 15c. per bus. less than in crates	2.00	North-West Grimm	25c. lb.
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Potatoes—Irish Cobbler	4.50	Goose Wheat	2.50
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Delaware	4.25	Rape (Dwarf Essex)	11c. lb.
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Wool Comforter.

I have a wool comforter and the wool is coming through the satin, so I decided to ask, through your columns, how the wool should be prepared to prevent this. I shall be very much obliged to anyone who can tell me this.

Palmerston, Ont. "JENNET."
Will someone who has had experience kindly answer this question for "Jennet?"

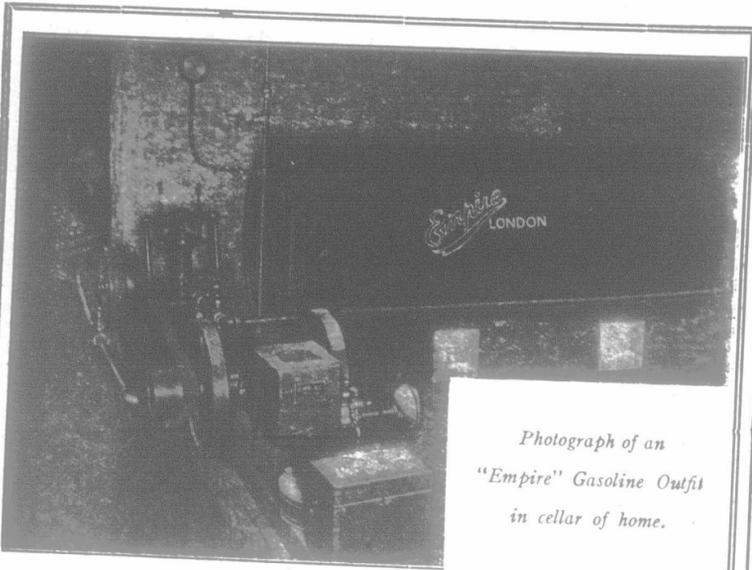
Things to Eat.

Pea Soup.—Take 1 pint split peas, 2 quarts water, a soup-bone or 1/4 lb. salt-pork, a slice of onion, pepper and salt to season. Wash the peas and soak them over night. In the morning drain, add the soup-bone or pork, the onion, water and seasoning. When it reaches the boiling-point, draw back and simmer until done.

Date Pie.—Two cups stoned dates, 1 lemon, 3 tablespoons sugar, 2 tablespoons milk, some butter and flour. Stone the dates and cut them into bits. Put with them the juice and grated rind of the lemon, the sugar, and milk. Fill a lower crust with this, sprinkle very lightly with flour, put bits of butter here and there, lay on an upper crust and bake.

Pineapple Mould.—Moisten 1/4 cup of cornstarch with a little cold milk, and add this with 1/4 cup sugar to 1 pint hot milk and cook for 20 minutes, adding also a pinch of salt. Remove from the fire and add the whites of 3 eggs beaten to a stiff froth. When stiff to mould, fold in half of a shredded pineapple. Turn into a mould and when firm serve cold with a vanilla sauce.

Fudge Cake.—One cup white sugar, 2 tablespoons cocoa, 1/4 cup butter, 1/4 cup boiling water, 1 egg, 1/2 teaspoonful salt, 1 teaspoon soda, 1/2 cup sour milk, 1 1/2 cups flour, vanilla to flavor. Filling (to be put between and on top



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Yours truly,

N. SANGSTER.

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of cake)—1 cup hot water, 1 tablespoon cocoa, $\frac{2}{3}$ cup sugar, 1 tablespoon cornstarch mixed in $\frac{1}{2}$ cup water. Cook until thick.

Mocha Cake.—One heaping tablespoon butter, $\frac{3}{4}$ cup sugar, 1 egg, $\frac{3}{4}$ cup milk, $\frac{1}{4}$ teaspoon salt, $\frac{1}{2}$ teaspoon vanilla, 1 cup flour, 1 teaspoon baking powder, 2 squares chocolate. Cream the butter; add sugar, yolk of egg, milk, salt, vanilla, the flour sifted with the baking powder three times, and the melted chocolate. Mix well and fold in the beaten white of egg. Bake in two small layers in a fairly hot oven. When cool put together with Mocha Filling.

Mocha Filling.—One cup confectioner's sugar, 1 heaping tablespoon butter, $\frac{1}{2}$ teaspoon vanilla, 2 teaspoons cocoa, 2 teaspoons strong coffee. Beat the sugar with the butter, add vanilla, cocoa and coffee, and mix to a soft paste. Add immediately to the layers, as it will harden.

Cocoa Icing.—One tablespoon cocoa, 1 tablespoon butter. Mix together, adding a very little hot water, then stiffen with icing sugar.

White Bread—Quick Method.

Two cakes of Compressed Yeast, 1 quart of lukewarm water, 2 tablespoonfuls of sugar, 2 tablespoonfuls of lard or butter, 3 quarts of sifted flour, 1 tablespoonful of salt.

Dissolve yeast and sugar in lukewarm water, add lard or butter, and half the flour. Beat until smooth, then add salt and balance of the flour, or enough to make dough that can be handled. Knead until smooth and elastic. Place in greased bowl, cover and set aside in a moderately warm place, free from draft, until light—about one and one-half hours. Mould into loaves. Place in well-greased bread pans, filling them half full. Cover and let rise one hour, or until double in bulk. Bake forty-five to sixty minutes.

—Boston Cooking School.

An Economical Dinner.

The following receipts for an economical dinner were given recently by the instructress connected with the Belgian Economical Cookery Organization in England.

The first was carrot soup, and was made as follows: Take 5 pints water, 2 medium or 4 small carrots, 3 potatoes, 1 cup rice and a piece of bacon skin. Salt and pepper to season. Cut up the carrots and potatoes and boil in water with the bacon rind or a meat-bone of any kind. Put the rice in a saucepan, cover with hot water and cook separately. When the carrots and potatoes are soft take them out on a dish and mash fine. Return to the pot, add the rice, let boil up and serve very hot.

For the second course the recipe used is for "Flemish Beef." Take 1 lb. lean beef, beat it well and cut into small pieces. Put a little dripping or any fat that has been trimmed from the meat in a saucepan. When it is smoking hot add the meat and sear it well, also add a large onion sliced, stirring steadily until it is well browned. Add a little thyme or any other seasoning that you like, and salt and pepper to season. Cover with hot water. Take a small slice of thick bread, cover with made mustard and put in the center of the stew. Cover closely and cook gently for $1\frac{1}{2}$ hours. Unless the meat is very tender 2 hours of slow simmering will be needed. The bread and mustard thicken the gravy and give it a delicious flavor.

With the meat is served a vegetable of any kind that one likes.

Next comes Chocolate Pudding.—To make it take 1 cup milk, 1 cup water, 3 heaped tablespoons flour, cocoa powder to make as rich as one likes. Mix the flour with a little of the milk and water, and add the cocoa. Put remainder of the milk and water to boil. Add a little of the hot liquid to the flour and cocoa, blend well, then add the mixture to the milk and water in the saucepan, adding sugar to taste. Stir in one direction until well boiled and thickened. Pour into a mould and let cool. Serve with cream. A few chopped nuts improves this pudding. If less flour is used a chocolate cream is the result, very nice for serving with many kinds of pudding as a sauce. All milk can be used, and cornstarch instead of flour if a nicer pudding is desired.

The Scrap Bag.

Spring Tonics.

Never forget that all of the very early vegetables that may be had in any garden are tonic—rhubarb, asparagus, onions, lettuce, radishes and spinach, as are also the dandelions and other greens of the field. Greens are best steamed as the method of cooking does not drain off the mineral properties. All raw vegetables are very valuable when served crisp and fresh.

To Make Colors Fast.

Before making up colored garments for summer, of gingham, etc., it is a good plan to shrink the goods and set the color. This may be done as follows: To 1 gallon water add $\frac{1}{2}$ cup vinegar, or 2 cups salt, or 1 tablespoon powdered alum, or 1 tablespoon "sugar of lead" (poison). Let the material soak several hours in the solution, then dry it thoroughly, in an airy place, in the shade. Afterwards wash and iron. Vinegar is best for pinks; brine for blacks and reds; sugar of lead for blues and browns; and alum for green, lavender and purple. Whenever colored materials are washed they should be dried in the shade, and a mild soap should be used.

Brussels Sprouts.

E. F. McKune, of the Colorado Agricultural College, writes as follows in regard to this vegetable, which should be grown more commonly in gardens than it is: This vegetable belongs to the cabbage family, and will grow under very nearly the same conditions as cabbage as to soil and water, but they should be set out about ten days earlier and should be allowed to remain in the field at least a week later than cabbage.

This plant is a heavy nitrogen feeder, therefore the soil should be heavily manured.

Brussels sprouts taste much like cabbage, but do not resemble cabbage at all in appearance. The plant itself grows rather high, and has a large central stalk. From this stalk large leaves are produced. At the junction of the leaves with the stalk, there are small heads formed; these are seldom over $1\frac{1}{2}$ inches in diameter, and these small heads are the edible portion.

This plant has an advantage over cabbage in that the heads need not all be gathered at one time. Whenever a mess of sprouts is wanted, the oldest and lowest heads are taken and the others are left to mature.

The Farm Kitchen.

Housecleaning in spring always seems a rather stupendous operation, and yet if taken little by little, without turning the whole house into turmoil at once, it may be accomplished without too much weariness of flesh. By using one's thinking powers in regard to improvements that may be made, it may even be made an excuse for making work easier during the whole summer, and in no part of the house, perhaps can this be carried out to greater advantage than in the kitchen. Some thing can be improved, no doubt, without spending money,—a great deal more by spending and not so very much either.

One of the very first considerations in planning a convenient kitchen is the arrangement of the furniture. The farm woman, who has so many steps to take anyway, should not have to take one more than necessary in the kitchen, hence stove, cupboard, sink and work-table should be as near together as possible. Study to place each one with an eye to "the fewest steps". A very large cupboard is more than valuable in any kitchen. It should have a shelf along the top, divided into compartments, each with a door of its own. These will be found very useful for storing away things that are seldom used. Beneath this shelf should be four or five others, with say three divisions, the centre for kitchen dishes (this door may be glass), the side ones for groceries, etc. At the base of these shelves, and at the height of 3 or $3\frac{1}{2}$ feet from the floor, the cupboard should be wider, with a ledge on top, very useful for setting things on, and closed doors beneath. This part is useful for holding pots, pans, etc. In kitchens built on the Dutch plan, the pans, beautifully polished, are kept hanging on the wall, with the cooking spoons, knives, etc., in racks

in a handy place. A long rack for lids is also a great convenience.

A baking-cabinet is a very useful piece of furniture, but if one has a big cupboard such as that described above, and a good bake-board, one can get along without it.

More indispensable is the general working table, which should be fairly high, with a high stool to use when working at it. A work-table or sink that is too low is a back-breaker. Indeed, as a rule, sinks seem to be put in without the slightest regard to the height of the workers who will have to use them most. If the table is covered with zinc it can be kept in order more easily.

If it can possibly be afforded a good linoleum should be on the floor; applications of such preparations as "marnot" will help to make it last longer. If there is no linoleum the floor should be painted; an unpainted floor that has to be scrubbed with a brush adds a heavy item to the week's work, and where there is much running in and out, seldom looks presentable. A good color for a kitchen floor is a fairly deep yellow or buff. Dark brown, such as is often seen, shows every mark.

A "waiter" on rubber wheels for running things in and out of the dining-room is a piece of furniture too seldom seen in the modern kitchen. A makeshift for it is a very large strong "dish-pan", in which dishes etc., may be piled when setting the table and when clearing it, so saving many steps. A dumb-waiter running up from the cellar into the kitchen, close to the dining-room door, comes in the same category of step-savers.

If there is any possibility of instalment, a motor-washer will prove a veritable boon, but since it cannot always be put in, its place may be taken to some extent by a good ordinary washing-machine, with wringer, tub-stand and rinsing tubs. The latter may be of fibre or galvanized tin, both of which are very much lighter than wood. A long piece of rubber hose, to carry the water off from the washer to the garden, will help in more ways than one, and if to all this is added a pulley clothes line the terrors of wash-day will be fairly well a thing of the past.

When building a kitchen a small room through which "the men" may pass when coming in from the barns, should always be provided. Here may be left coats and hats, and boots which happen to be smelly from such operations as cleaning out stables. Such a room will be found useful also for holding odds and ends that would be in the way or out of place in the kitchen. The garbage can should also be kept here, and should be invariably fitted with a close cover, a precaution that becomes an absolute necessity when flies begin to seek what they may devour. Both for the sake of keeping it deodorized and as a protection to the health of the animals which eat the garbage, the can should be emptied and scalded well once a week, also sunned for a while afterwards if the sun is shining. Plenty of hooks and a shelf or two will keep this trumpery room in order.

A piece of furniture that is never overlooked in any well-equipped kitchen is a good oil-stove—that is, if gas or electricity is not available. The oil-stoves now are very complete and very odorless, and serve to keep the kitchen cool as well as to save the endless worry of keeping up fires. A three-burner stove will be the best, and an oven should be bought to suit the stove.

Have plenty of light in the kitchen. Don't smother the windows with drapery, but keep a pot or two of parsley growing in them from which to break off a sprig for garnishing when needed. Don't let one article of unnecessary furniture find way into the kitchen, but be sure to give place in it to a comfortable rocker, and, if there is room, a kitchen couch upon which one may rest at tired moments when it is advisable to keep within eye-distance of the cook-stove.

When all these larger things have been provided for, make an inventory of the "little things" needed—double boiler, saucepans, lids, dustless mop and dustcloth, carpet sweeper, mixing bowl, egg beater, granite spoons, bread knife and board, fork screw, wire dishcloth, can opener, flour sifter, food chopper, chopping bowl and knife, paring knives, asbestos mats, bread dish with lid, stout brushes for scouring—from the large scrubbing-brush, to the little ones

for cleaning vegetables. Most of these are little things, and a trip to the hardware and to Woolworth's with a small expenditure of money, will supply the whole of them. They will save time, strength and temper,—if they are kept so that they can be found whenever needed.

Last of all, be sure to keep a can of ammonia and a can of Dutch Cleanser on the shelf above the sink. Greasy, smoky pots and pans yield to them like magic. A can of ammonia should also be kept upstairs for cleaning the bathtub and bedroom crockery. Nothing cleans it more quickly or gives it a greater odor of sweet cleanliness.

The Beaver Circle

So many Junior Beavers' letters are on hand that the entire Circle is given over to them this week.

Brave Mustache, the Dog Soldier of France.

BY PAULINE C. BOUVE.

In the days of a long, long time ago,
There was war far over the sea;
And nobles and peasants went out to fight,
With trumpets and banners and armor bright,
Clattering hoofs of horses that prance,
Flashings of saber, musket and lance,
All under the free,
Fair fleur-de-lis,
The flag of the Kingdom of France!

Mid the glittering lines of that army's ranks
Marched a soldier of low degree,
Who asked for naught but his daily keep,
A bone, a crust, and a place to sleep,
Contented to follow the drum's rat-a-tat,
Stockingless, shoeless, without coat or hat—
Just happy and free,
A soldier to be!

He was not handsome; he lacked of grace,
This humble lover of flag and drum,
But the pleasant look in his honest face
Won in the soldiers' hearts a place,
And his faithful eyes in a wonderful way
Spoke the words that he never could say.
For alas! he was dumb
Mid the babel and hum.

When he passed by, the drummer boy,
grasping his stick,
Beat a livelier rat-tat-tat.
The flag-bearers waved him their gay salutes,
When, at the first call of "Saddles and Boots!"
With ears, nose and whiskers all lifted to hear,
The first in the line was the dumb volunteer,
Without coat or hat—
What cared he for that?

Then the captain rode up and smilingly asked,
"What name for the soldier without sword or sash?"
There was silence till Jaco, the drummer boy, cried,
"Tis his whiskers, my captain, that fill him with pride!"
"Bravo!" laughed the captain. "But to put down no name
For such a good soldier were counted a shame!"
Then, quick as a flash,
"His name is Mustache!"

And so from that day he ever was called
Just "Mustache" in the army corps.
And down the long lines of the uniformed ranks,
All joined in applauding Mustache's quaint pranks
When he stood at "Attention," holding saber or gun
In his fore paws deftly as though he had done

The same thing before
Many, many times o'er!

But hard times came, as in war they must come,
And the ranks of the French were in dangerous plight,
For an Austrian heart 'neath a French cockade
Had entered the camp with a dark plan laid.
For aid he had begged, to bear message or note—



Betty Begged to do the Baking

Of course, she is a bit anxious—who wouldn't be—over her first cake. Oh, so careful has she been that this cake shall be light as thistledown and of a melting richness that will tantalize and coax the most elusive appetite.

Now, she is mixing in



More finely granulated than most sugars, it dissolves more quickly—giving impartially to this wonderful Betty Cake its sparkling, crystalized sweetness.

This is the only sugar that may rightly be called "Canadian from the ground up."

judgment as well as patriotism. There is none better.

We do import the finest of raw cane sugar, and refine it. But our pride is in the product we make from Canadian sugar beets—its use is dictated by good

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Onion growers, we send this machine on **FREE TRIAL**, if you are growing half acre or over of onions. Don't fail to investigate about this great labor-saver.

Gets the weeds that are directly in the onion row.

Write for complete information.

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20th Century Piano—known as "Canada's Biggest Piano Value"

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Plaster Hill Herd—Dual-Purpose Short-horns—Just one bull left, 12 months old; a choice one, good milking strain. Can spare a few cows and heifers.

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Long-distance phone. Caledonia, Ont., R.R. 3.

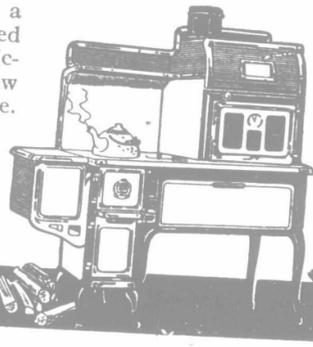
the new LIGHTER DAY

Did you think the old Lighter Day a perfect range?

See the improved model, now on sale. The new Lighter Day is a greater fuel-saver. It is a sparkling beauty in blue and white enamel. It does away with black-lead. It has greater cooking capacity.

The handy-height oven that did away with stooping, the clearview oven door of glass, all the wonderful features that made the old Lighter Day range the most popular coal range in the world are found in the new.

If your dealer does not sell the Lighter Day, write for a beautifully illustrated folder showing pictures of every new labor-saving feature.



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A Dainty Tea Set of 21 Pieces Easily Gained by You!

TO ANY SUBSCRIBER, or member of a subscriber's household, securing just three NEW subscribers for us at \$1.50 a year each, and remitting the \$4.50 with their names and addresses, we will send a beautiful 21-piece fine china tea set of handsome, distinctive pattern and shape, a credit to any table.

One lady wrote us that she never owned such a lovely set, nor won it so easily. Another wondered how we could give so beautiful a premium for just three NEW subscriptions.

GET YOURS SOON! The supply is limited, because we bought these before the War, and cannot get more at any price. The set consists of 6 cups, 6 saucers, 6 bread and butter plates, 1 large bread plate, 1 cream jug and 1 sugar bowl, decorated in a charming and dainty floral design. MAKES A BEAUTIFUL GIFT.

Each set is examined and repacked here before shipment. Show the "Advocate" to your friends and neighbors and get your three NEW subscribers at once, while we still have a few sets on hand.

For One New Subscription You May Earn a Useful Kitchen Set

consisting of Roasting Fork, Paring Knife, Carving Knife, Waved Edge Bread Knife and Meat Saw, with metal rack to hold them all, made to hang on the wall, or

COMPLETE KITCHEN EQUIPMENT of Pancake Turner, Basting Spoon, Butcher Knife (with sharpening steel), Waved Edge Bread Knife and Paring Knife—all of best steel, with hardwood handles in Rubberoid finish, and nickel-plated ferrules.

A HANDSOME BIBLE given for one new subscriber. Containing Old and New Testaments, beautifully bound and clearly printed, with index to names of places, persons and subjects, and having 12 full-page maps. Size, when open, 7x10 inches, weight 23 ounces. Would cost \$1.00 to \$1.50 in any book store. Another style Bible, 9x13 inches when open, has centre reference and chromatic index.

Many of our subscribers earn several premiums each year.

Address:—

The William Weld Company, Limited
London, Ontario

When Writing Please Mention Advocate

Whatever the colonel spoke or wrote.
He was scarce out of sight
When suddenly halted—his
trousers held tight

By sharp teeth that held fast till the
French camp was reached,
And the guards were aroused by the
scuffle and crash!

"An action so gallant, so wise and so bold
Deserves prompt promotion. Mustache
shall now hold

The rank of a corporal, my brave gren-
adiers.

What say you?" The colonel was an-
swered by cheers,

While cockade and sash
Were tied on Mustache!

But 'twould fill a big book to tell all
his brave deeds,

How he saved the French flag before
cannon and lance;

Fetch'd baskets of bread to the wounded
and sick;

On errands of duty e'er faithful and quick.
And then how, at last, a medal he won
From the hands of the Emperor Napoleon,
Who read its inscription with quizzical
glance:

"To Mustache, the Brave Dog Soldier of
France!"

Little Bits of Fun.

"Are caterpillars good to eat?" asked
little Tommy at the dinner table.

"No," said his father; "what makes you
ask a question like that while we are
eating?"

"You had one on your lettuce, but it's
gone now", replied Tommy.—Ex.

"Well, my little man", said the kind old
gentleman, "and how old are you?"

"Five", answered the child.
"And what are you going to be?"

"Six," was the quiet reply.—Boston
Times.

Five-year-old Ella had been en-
thusiastically engaged in garden work
all the spring. She was especially in-
terested in planting seed, and wat hed
anxiously for sprouts to appear above
the ground.

One day, while visiting a neighbor
who possessed a six-months'-old baby,
Ella was delighted to see two tiny front
teeth displayed when the baby smiled.

"O Mrs. May," the little girl cried,
excitedly, "the baby's teeth have come
up!"

Junior Beavers' Letter Box.

Dear Puck and Beavers.—This is
my second letter to your Circle. My
father has taken the Advocate for twelve
years. For pets I have a rabbit and a
yearling heifer. I bought a setting of
eggs last summer and now I have some
fine hens to sell. We had a School Fair
at Thorndale last fall. I had a plot of
oats. O. A. C. 72, and a bed of Asters.
I got second prize on my oat sheaf and
second on threshed oats, and third on
my Asters and our school got third
prize. Last night we heard a great noise
outside. We got the lantern and went
out and there was a weasel trying to
kill my rabbit. We soon made short
work of it and saved the rabbit. I
will close now hoping my letter will
appear in print.

JOHN SHIPP, age 9.
R. R. 2, Thorndale, Ont.

Dear Puck and Beavers.—This is my
second letter to your Circle. We have a
large number of Advocates saved over,
and we enjoy looking them over once in
a while. I like to hear about the letters
every week. I go to school every day
I can. My teacher's name is Miss
Stephens. For pets I have some poultry,
a rabbit and a calf of my own, and I like
to take care of them. At our School Fair
last year I got two first and one second
prize, so I think I will try again this year.
Wishing the Beavers every success, and
hoping to see my letter in print.

MILTON SHIPP, age 8.
S. S. No. 1, Thorndale, Ont.

Dear Puck and Beavers.—This is my
second letter to your charming Circle.
Seeing my other letter was not in print,
I thought I'd try again. I take very
much interest reading what the other
Beavers are writing. I have read a

few books—"True to His Vow", "The
Young Acrobat", "Two Secrets" and
"A Man of His Word". We have very
much fun at our school, making a rink.
I have a dog and a horse for pets. My
father has taken the Farmer's Advocate
for a number of years and I always
hunt up the Beavers letters. Hoping
the w. p. b. is not hungry.

ELMER STOLTZ.

R. R. No. 1, Ayr, Ont.

Dear Puck and Beavers.—This is my
first letter to the Beaver Circle. My
father has taken the Farmer's Advocate
for a number of years. I can hardly
wait till papa gives me the paper so I
can read the Beaver letters. I have two
pet colts; their names are Kate and Prince.
My sister and I go to school every day.
We have one mile and three quarters
to go. I was nine last September. My
sister was eight in November. It has
been cold, papa says it is the coldest
winter in 30 years. It has been around
30 below zero and down to 50 at times.
We live on a farm of 180 acres on the
banks of the beautiful Rainy River
and have lots of fun sleigh-riding down
the banks on to the ice. In the summer-
time we see steam and gasoline boats
running up and down the river day and
night. Last summer I drove the team
on the hay fork and liked it.

I must close as it is my first letter
or it will take a tumble into the w. p. b.
I hope to see this letter in print. With
my best wishes to the Beaver Circle.

LAURA A. LOCKING.

Emo P. O., Rainy River Dist., Ont.

Dear Puck and Beavers.—This is
my first letter to your charming Circle.
My father has taken the Farmer's Ad-
vocate for a long time and I enjoy read-
ing the letters very much.

We had a school fair last autumn and
I got six prizes. I have read quite a
few books some of them are: Beautiful
Joe, Black Beauty, Stepping Heaven
ward, History of Good Dog Fanny and
many others. I am in the Junior Third
Class. My teacher's name is Miss Forest,
and I like her fine. There are about
fifteen going to school. Well, I guess
I had better close as this is my first
letter.

GEORGE McNAIR, (age 9).

Brussels, Ont.

Dear Puck and Beavers.—This is my
first letter to the Circle, so I hope the
w. p. b. will not be hungry when this
arrives. I like reading the other Beavers'
letters very much.

I am eleven years old and am in the
junior third class. I have a mile and a
half to go to school. I like reading, but
have not read many books. The one
I liked best was Black Beauty. Our
school is beside the Maitland River,
and we like skating on it very much in
the winter time. In summer we play
base ball and other games.

With best wishes to the Circle, I will
close with a riddle. A man was at one
side of a field and yet was at the other
side at the same time.

Ans.—The dog's name was yet.
ROBERT COULTES.

Brussels, Ont.

P. S.—Will some of the Beavers
please write to me?

Dear Puck and Beavers.—This is my
third letter to the Circle. I am in the
Junior Fourth Class, and am twelve
years old. My sister is writing her first
letter. She has not started to school
yet, and can only print. I noticed in the
Advocate that a little girl wished me
to write to her. I am very sorry, but I
lost the address.

At our place we have a milking machine
and like it fine. I wonder if any of the
Beavers have skies. I have them, and
so have some other girls in our school.
We have great fun.

Well my letter is getting rather long,
so I will close with a few riddles:

1. What opens like two barn doors,
squeals like a cat, guess all your life
and you can't guess that.

Ans.—A pair of scissors.

2. Why are hens roosters at night?
Ans.—Because they "roost".

3. What can be spelled backwards,
forwards, and up-side-down?
Ans.—"Noon".

Well, I will close, wishing all good luck.

Yours very sincerely,
CATHERINE FRAZER.

R. 1, Lancaster, Ont.
P. S. Will Pearl N. Tree.

Honor Roll: Martha McVicar, Nellie Smith, Jim Powell, Ruth Passmore, Lucille Sickle, Bernice Westlake, Isaiah Sitler, Marion Rilance, Lillian Patterson, Wallace Elliott, Ivy Barrer, Nellie Readhead, Lillian Coulter, Edna Fell, Maud McNeight, Alice Miller, Rena Shipley.

Riddles.

What has a head and can neither eat nor see? Ans.—A pin. Sent by Martha McVicar, Dundalk, Ont.

What is it that can't go up a chimney up, nor down a chimney down, but it can go up a chimney down, and down a chimney up? Ans.—An umbrella. Sent by Nellie Smith, Devlin, Ont.

Which is proper—the yolks of eggs are white or the yolks of eggs is white? Ans.—The yolks of eggs are yellow. Sent by Jim Powell, Elgin, Ont.

Plant tight shoes and what will you raise? Ans.—Corns. Sent by Lucille Sickle, R 2, St. George, Ont.

What animals are admitted to the opera? Ans.—White kids. Sent by Bernice Westlake, R. 1, Beeton, Ont.

What is blacker than a crow? Ans.—A crow's feather.—Isaiah Sitler, R. 3, Waterloo, Ont.

Fun for Evening Parties.

It is almost necessary to have some kind of a program if one wishes to entertain a number of people during an evening. A room fitted up as an "Art Loan Exhibition" entertains pleasantly everybody, young and old. Pretty catalogues may be written out. The titles immediately following the numbers should be placed in the catalogue. The explanation written opposite here is for the benefit of the exhibitor only.

- No. 1.—The Horse Fair.
(Horse fare) Oats.
- No. 2.—Scenes in China.
Pictures in a china dish.
- No. 3.—Views on the Rhine.
Pictures laid on a pork rind.
- No. 4.—Sweet Sixteen.
Sixteen pieces of candy.
- No. 5.—The Peacemakers.
A pair of shears.
- No. 6.—Weary Travellers around the Campfire.
Old shoes, big and little, around a bottle labeled "Camphire."
- No. 7.—My Old Tutor.
An old tin horn.
- No. 8.—A Drive through the Wood.
Nails, driven in a piece of wood.
- No. 9.—Cain and Abel.
A cane with a bell attached.
- No. 10.—Something to Adore.
A key, hinge or lock.
- No. 11.—Abandoned.
An old shoe.
- No. 12.—Broken Ties.
Broken or ragged neck-ties.
- No. 13.—The Belle of the Place.
A large dinner bell.
- No. 14.—Little Bright Eyes.
A card of hooks with eyes removed.
- No. 15.—Rose of Castile.
Two rows of castile soap.
- No. 16.—The Tax Collector.
A carpet tack puller.
- No. 17.—Maid of Orleans.
(Made of Orleans), molasses candy.
- No. 18.—Left Behind.
A hen's feather.
- No. 19.—"Long Branch" in Winter.
A long leafless branch.
- No. 20.—The First Temptation.
An Apple.
- No. 21.—Her First Love.
A rag doll.
- No. 22.—The Red Sea and the Plains Beyond.
A red letter C with carpenter's planes behind it.
- No. 23.—"It Can't be Beat."
A hard boiled egg.
- No. 24.—A Swimming Match.
A match afloat in a saucer.
- No. 25.—A Perfect Foot.
A twelve-inch rule.
- No. 26.—Open to Amendment.
A stocking full of holes.
- No. 27.—The Pride of New England.
A pot of baked beans.

- No. 28.—A Study of a Head.
A cabbage head.
- No. 29.—Family Jars.
Fruit cans.
- No. 30.—The Great American Desert.
Pie.
- No. 31.—Ties that Bind.
Neckties.
- No. 32.—Such Stuff as Dreams are Made of.
Mince meat.
- No. 33.—Ye Ancient Minstrel.
A toy rooster.
- No. 34.—Rock of Ages.
A cradle.
- No. 35.—Voices of the Night.
Picture of cats on a roof.
- No. 36.—The Young Man's Fear.
A mitten.
- Nos. 37 and 38.—Mustered In.—Mustered Out.
Mustard in a pot.— Mustard spilled out.
- No. 39.—My Own, My Native Land.
A pan of earth.
- No. 40.—Souvenirs of the Great.
Cinders and ashes.
- No. 41.—The Home of the Skipper.
A piece of cheese.
- No. 42.—The Four Seasons.
Salt pepper, mustard and vinegar.
- No. 43.—Noted English Essayist.
Bacon.
- No. 44.—The Best Thing Out.
A hollow tooth.
- No. 45.—A Tearful Subject.
An onion.
- No. 46.—Crossing the Styx.
Two sticks crossed.
- No. 47.—Tales of Old Ocean.
Tails of mackerel.
- No. 48.—Whaling Implements.
A bundle of whips.
- No. 49.—Sold Again.
A new half-sole on a shoe.
- No. 50.—The Maiden's Choice.
Pickles and candy.

Literary Exhibit.

- The Pathfinder.
A snow shovel.
- The Pioneers.
A piece of pie laid on ears of corn.
- The Deer Slayer.
A pair of corsets.
- The Cause of the American Revolution.
Tacks on tea leaves.
- Bitter Sweet.
Quinine pills and loaf sugar.
- The Light that Failed.
A tallow candle.—Sel.

This Spring 1917.

I met Spring tripping o'er the land,
In brand new Easter bonnet,
Her skirt ten inches from the ground,
As in New York. And on it
Were several kinds of flowers and things,
Unlike she's worn other Springs.

Great dewdrops flam'd upon her hands;
At first I thought them jewels,
But saw some fall and brighten up
Large, lazy-surfaced pools!
While she unclasp'd her bag of blue,
From which came mist-o'-hills, 'tis true!

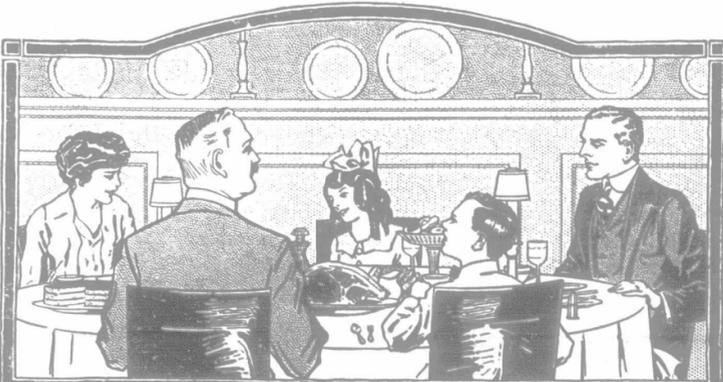
Her Dorine open'd in her hand,
As tho' to powder. Listen!
She yellowed pussy-willow buds,
Which 'till to-day did glisten,
In shining coats of silver fur,
And marigolds smil'd up at her!

O, Spring this year is fashionable,
And wears her clothes a Paris,
By rouge which makes the tulips blush,
We still would have her tarry.
For one who grants the violets sight,
To our poor eyes will add new light.
—Nicholas Fagan.

Smiles.

Couldn't Qualify.—Peggy—"Daddy, what did the Dead Sea die of?"
Daddy—"Oh, I don't know, dear."
Peggy—"Daddy, where do the Zeppelins start from?"
Daddy—"I don't know."
Peggy—"Daddy, when will the war end?"
Daddy—"I don't know."
Peggy—"I say, Daddy, who made you an editor?"—The Sketch.

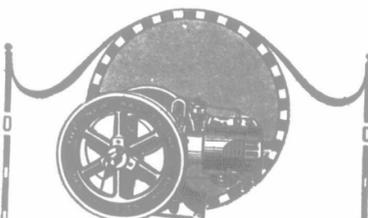
Female passenger in aeroplane some thousands of feet up—excitedly, "Please, oh, please, won't you go down?"
I've just dropped my pearl cuff-button."
"Calm yourself, madame—that's not your cuff-button, that's Lake Erie."



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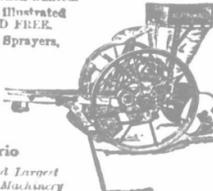
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BRED-TO-LAY SINGLE-COMB WHITE LEG-horns. Pullets have laid continuously since five months of age. Eggs, one dollar per fifteen; four dollars per hundred. Addison H. Baird, R. R. 1, New Hamburg, Ont.

"BEAUTIFUL" WHITE ROCKS—LAST season's best layers; proven by trap nest to be worth-while pullets. These are mated to a son of 1st Ontario cock, '16.—A splendid pen, with show-room and trap nest in its make-up. Eggs at \$2 per 15. J. A. Butler, M.D., Newcastle, Ont.

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BARRED ROCKS, 25 YEARS A BREEDER. Eggs \$1.50 for 15. Six dollars 100. Breed for show and utility. Yearling Hens, \$2 each, \$11 R. 1, Cottam, Ont.

BRED-TO-PAY STRAIN OF WHITE Leghorns, White Wyandottes, Barred Rocks, Single-Comb Reds have paid us—they will make you money; 800 birds in our pens now, all healthy. Write for prices on eggs and chicks. Not a male bird on our farm whose mother had a record of less than 224 eggs in 12 months. Females equally as good. Comestoga Egg Farm, Arthur, Ontario.

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CLARK'S FAMOUS BUFF AND WHITE Orpingtons; exhibition and laying strains; 18 years a special list; 20 breeding pens Toronto National and Ontario Guelph Show winners. Eggs, \$2, \$3 and \$5 per setting. Grand utility laying O.A.C. bred-to-lay Barred Rocks, direct from original best strain, \$1.50 per 15; \$4.00 per 50; \$7.00 per 100. Mating List free. J. W. Clark, "Cedar Row Farm," Cainsville, Ont. R.R. No. 1.

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EGGS FOR HATCHING FROM OUR BRED-to-lay pure-bred Barred Rocks, \$1 per 15. Mrs. C. A. Newell, R.R. 3, Campbellville, Ont.

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EGGS FOR HATCHING FROM HEAVY laying strain of Buff Orpingtons. One dollar or thirteen eggs. Ed. Hacker, Beachville, Ont.

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WHITE WYANDOTTE EGGS, \$1.00 PER 15; \$7.00 per hundred; good laying strain. Austin Cates, Wheatley, Ont.

The Psychological Moment

BY AGNES HUNT.

"Well, what do you think of her, Ben?"

"She's a pretty piece of horse-flesh all right."

"Quiet is she, Jim?"

"Like a dog," I replied as I stroked the black mare's glossy neck and brushed a lock of her mane in place.

"I think I've a bargain in her. She seems a free traveller, but I didn't look for speed. One fast horse is enough for me."

"Won't you come in Ben?" for we had turned towards the house.

"No, I must be getting on home."

But still Ben Lang fidgeted about and seemed in no hurry to go. Something was on his mind I felt sure, and he soon disclosed what that something was.

"I say, Jim, is there anything more than friendship between Lettie James and you?"

He did not look at me as he spoke, but dug the toe of his heavy boot into the soft earth and watched it intently.

I could feel the hot blood surging into my face.

"Have you any reason for asking Ben?" I inquired coolly.

"Well—yes, I have," he stammered.

"You've monopolized Lettie pretty much since you came home, and it isn't quite fair for her, nor for the rest of us either, if you don't mean business."

"Why bless you, she's free to go with anyone she pleases."

"Then you won't think a fellow butting in?"

I laughed, yet somehow he nettled me.

"Why didn't you make better use of your time before I came home?" I asked banteringly, and then suddenly I changed the subject.

"I suppose you are going to take in the Fair next week, Ben?"

"Sure thing. There won't be many miss that," and turning about Ben set out for home while I went into the house to get supper.

Now, if there was one thing I disliked more than another, it was cooking—the last job on earth for a man.

That night I dodged it, or I found some cold porridge in the pantry, and by adding some milk and sugar I had a dish fit for a ba helor.

I had been the only child in our family, and after my father's death I stepped out and left my stepmother in undisputed possession of everything as she and I always failed to agree.

She had died about a year before, and I was forced to come home to look after the farm.

They called me a bit wild, I knew, for I had overheard sundry snatches of talk on several occasions, but what they called me made no difference to me. My wildness was this: I owned the fastest horse in Pine Grove and could easily out-road anyone who ever came that way.

Now I was going to try farming, and had purchased a mate for my other horse. I never liked great heavy farm horses. They were too much like cattle to suit me. A lighter team, I believed, could do my work easily, would be easier kept and I wanted the snap and vim not often found in the heavier kinds. In the midst of my porridge I began to think of Ben Lang and what he had said, and suddenly I laughed outright.

He expected I would take part in the usual "farm" and "green" races, perhaps in the trials of speed. I would, of course, take the sulky and he would be free to take Lettie. The very idea made me angry, though I did not know why it should, and I determined Ben should be badly fooled.

I looked at my watch. It was late and there were chores to do, but just the same, delay was dangerous and I'd best make sure of Lettie. In less time than it would take to tell of my preparations, I was off with the new horse "Kit," hitched to our very best buggy.

Yes, Lettie was in, and in a moment out she came. She was almost covered up by a great, dark apron, and there was a smudge of flour on her little, turned-up nose.

"Oh Jim, it's you!" As if she were expecting someone else, it seemed to me.

"Yes, I thought I'd show you my new horse. What do you think of her?"

Instantly her manner changed. Lettie always loved horses and was no mean judge of one either. She came off the porch and walked around in front of Kit.

"What a fine head!" she exclaimed.

"And oh Jim, such eyes!"

"What's her name anyway?"

"Kit," I answered.

She patted the dark, moist nose, murmuring her name, and would you believe it, that horse acted just human. She began nosing about Lettie, caressed her cheek softly, sniffed her hair, searched first one hand, then the other, and the girl laughed softly, not a mite afraid.

"Jim, she's looking for something," she whispered at last. I turned to the horse.

"You beautiful pet, you shall not be disappointed," and running into the house she returned quickly with several large lumps of sugar, which Kit ate from her hand with keen enjoyment, judging by sun-dry flicks of her sensitive ears.

"Now get in Lettie, I want you to have the first ride behind her."

And after slipping on an ulster she obeyed, and we drove away, meeting Ben Lang some distance up the road.

"Now where can Ben be going, I wonder?" I asked, watching Lettie.

Quite demurely she answered, "Perhaps to see me, who knows!" Then she added quickly, "Oh Jim, do let me drive."

And drive she did, and I was surprised at my new horse's speed.

"Are you going to the Fair?" I asked at last.

"I'm not sure yet. Father is going to take the wagon, as he is exhibiting a number of things." Then mischievously, "We may go in Mr. Lang's democrat."

"I came over to see if you would go with me."

She flashed a surprised look at me.

"I thought you would be taking your sulky, but if not I'll be pleased to go, Jim."

That settled, my pulses beat much steadier, and soon we turned about for home. I did not go in. Lettie still had some baking to do. She was an ardent Red Cross member, and as that Society was to serve dinner at the Fair, she, her mother and sisters had been busy baking all day.

That night I could not get Ben Lang out of my thoughts, nor Lettie James either, for that matter. We had all gone to school together. Lettie was several years our junior, and I well remembered her running to me for protection, one time, when Ben, in redeeming a forfeit in a certain school game, insisted on kissing her.

"Oh Jim, don't let him," she had begged, and I had planted myself in front of Ben and told him he had to fight me first if he kissed Lettie. That was surely my attitude now. I was her escort simply to keep undesirable young men away. How magnanimous of me! Not one tinge did my conscience give, for I looked at the matter simply from Jim Mason's point of view.

Fair day came at last, and quite resplendent in my light, rubber-tired buggy, with my new horse in her shining harness, I drove into the James' yard.

I had always claimed—but only to myself be it noted—that my chief reason for liking to take Lettie about, was, she never kept me waiting. That day I was forced to wait, however, and strange to say, it did not irritate me in the least.

When she came out at last I didn't wonder at her keeping me waiting. She was a picture, a dream of loveliness. In fact, I never before knew she was so bewitchingly pretty.

We Masons were all fair people. As a child my hair had been white. Now it was scarcely dark enough to be called brown; just a wishy-washy color. I often felt tempted to dye it some definite shade. As for my mustache, it was so "sandy" I never would allow it to grow.

Lettie's eyes were a deep velvety brown. Her hair also brown, with golden tints in it when the sun touched it. There wasn't a great deal of it, but what there was made up for any deficiency. It could not be coaxed to be straight, but was always in little, kinky, curling tendrils about her forehead and ears. She called it "mussy" and did her best to keep it in order, but it always mutined and had its own sweet way in the end. She was dressed simply in a dark blue suit with a natty, velvet toque to match. A rose nestled in the riotous waves of hair over her left ear.

I thought as I looked at her, "A beautiful picture needs no gaudy frame to enhance its beauty."

Say, I certainly was proud, for besides having the finest turnout in Pine Grove, I knew I had the prettiest girl as well. I was not destined to have her long.

The great tent where dinner was already being served swallowed her up, but after

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putting Kit away I found her looking warm and worried and coaxed her into eating dinner at once with me.

Some wealthy men, it appears, owners of large stables, had been following up some of their favorites as they went from one racing meet to another about the country.

For a moment I regretted leaving my driver at home. Then my thoughts flew to Lettie, and I decided I was not having enough of her company to compensate me for my sacrifice.

I found her looking very tired, and though she protested, I finally won, and we soon were driving about the ring.

The band struck up a stirring military march as we passed the grandstand, and Kit became suddenly transformed from a staid, dignified creature to a prancing, stylish, mettlesome and extremely handsome high-stepper.

The music had ceased and Kit was once more quiet, so I decided to run over and see the start.

"Would you mind holding Kit a few minutes, or are you afraid?" "Afraid—of her! Why I wouldn't be afraid with her anywhere.

And quite pleased, I ran. "Hello Jimmy! Why aren't you in this?" was my greeting from the starter.

I looked the two beautiful horses over closely. Snowdrift, the whitest horse I had ever seen, was a beautiful, clean-lined, rangy animal.

Happy Hannah, a little, bay mare seemed full of vigor. She too was restless, eager for the race, but I judged in a moment she was much better tempered and could be depended upon in the finish, no matter how exciting it might prove.

"Snowdrift should win if he doesn't get rattled and lose his head, but if I were a jockey I'd rather take chances with Happy Hannah," was my verdict.

It was a beautiful start. Snowdrift had the pole. Then my heart gave a great leap and for an instant stood still.

"Clear the track! Clear the track!" men shouted and swung their arms, but Kit apparently knew her business and

gave no heed. Never once did she break. With the steadiness of clockwork her hoofs beat time and gradually but quite perceptibly she lessened the distance between herself and the two horses.

I glimpsed Lettie's face, white as paper, but she did not scream, not faint, nor jump as most girls would have done.

Snowdrift broke suddenly and Happy Hannah slid past him by a nose—no more. Steadily Kit crept up in the race, and though handicapped as she was by the heavier buggy, never once did she flag.

Happy Hannah broke and Snowdrift was again in the lead, but I knew nothing of the race. My eyes never left Lettie as she clung desperately to the reins guiding Kit as best she could.

After what seemed an eternity to me, the turn nearest the finish was reached. It was rather sharp, and as the buggy swung round it on two wheels I stood benumbed with horrors, thinking the end had come.

A roar of laughter, shouts and cheers went up. The bell rang wildly. Such a din!

Lettie's face was rosy enough as I helped her down, and she was trembling so she could scarcely stand. Her hat was gone, her hair a confusion of curls upon her shoulders.

Ah! In a flash I knew it then and there. I dearly loved Lettie James. Snowdrift's owner, Mr. Sheldon, sprang down the steps and hurried over to where I stood quieting Kit.

"Who owns that horse?" he demanded. "I do sir," I replied. "What mark has she?"

"Go! Say would you mind just hitching her to a bike and giving her a fair show, and, by George! if she wins this race you may set any price you like on her."

Then turning to Lettie he lifted his hat and his eyes twinkled, "Congratulations miss. I fancy you didn't know you were going to take part in a real horse race. No jockey could have done better."

Lettie, blushing and laughing, was too confused to reply, and while he waited I hesitated, my eyes questioning hers. "What shall I do?" I asked her at last.

"Drive her Jim," and her eyes sparkled. "Don't let her be beaten when she wants to win so badly." And with a glad laugh I sprang to obey.

Well, as you may guess, Kit won the race—won it easily, but I could not be induced to put a price on her. Mr. Sheldon was a wealthy man but his money could not tempt me to part with her.

On the way home that night I told Lettie that I loved her and that I needed her badly in my old home.

"But Jim," she protested, "Ben said" "Never mind what Ben said," I interrupted hotly, "I've been a fool Lettie. I never knew myself until Kit ran away with you. You see the psychological moment came for me to-day too."

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And from where her face was buried on my shoulder I caught the muffled whisper, "Blessed old Kit."

The Golden Rule. Be kind to the horse. Don't berate him because he does something which should not have been done. Perhaps he had the right motive, but in his dumb way was unable to express it.

Many persons take it for granted that when a horse does wrong he intended to do so, and they, therefore, punish him for it. Now this action only aggravates the matter, and if continued will result in an incorrigible animal, made so solely from mistreatment by his master.

The best policy is to be kind to the horse. Remember that he is a dumb animal. Don't expect as much understanding from him as you expect of men. Remember that of all the animals which aid men, the horse is the most useful.

Be kind to him, and see for your self if your work does not proceed more smoothly than ever before. Follow the Golden Rule and treat your horse as you would wish him to treat you if your positions were reversed.

Hired Men Galore For the Farmers

—AN EXPLANATION OF THE RESOURCES COMMITTEE PLAN—

To Help Increase Food Production

BY PETER McARTHUR.

TORONTO, April 4.—When the secretary of the organization of resources committee telegraphed to me last Thursday that the committee and an organization connected with the Board of Trade wished me to speak at Massey Hall on the question of securing laborers for the farms I accepted at once. This was not because I felt myself qualified for the task, but because I was consumed by curiosity to know just what these city men were proposing to do. I knew what a good many farmers thought of this movement, so far as they had been able to learn of it, and I felt that if I went down I could be a good deal "sassier" than any solid and responsible farmer would dare to be. Frankly, it looked to me like a case of city hysterics, for which I might act the part of old General Practitioner, so I packed my grip and came to the city in a cheerful frame of mind. For two days I have been associated with the men who are back of this movement, and I want to tell you what I found, just as frankly as I told them what I thought of some features of their work. I found a body of men who are sincerely, earnestly, eagerly trying to meet a great crisis, and who are diligently seeking to find what they can possibly do to help. It would be impossible to doubt their sincerity. Many of them are men whose sons are at the front, and who have already made great sacrifices for the cause of Canada and the Empire. They are convinced that we are in danger of a food shortage that may lead to a world famine, and if there is anything, in reason or out of it, that they can do to stimulate production and help the farmers to produce more they are willing to do it. Their earnestness disarmed me completely—the more readily because I am obsessed with the idea that before this war is over the world will be hungry. Finding them so earnest and so eager to be of assistance, I could do nothing but else enter into the spirit of their work. I knew how hard it is for the farmers to change their plans so late in the season, and to arrange to take hired men to help them. I know just what the farmers have suffered in the way of advice, campaigns of production, campaigns of thrift, and other well-meaning things that have simply caused irritation, and I made these things known to the men I met. I am afraid that at first I must have made a bad impression upon them, as an example of a stubborn and cranky farmer. In fact, I am not sure that I do enough farming to justify me in being quite as stubborn and cranky as I was. But the result of meeting these men in this way was, that they explained their purposes to me in detail, and I found their purposes much better than any impression of them that has been given by either advertisements or newspaper reports.

To begin with, these men are not asking the farmers to accept inexperienced and unskilled help. There are thousands and thousands of men who did farm work for years before going to the city, and it is supposed that all of these men who are willing to volunteer for work on the farms will be released by their employers for the summer months, so that they may help to swell the volume of production. Their services will be offered to the farmer just like those of any other hired man. The farmer will be expected only to pay them what they

are worth, and if the men are to receive further pay that will make up for leaving their city jobs, it will be paid by their present city employers or from other sources that will be arranged for by the committee. These men will have their city jobs held open for them, so that after they have done their work in helping to put in crops on the farms and helping to reap them they can go back to their previous work feeling that they have done something towards feeding the empire. I hope that I have made this entirely clear. The men that they want to send to the farms are men who will be competent to do farm work, even though at first they may be soft, and may need a few days to get back to their old form. Moreover, the men who will do this will be men who are inspired by a patriotic purpose. They will be engaging in the work of production because they are convinced that in doing this they will be serving their country and humanity. They will have every motive for giving the farmer who employs them the best of service, and they will be men having the necessary experience to do it.

It seems to me that, with this kind of labor being offered at a time when humanity is so grievously menaced, every farmer who is able to extend his farm operations so as to give an opportunity to a man of this kind should do it. He will be serving his country and at the same time producing profitably for himself. The men who are asking him to accept their aid in solving the labor problem are so desperately in earnest that they are willing to supply the labor at a loss and at a sacrifice to their own business. Just think that over. If there is one outstanding fact that confronts the world to-day, it is that there is danger of a food shortage. Lloyd-George has sent that message to the empire with all the earnestness at his command. It has been repeated to us by our own Government and by all who are able to speak with authority. Surely we should give heed. It has been recognized that this shortage cannot be met unless more men are sent to work on the farms, and you are being offered the best help available. It is thoroughly understood that the man who works on a farm to-day is working for his country, and the men back of this movement are willing to support any army of production just as we are supporting our soldiers at the front. They want to give you men who have both the power to work and the will to work. There may be mistakes, and some who are inefficient may go to the farms, but I am convinced that here is one case where the men of the cities want to help their country and humanity generously and unselfishly. If you find that you can employ a man in such a way as to increase the products of your farm, do not hesitate to write to the Organization of Resources Committee, Parliament Buildings, Toronto, or to the Toronto Board of Trade, and tell them the kind of man you want and what experience he will require in order to be able to help you to produce more. The time is critical, and we should all do our best, and we can only do our best by working shoulder to shoulder. Here is a case where the city man is putting his shoulder to the wheel, and I feel sure that the men of the country will not repulse him. It is no time for cherishing old misunderstandings or grievances. We must all get together.

But, besides the men with a thorough farm experience, who are willing to go to the farms to work, there are thousands of others with a little experience, or no experience at all, who are anxious to help in the imperatively necessary work of production—high school students and others who cannot yet enlist with the army. These men, strong, eager, willing, can quickly adapt themselves to kinds of farm work that do not need much skill, such as hoeing or helping in the harvest fields. If you need men who will help you with the haying, hoeing corn or potatoes, shocking grain and hauling in, you can get them for a few weeks at a time or for a longer period. You will not be expected to pay them any more than they are worth, or to keep them if they are not worth anything. All that is asked is that if they will help you to increase production or to save products from waste, you will give them a chance. Their services are not offered to you as a charity, and you are not asked to charitably give them work. They are men like yourselves, who want to help the cause of our country by offering their services where they will do the most good. It rests with you whether they shall be given the chance. You have the land and the experience needed to direct their efforts. You will have a chance to increase your products so that you will greatly help your country, and by doing so you will greatly increase your profits. The business men of the cities are appealing to you, as one business man should appeal to another. This waiting labor is offered to you in a frank and manly spirit, and I am sure that you will accept it in the same frank and manly spirit. If there is one message above another that I have to give you in this time of seeding, it is that you need not be afraid to put in all the crops you possibly can. No matter how much you put in, there will be plenty of labor to harvest it carefully. Moreover, this movement is calling the attention of many competent men to the organized greed that in the past has separated the farmer from his natural markets and has almost discouraged him; and I want to assure you that if any of the old tricks are tried this year there will be the loveliest row you ever witnessed. Earnest, capable business men are back of this movement, and it will give them a chance to learn at first hand just what the farmers have to contend with. The bigger the harvest you produce this year the more certain you may be that the problem of marketing will be solved. I foresee a row that makes my veins tingle with the joy of battle, and I propose to take part in it with a spontaneous and care-free ferocity. Just give us the products that will justify a proper fight with the profiteers, and I'll promise you the prettiest battle for your rights this country has ever seen.

Now, just look things over, and see how you can use this labor that is offered to you. Plan to increase your products and you will do the world a service for which you will deserve the gratitude of humanity. Decide just how much labor you can use, the kind you can use, and the time when you will need it. Then write to the Committee on Organization and Resources, or to the Toronto Board of Trade, and your need will be supplied. It is up to you.

(Reproduced from The Toronto Globe of April 7 by the Greater Production Committee, headquarters London, Board of Trade, City Hall.—Advertisement.)

and shattered their nerves. He himself, apparently, was the only one who was not to be allowed the indulgence of giving way. So Mr. Stanton's indignation passed unnoticed.

The two men were often at variance when it came to matters of discipline in the army. On one occasion, I have heard, Secretary Stanton was particularly angry with one of the generals. He was eloquent

about him. "I would like to tell him what I think of him!" he stormed.

"Why don't you?" Mr. Lincoln agreed. "Write it all down—do."

Mr. Stanton wrote his letter. When it was finished he took it to the President. The President listened to it all.

"All right. Capital!" he nodded. "And now, Stanton, what are you going to do with it?"

"Do with it? Why send it, of course."

"I wouldn't," said the President. "Throw it in the waste basket."

"But it took me two days to write—"

"Yes, yes, and it did you ever so much good. You feel better now. That is all that is necessary. Just throw it in the basket."

After a little more expostulation, into the basket it went.

The Old-Fashioned Horse.

The old-fashioned horse was no wonder for speed,

He hadn't the rate of a minute per mile, But, if you'll remember, the bills for his feed,

Were only a tenth of the gasoline style. He wasn't as fleet as a motor machine,

His record for distance was shorter, of course;

But cleaning a car gives no pleasure as keen

As smoothing the coat of the old-fashioned horse.

The old-fashioned horse, he was skittish at times,

But skittish and skiddish are words far apart.

This new turning turtle was none of his crimes,

He stayed right side up, just the same as his cart.

His driver was never the lord of the road, But simply obeyed all the statutes in force.

So, seeing the scorcher's contemptuous mode,

What wonder I sigh for the old-fashioned horse?

—St. Louis Post-Dispatch.

My Dog.

When my dog looks at yer friendly outer miltin' pretty eyes,

An' he wags his tail an' tries ter lick yer hand,

Then I don't care wot you look like an' I don't care wot yer been,

Yer good enough fer me—yer understand?

Sometimes a human bein' judges by yer fancy coat,

An' if yer gloves an' shoes is new an' whole;

But a dog, when he looks at yer, doesn't notice little things;

A dog—a dog he judges by yer soul!

When my dog looks at yer friendly like he wants to see yer smile,

An' jumps upon yer, lovin' when yer call;

I'd like yer if yer was alone without a home or friend,

A burglar, tramp or—anything at all.

Sometimes a human bein' likes yer surface—polished up—

Yer talk or table manners plays their part;

But a dog, when he looks at yer, goes beneath the top veneer;

A dog—a dog he judges by yer heart.

—Christian Herald.

Some Simple Rules.

Don't fight the old traits, don't struggle with them; the more you do so the more pronounced they appear to you, the more force and power will you give them.

Let them go. If you turn your back upon them they will die of sheer neglect.

At first, if you find you cannot succeed in letting them die in this way, try replacing them by another and better thought.

Thus, if you have been prone to criticize, to find fault, to dwell upon the weakness of others, when you find the old thought coming, immediately begin to speak kindly of that person, find something to praise in his life and conduct, look for the beautiful, and you will be surprised how soon the character of your thinking will alter.

The very joy of having thought well and spoken well of someone will be a strong incentive to you to let the old habit die forever.

Mailing a Harsh Letter.

Historians and moralists find an inexhaustible theme in the quality of Lincoln's greatness. He was a man, the foundation of whose character was love. Col. William H. Crook, body-guard to Lincoln, is authority, in the book entitled, "Through Five Administrations," for an anecdote illustrating the great Presi-

dent's kindness of heart. It is set in relief by contrast to the ill-natured invectives indulged in by Mr. Stanton, Secretary of War.

To such expressions of a natural impatience Mr. Lincoln opposed a placid front. More than that, he was placid. He knew Secretary Stanton's intense, irritable nature. He knew how the excitement of the time tried men's tempers

and shattered their nerves. He himself, apparently, was the only one who was not to be allowed the indulgence of giving way. So Mr. Stanton's indignation passed unnoticed.

The two men were often at variance when it came to matters of discipline in the army. On one occasion, I have heard, Secretary Stanton was particularly angry with one of the generals. He was eloquent

This Gang



will do less work and poorer work than this gang

At this time, when labor is so scarce and material costs so much, here is the standing wonder to Standard Posts and Fence users. Why will farmers put up cheap, "made-to-sell" fences, and also why will they waste hours of back-breaking labor, digging holes three times too big for a fence post, then stick the post in, fill it up, have the posts rot to pieces and have to go through the whole performance again later on?



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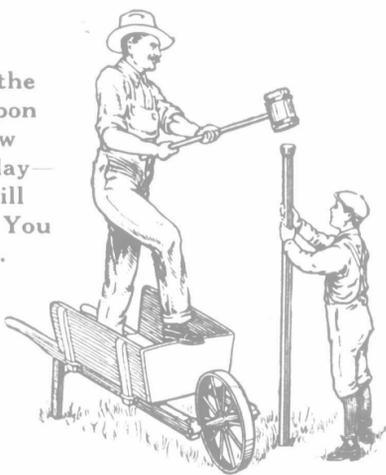
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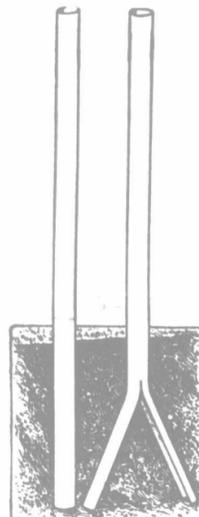
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Hired Men.

I have often heard or read of hired men who were over-worked, meanly treated, poorly fed and generally abused, but I can say most certainly that I never ran up against any such in my experience. We read at times harrowing tales of men forced to plow mucky, brushy or stony land 16 or 18 hours a day through mosquitos or hot weather or whatever, and who had to sleep on the floor in hot garrets and were fed little or nothing. We read such things, and I suppose it makes very popular reading, but who among us I wonder has ever seen that hired man in real flesh and blood? Certainly I never came across any such, and if I ever do I will want to take one long, puzzled look at him and get some one to kick him clear into oblivion. No, in my experience the hired-man proposition has generally been the other way. They always managed to at least convey the impression that they were doing me a very great favor to work for me at all, and that while they were on the place they should be allowed to run things in their own particular way and according to their tried and found true ideas. Never have I talked to a prospective hired man who did not know the last word on everything pertaining to farm life and work, and never have I hired a man and not discussed his abilities beforehand with him but that I found later that mine and all other processes but his were wrong and doomed to failure. If you explain minutely how you want a thing done they know a better way, and either in the end do it their way or make sure that their version of your way makes failure of the thing. All of them that I have known have had some distressing peculiarity, and when they would leave I would fervently ask the Lord that in the next one He sent me He would eliminate that characteristic, and almost invariably that particular characteristic was left out and perhaps the very opposite substituted.

For instance, there was Frank, who insisted on spending an hour a day on the currying and cleaning of each separate horse, thereby cutting considerable time off the hours in the field, and then Pete, who never cleaned them at all except under extreme duress. Again there was one whose name I forget who loved to turn the horses in the pasture every night and would willingly get out a half hour earlier to bring them in, and following him came Max who not only kept them in nights and Sundays but must have them blanketed in light blankets whenever they were not working. Differing from them again was a cranky Swedish gentleman who was up at three or four o'clock every morning but who never was at work before seven, and Tom who stayed up or out nights and allowed himself no extra minute in the morning, nevertheless, he was invariably on time. Then there were the two young fellows that couldn't possibly be separated and I had to hire either both or none; and there was big Pete who was hired to stook and who peevied day after day, and for whose peevishness I could think of no reason for days, and then found it where least expected. You see I ran the binder, and wearying of it at times I would trade jobs and stook for several rounds and let him ride. I thought it a pleasant arrangement, especially for him, until he blurted out that he "wasn't hired to run the binder." Against him was James, who felt peevied if I didn't share the binder fifty-fifty with him.

Then there have been those who under no circumstances would milk, deeming milking women's work, but who would hoe potatoes or feed pigs, and I have seen men who would look me to scorn if I asked them to dump a bucket of slop down the pig slide, but who would milk or even run the madam's washing machine. The really competent ones always accumulate a little money for themselves, and rent or buy a farm of their own. And who can blame them? And on the other hand, the ones who might stay on and on are so loosely incompetent that the patience of even a farmer gets played out. Then there are those who stay through when they are not really needed and who promptly decamp when the busy season comes, and once in a while you run across a real good fellow but whose mother or father or somebody dies, and who leaves never to be seen or heard of again. A.E. Roberts, in "The Farmer's Advocate and Home Journal," Winnipeg.

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Those who ordered their cement before March 29, may consider themselves fortunate, as the price is now fifteen cents per barrel higher for MAY shipment. We are also advised that the railways are liable to advance their freight rates, and if they do before that time we shall be obliged to charge accordingly.

Coal Oil and Gasoline have advanced two cents per gallon, and sugar forty cents per hundredweight during the past two weeks.

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We expect to have our coal prices ready in about one week or ten days, and are still soliciting estimates.

We are still in position to offer a few carloads of good Western potatoes at an attractive price. We have been advised to-day, that potatoes have reached their lowest level.

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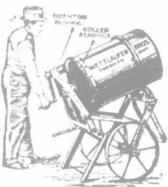
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Bookkeeping is Necessary in Farming.

EDITOR "THE FARMER'S ADVOCATE":

It seems to me that bookkeeping is a part of farming that most farmers forget or seem to think too much bother, too much work, and not necessary. To the mind of the writer, from practical experience, the book part is quite as important as any other part of farm work. It is a well-established fact that the dairyman of to-day would not produce milk profitably if it were not for records. The dairyman's records show which cow is the boarder, it also shows the effect of irregularity, poor feeding, lack of care, attention, etc. The farmer's records not only show him which line of stock, grain or whatever it may be, makes the largest profits, it shows him where his losses have been in the past, and quite often reveals just how those losses that have been running at a loss may be made profitable and paying resources, and above all, when one knows what he is doing it stimulates and encourages him to try his best to come out better each year.

In reading the returns given in the Young Farmers' column of "The Farmer's Advocate," one could not help but see the grave need of a better system. Many seem to show a handsome balance when they have not made allowance for endless outlays that must occur on every farm during the year.

I am not fault finding. Those young men deserve credit for what they have done, but they must press on to better and more accurate methods. There is not the slightest doubt but that they will, once their interest is aroused. Each year they will adopt some new or more complete method, and a good system will be of great benefit to any farmer. It will tell you just where you are at.

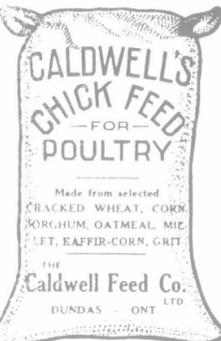
Now, just while I was writing this article "The Advocate" came in, and to my great surprise if Peter McArthur hasn't just confessed that he hasn't been in the habit of keeping his bookkeeping up to where it should be. Well, never mind, perhaps he will catch up with it and be able to give us all some valuable information. Now, while it may be true that bookkeeping would discourage many of our farmers, it only looks reasonable that if they knew they were getting further behind each year they would strive hard to do better or else get down and out.

Allow me to say that farmers, as a rule, are not making money; any one may contradict this statement who shows in black and white that they are. Some farmers think they are. Not long ago a farmer told me he had placed eight hundred dollars in the bank each year he had worked a small farm. The fact of the matter was he had farmed twenty-four years and then sold out; his total worth being less than ten thousand, and he had nearly that to start with. If farmers would all figure it out with actual items from upkeep of auto to watch, rifle, mouth organ and hand sleigh, interest on investment, depreciation of equipment; also on farm buildings, insurance, etc., they would have the rural depopulation question solved. If the money were at the business end of farming all our moneyed men would be after a farm. A short time ago a city contractor (who was contemplating buying a small farm and fixing it up real nice and convenient just for a hobby to occupy his time) asked several questions as to amount of labor needed and the paying part of this investment, saying that from reading farm papers he could not see how he could make more than a small 5 per cent., which was no good. He did not buy.

Now I am only showing up or endeavoring to show what farming has been in the past, but by improved methods and better systems it should be profitable. To the man who has a love at least for live stock, who enjoys being among the cattle, sheep and swine, the farm is a real paradise for him. If he loves the green fields, the birds and many other beauties of nature, he will be right in his glory among his crops, watching and planning how to get the best and make them more profitable. Farming, in my estimation, is just coming to its own. I am the proud possessor of a stock farm myself, and do not care about changing positions. Keeping records has helped, and it is a satisfaction. It is satisfaction to turn back ten years and see just how this or that line was managed, what profit or loss it was giving then, and what progress it has made since.

J. B. C.
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Its waxed package protects and preserves it—keeps it fresh, full-flavoured and clean.

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These pads prevent Sore Shoulders and cure Gall Sores. Your dealer will supply you, or write BURLINGTON BLANKET CO., LTD., 793 KING STREET WEST, TORONTO, CANADA.

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Crop Rotation on a Small Farm.

EDITOR "THE FARMER'S ADVOCATE":

The majority of successful farmers in our district realize that crop rotation is one of the essential factors in getting large and paying returns from the soil. Some of the reasons why the writer found a systematic, short rotation necessary on a small farm of thirty-five acres, are as follows: (1) It helps control weeds and insects; for example, the wire-worm and white grub, which were found to be very numerous in an old timothy and blue-grass sod. (2) The humus content of the soil was more easily maintained. (3) The growth of a legume was provided for in each field. (4) The alternation of deep and shallow-rooted crops was provided for, for example, corn and tobacco, versus cereals. (5) The land was occupied with a crop the greater part of the time, thus excessive leaching of plant food was avoided.

About three-fourths of the total area of thirty-five acres in the farm is a medium gray sandy loam, with quite a proportion of gravel mixed in it, known as chestnut land. The balance, comprising ten acres, is a black, sandy loam, with a sandy subsoil. In short, the soil is productive and early where there is good drainage, but the chief difficulty is to maintain and build up its fertility. The previous owner had not followed any systematic rotation of crops, and as a result some portions of the land are poor in humus, the outcome of a continuous cropping with cereals, for example, oats. The result, as one might expect, is there is considerable trouble getting a thick stand of clover when sown with a nurse crop.

The class of farming followed one might term as specialized fruit, corn and tobacco culture. Seven acres are devoted to fruit, including four acres of peaches, one of apples, and two acres of raspberries and blackberries, while two acres are taken up for yards, buildings, garden, etc. These nine acres do not enter into the regular rotation.

The area between the trees has been intercropped continuously with tobacco and potatoes. These crops seemed to work in very satisfactorily for the purpose. During the past four years rye has been sown as a cover crop as soon as the tobacco is harvested in September, and likewise the area in early and late potatoes was sown with rye, at one bushel per acre. In the spring when the crop gets up about eighteen inches high, before it has started to form the head, it is plowed under for the succeeding crop. During the four years the ground received two light applications of manure in the fall. It is surprising to note the humus content of the soil, which was formerly in poor tilth and in a run-down state of fertility, has increased each year till now it is in a good state of cultivation. The 1916 crop of tobacco was better than any previous one. In addition the peach trees have made a splendid growth. No artificial fertilizer was used as a complement to the manure and green crop plowed under, but positively clean cultivation was practiced every year. The writer would suggest that this experience in building up a run-down, sandy soil by plowing under green crops, and making it grow paying crops, bears out what "The Farmer's Advocate" has recommended concerning this particular point.

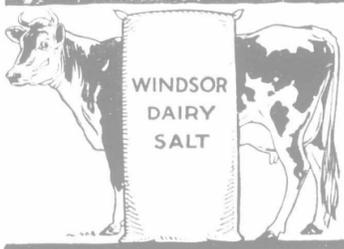
The two-year rotation followed on the balance of the farm, comprising twenty-six acres, is as follows: The first year cereals, fall rye and oats, seeded with clover at 10 to 15 lbs. per acre; the second year, corn with a small area of such crops as tobacco, potatoes and sugar beets. The manure is applied in the early spring before plowing the clover under in May of the second year. The intention this year is to reserve at least three acres of the ground seeded with clover for hay, and after the hay has been taken off, with the aid of a temporary fence use the ground for pasturing and feeding hogs. Finally, the sod will be plowed and sown to rye again. This latter-mentioned supplementary change in the rotation the writer has not followed out. Previously the hay for horses had to be purchased, and the idea now is to try and grow the hay on the farm.

Thus, the reader will note that this short, two-year rotation does not provide for any pasture ground. The writer has found that on a small farm where land is worth from \$150 to \$175 per acre, and

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Please mention Farmer's Advocate

where no waste or stony land is available, pasturing is too expensive a method of feeding, especially where the number of stock kept is not large. The whole farm is in one field, the old, inside fences were removed.

Finally, the writer would suggest that a long system of cropping, extending over say five, six or eight years would not be applicable to the specialized line of farming mentioned above. The advantages of the short rotation have been outlined. Some of the difficulties encountered were: (1) An insufficiency of farmyard manure produced on the farm, necessitating the buying of as much manure as available in order to build up the fertility; (2) the trouble in getting a real, good stand of clover, which is most essential for plowing under.

Essex Co., Ont. W. A. BARNET.

Questions and Answers. Miscellaneous.

Gravel Pit Caved in.

There is a gravel pit on my farm which the public has been getting gravel from. At the present time the bank is caved in and the pit is really not fit for people to get gravel from. We cannot clean it out just now. Can we close this pit until such time as we can put into condition? S. C.

Ans.—If the gravel pit is your own private property you are at liberty to close it and keep it closed until such time as you put it in condition for people to use.

Gossip.

Some system of records and cost accounting is necessary on every farm. The one advertised in these columns by H. S. Bates has received many commendations. See the advertisement.

Arbogast Bros., breeders of Holstein cattle, at Sebringville, Ontario, are advertising service to King Segis Alcartra Calamity, the \$2,000 bull. See the advertisement and correspond with Arbogast Bros. regarding this proposition. Patrons of this bull have made money; others can do the same.

A Pair of Good Holstein Bulls.

We learn from Messrs. Whale & Sons, Goldstone, Ont., that the two Holstein bulls they are offering for sale elsewhere in this issue, will be one-year-old in May. They are both from dams which give around 10,000 pounds of milk and drop a calf within the year, on ordinary feed and care. With special attention these cows would make much larger records and the bulls of course would have to be priced higher than they are at present. The granddam of the two bulls, on the sire's side, has an official record of 553.5 lbs. milk and 27.5 lbs. butter in seven days. Anyone in need of a herd header should look into this opportunity to buy a good one at a very reasonable price.

Satisfied Customers.

Aubrey E. Might, Brampton, Ont., has had several good sales of Holstein bulls and heifers. Bulls have been sold to John McLaren, Ruther Glen; John Dyson, Guelph; Irvine R. Alward, Havelock, N. B. Heifers have gone to Bruce Ronald, Fiske, Sask.; N. R. Daron, Perth, and one to Thos. E. Trail, Lower Southampton. Such letters as the following are received by Mr. Might, regarding these animals: "My calf arrived in good condition Thursday morning, March 15. Am well satisfied with it and should like to know if you have any heifer calves about the same age and no relation to him. Kindly let me know and give me prices". Another reads: "Calf arrived all O. K. Tuesday morning. Am well suited with her appearance. She eats well and seems right at home. Trusting I may have the pleasure of doing some business with you next year. I remain, etc."

The Red Cross of Finance. Other assets may depreciate or even become worthless but life insurance remains unaffected by fluctuations in security values. In the dark days of financial loss and disaster the life policy is often the thing that saves. As a distinguished speaker said at our recent annual meeting— "The world of Finance is a field of war in which many casualties occur day by day, but I like to think that in this battlefield the life insurance company fulfils the function of the Red Cross." Every private home should of course be protected by means of sound life insurance, but so should every business. The loss of an influential partner might easily be fatal to a business organization. Life insurance is often the only portion of a man's estate that he can bequeath to his heirs—unencumbered. There is no other asset that can compare with a policy issued by The Mutual Life of Canada. Write for booklet—"Golden Opinions" The Mutual Life Assurance Company of Canada Waterloo, Ontario

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High Grade Government Standard Seeds

	Per Bus.
No. 1 Mammoth Red Clover	\$15.00
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No. 2 Alsike	12.50
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No. 2 Timothy (this seed grades No. 1 for purity and germination)	4.00
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Marquis Spring Wheat	\$ 2.40
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Golden Vine Peas	3.50
Crown Peas	3.50
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Leaming Fodder	\$ 1.75
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Terms: Cash with order; bags extra, at 30 cents each.
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SEED OATS

O.A.C. No. 72 variety. A choice lot. Write for samples and prices.
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Questions and Answers. Miscellaneous.

Remuneration for Sheep Killed by Dogs.

About a year ago the Provincial Parliament passed an Act empowering township councils to pay full value for sheep killed by dogs. Does that apply to registered sheep only, or is it designed to benefit owners of grade flocks as well?
J. F. H.

Ans.—Grade sheep as well as pure-bred sheep come under the provision of the Act. One with a grade flock of sheep injured by dogs or worried by them can recover damages to the extent of his loss. Compensation comes from the council when owners of dogs doing the damage are unknown.

Mare With a Cough.

I have a mare with a cough which appears to originate in her throat. It is worse when she happens to be warm and then gets cold. What remedy do you recommend?
P. C.

Ans.—The cough is possibly due to a common cold, slight touch of catarrh or a little inflammation in the bronchial tubes. Keep the mare in a comfortable well-ventilated stable, which is free from drafts. Feed on a laxative diet and steam the nostrils by holding the head over boiling water to which a little carbolic acid has been added. Administer nitrate of potash in 2-dram doses three times daily. If there is swelling of the throat apply a hot poultice or use anti-phlogistine.

Seeding Bare Spots in the Meadow.

I seeded a field with clover and timothy last spring but in the dry season it burned out in large spots, while in other places it is fair. Could I sow something in these spots that would come on for hay? How would sweet clover do, or would it be better to scatter timothy seed on the bare places? Would it furnish much hay this summer?
A. S.

Ans.—We would prefer scattering timothy seed on the places, although the sweet clover would no doubt give more rapid growth this season and it would be all right for pasture but ordinarily it would be too woody for hay by the time the other clovers or grasses were ready to cut. You cannot expect very much hay this season from timothy sown in the spring, but it will thicken up the catch for another year.

Lameness—Hoof Ointment.

I have a horse which frequently has attacks of lameness. The veterinarian says it is lymphatic trouble which it likely to develop into lymphangitis. What is a dose of saltpetre for a horse?
2. What is the best thing to apply to a horse's hoofs which are dry and brittle?
D. W.

Ans.—1. No doubt the veterinarian is correct in his diagnosis and lymphangitis may develop. Prevention consists in giving daily exercise and being exceptionally careful in feeding. Reduce the grain ration when the horse is idle. A teaspoonful of saltpetre is the dose for a horse.

2. Poulticing would help the feet. Raw linseed oil, crude petroleum, neats-foot oil and pine tar make a very good hoof ointment. There are also commercial hoof ointments on the market which no doubt materially aid in preventing the hoof from getting hard.

Destroying Ground Hogs.

Is there anything that can be used to destroy ground hogs in their burrows? Will Paris green or strychnine sprinkled on the grass have any effect? My farm is covered with ground-hog holes and I would like to get rid of the cause. M. P.

Ans.—Carbon bisulphide is a material which has been satisfactorily used in destroying ground hogs. It volatilizes readily and the deadly gas produced is heavier than air so that it penetrates to the bottom of the hole and kills anything living therein. This material can be purchased at the druggist's and an ounce is quite sufficient for one hole. A common practice is to saturate woolen waste with the liquid and drop it in the hole. Care must be taken not to use this material near fire as it is very inflammable. Poisoning the grass would not be as effective nor as safe.

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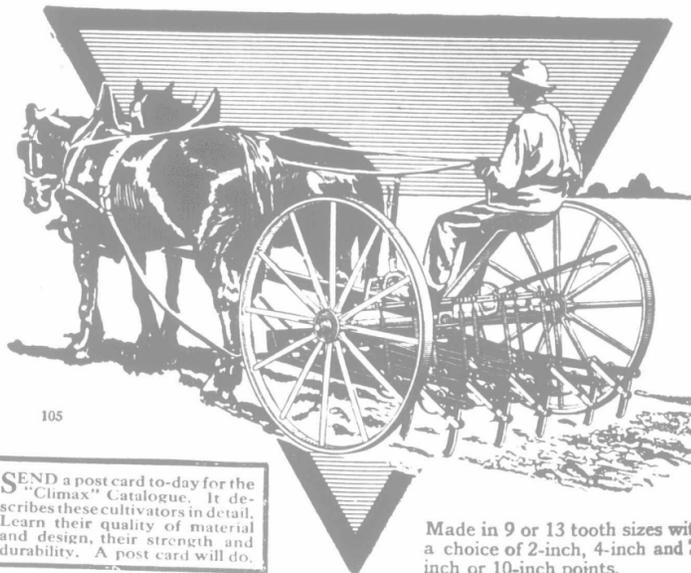
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White Cap Yellow Dent.....	\$2 50	56
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Early Leaming.....	2 25	56
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Mammoth S. Sweet.....	2 25	56
Red Cob Ensilage.....	2 25	56
Compton's Early.....	3 00	56
Longfellow.....	3 00	56

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Freight paid on orders of \$25.00 or over to points in Ontario not exceeding 200 miles.

HEWER SEED CO.,
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Questions and Answers. Miscellaneous.

Low Land Pasture Mixture.

What would you advise sowing on low muck land to give permanent pasture? Timothy and clover are too shortlived.
G. H.

Ans.—A mixture of red top, 4 lbs.; orchard grass, 4 lbs.; Kentucky blue grass, 2 lbs.; alsike, 2 lbs.; White Dutch clover, 2 lbs. and timothy, 2 lbs., gives very good pasture on the kind of soil mentioned.

Registering Clydesdales.

A neighbor of mine was a breeder of Clydesdale horses. He died suddenly, and his brother who is in charge now in looking over the papers found that there is a mare rising eight years and a filly rising two that are not registered; both of these mares' sires and dams are registered. Can he get them registered, and where should he apply?
G. L.

Ans.—If the pedigrees of the sire and dam are available, there should be no trouble in getting the animals registered. Write the Accountant, National Live Stock Records, Ottawa, Ont., for application forms and further information.

Fire Loss.

A insures his buildings with a local Mutual Fire Insurance Company. A fire is accidentally started in the long grass by a spark from a railway locomotive and spreads over a field and sets fire to said buildings, about 70 rods distance from railway, burning some of the siding and also part of the roof before it was extinguished. The Insurance Company paid the loss sustained by A. Is the Railway Company now liable to the Insurance Company for the amount of loss paid?
W. J. M.

Ans.—We think not. The right of action, if any, against the railway company belongs to A.

Concentrates for Dairy Cattle.

Which do you prefer for cows, oil cake or cotton-seed meal to feed with roots or silage and clover hay and rolled oats, or with timothy hay and rolled oats with roots or silage?
J. A.

Ans.—Oil cake is generally considered to be a better conditioner and possibly a little safer to feed in quantities than the cotton seed. However, the latter contains a higher percentage of protein and with either system of feeding mentioned would, no doubt, give higher returns from the same weight. With roots, silage, clover hay and rolled oats, a couple of pounds of cotton seed could be fed and a little higher than this amount with the timothy hay. With both concentrates at the same price, the cotton seed would possibly be the most economical.

Caring for Pregnant Mare.

Some time ago I purchased a young mare which has turned out to be in foal. She acts rather unusual at times. When she lies down she groans as though in pain and acts in a similar manner after she has taken a drink. I only water her once a day and she drinks very heartily. She is also a ravenous eater. She is fed on good hay and oats. She does not get very much exercise as I am afraid to turn her out. At present I have very little work for a team. She does not appear to be sick, except for the groaning. I read in your paper a recipe for a tonic for horses, but it said to give them exercise every day. Would it be safe to give the tonic without the exercise?
R. T. P.

Ans.—The mare evidently suffers from a slight attack of indigestion or more likely from gorging herself. Water her three times a day so that she will not drink too much at once. It is not advisable to give some horses all the hay they will eat, while it is necessary to feed fairly liberally, yet it is quite possible to overdo a good thing. A mare that is in foal should have an abundance of exercise. If you haven't work for her turn her out in the yard loose. If that is impossible, then take a half hour a day and lead or drive her around. Feed a little bran or oil cake with the oats, as it is advisable to give a pregnant mare a little laxative feed. The tonic could be given all right without exercise, but exercise is essential to the health of an animal.

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- Selected Yellow Globe Danvers Onion (black seed).....oz. 25c., ¼ lb. 65c., lb. \$2.10, 5 lbs. \$9.25.
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 - Early Yellow Danvers Onion (black seed).....oz. 20c., ¼ lb. 60c., lb. \$1.90, 5 lbs. \$8.25.
 - Yellow Dutch Onion Setts (choice).....lb. 35c., 5 lbs. \$1.70
 - Shallot Multiplier Onions (for green onions).....lb. 30c., 5 lbs. \$1.40
 - Chantenay Red Table Carrot.....Pkg. 5c., oz. 25c., 4 ozs. 65c., lb. \$2.00
 - XXX Cardinal Globe Beet.....Pkt. 10c., oz. 20c., 4 ozs. 50c., lb. \$1.50
 - Prize Hard Head Cabbage (12 lbs.).....Pkg. 5c., oz. 30c., 4 ozs. 90c.
 - Perfection Cucumber (for table or pickles).....Pkg. 5c., oz. 20c., 4 ozs. 50c.
 - XXX Pink Skin Tomato (continuous cropper).....Pkg. 15c., oz. 60c.
 - Rennie's Mammoth Squash (biggest that grows).....Pkg. 25c.
 - English High Grade Mushroom Spawn.....Brick 50c., 5 bricks \$1.65
 - XXX Solid Head Lettuce.....Pkg. 10c., oz. 25c., 4 ozs. 75c.
 - Kangaroo Swede Turnip (high quality).....4 ozs. 20c., ¼ lb. 35c., lb. 65c.
 - Irish King Swede Turnip (table or cattle).....4 ozs. 20c., ¼ lb. 37c., lb. 70c., 5 lbs. \$3.40.
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Questions and Answers Miscellaneous.

Bricks in Concrete Wall—Registering Percherons.

Can old bricks be used in a cement wall and floor?

2. Which is the more economical for a barn roof, cedar shingles at \$4.25 per thousand, or galvanized shingles at \$7.00 per square?

3. Which are the most numerous in the United States, Clydesdales or Percheron horses? How do the breeds compare in Canada? Under what conditions can the above breeds be registered in Canada?

R. A.

Ans.—1. Bricks may be used in a concrete wall, provided they do not come within a couple of inches of the wall face. We would not advise using them in the floor except for filling.

2. Shingles are the cheaper at first cost, but there are so many things to take into consideration that it is doubtful which is the more economical in the end. Some builders claim that shingles are, while others champion the metal roofing. The cost of laying, period of usefulness and the protection against fire and lightning must be taken into consideration. As there is difference in the quality of cedar shingles, there is also a difference in the quality of galvanizing done on metal shingles, which would materially influence the value.

3. Percherons are the more numerous in the United States while Clydesdales predominate in Canada. Offspring of registered Clydesdales and stallions with five, or mares with four top crosses, may be recorded in the Clydesdale Stud Book of Canada. The constitution and by-laws of the Canadian Percheron Horse Breeders' Association are to the effect that only horses or mares from imported stock which have a certificate in good and valid form, establishing that they are of pure Percheron breed and that they have been registered in the Percheron Stud Book of France, and progeny born in Canada or the United States from animals already registered in the above mentioned Percheron Stud Book, the Canadian Percheron Stud Book, or the Percheron Stud Book of America, may be recorded. This does not allow grading up as is the case with the Clydesdale breed.

IN THE FIELD MAKING MONEY-



or lame in the barn, "eating their heads off"? One means profit—the other means loss. When a horse goes lame—develops a Spavin, Curb, Splint, Ring bone—don't risk losing him through neglect—don't run just as great a risk by experimenting with unknown "cures". Get the old reliable standby—

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Ans.—One partner would get two-fifths of \$630, which would be \$252. The other partner would secure three-fifths, or \$378.

Devolution of Estate.

A dies willing his wife the use of the house and home while she lives. At her death the house goes to A's brother's illegitimate child described in the will as a nephew. If A's widow marries she has to give the home to A's nephew, we will call him C. If C dies before A's widow who would be the heirs after C's death. C is married but has no children.

Ontario. D. R.

Ans.—The property would go as devised by C's will, if any. If he were to die without a will, and leaving a widow but no children, this property would upon the death of A's widow become part of C's estate. \$1,000 of the net value of such estate would go to C's widow absolutely; she would also take one-half of the rest and the other half would go to the Crown—that is to say, to the Ontario Government.

Summer Pasture.

I have a ten acre field which I wish to sow this spring with something to supplement the pasture. I read that a bushel each of wheat, oats and barley to the acre with seven pounds of clover gives good pasture. I also read that fifty-one pounds of oats and thirty pounds of sorghum with the clover gives equally good results. Considering the price of wheat and barley, which of the above would you advise me to sow? The land is sandy loam, well drained and fall plowed. I used sorghum last year with poor success, but no doubt the dry summer was responsible for that.

J. M. M.

Ans.—For the average soil and conditions we would prefer the mixture of wheat, oats, barley and clover to the oats and sorghum. The latter has been recommended in some sections but it is a common occurrence for the sorghum to prove a failure. The former mixture will supply a larger amount of feed.

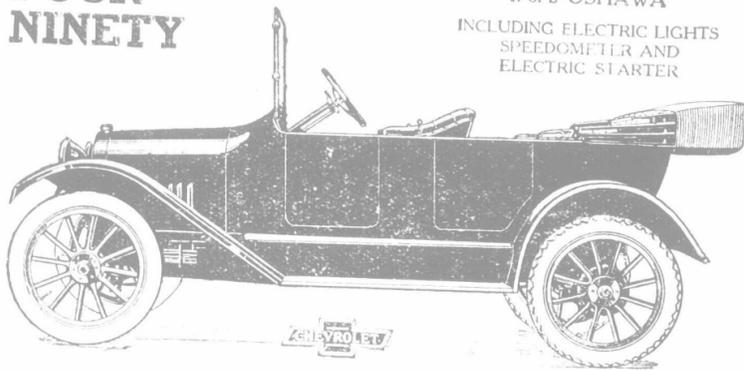
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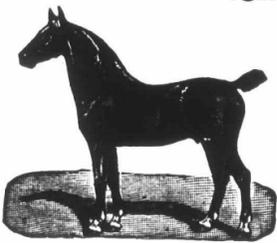
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Have used GOMBAULT'S CAUSTIC BALSAM for more than 20 years. It is the best blister I have ever tried. I have used it in hundreds of cases with best results. It is perfectly safe for the most inexperienced person to use. This is the largest breeding establishment of trotting horses in the world, and use your blister often.—W. H. RAYMOND, Prop. Belmont Park Stock Farm, Belmont Park, Mont.

USED 10 YEARS SUCCESSFULLY.

I have used GOMBAULT'S CAUSTIC BALSAM for ten years; have been very successful in curing curb ringbone, capped hock and knee, bad ankles, rheumatism, and almost every cause of lameness in horses. Have a stable of forty head, mostly track and speedway horses, and certainly can recommend it.—C. CRANK, Training Stables, 990 Jennings Street, New York City.

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When the snow lies deep on meadow and pasture, the farseeing dairyman rejoices in his trusty Natco Silo. Sweet, juicy and free from mold, the silage holds the cows to full milk flow and puts flesh on the steers and fattening lambs. Your corn crop will go 40% farther when preserved in a

Natco Imperishable Silo

"The Silo that Lasts for Generations"

Built of glazed hollow tile impervious to air and moisture, and frost-resisting. It's the silo that needs no repairs—no painting—has no hoops to tighten. Strongly reinforced and fully guaranteed. Simple in design; only two shapes of tile used; any mason can erect a Natco. Will increase the value of your farm.

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APPLE TREES

THE BEST VARIETIES, all government inspected trees, at rock-bottom prices, delivered at your nearest railway station. You will never again, we believe, have an opportunity to buy selected trees at these low prices. Nurserymen and growers predict next year an advance of from ten to fifteen dollars per hundred. Place your order now, while we have a general assortment on hand.

E. D. SMITH & SON, LIMITED
WINONA, NURSERYMEN, ONTARIO

Seasonable Hints For The Farmer.

EDITOR "THE FARMER'S ADVOCATE":
In these days of stress and strain, when the greatest war the world has ever witnessed is being waged, we are all, rural and urban citizen alike, called upon to utilize our resources in the most thrifty and economical manner. All honor is due to those who have answered the call, but we all cannot go to the front, so the farmer must shoulder his responsibility and do his bit in bringing this awful carnage of men and property to a glorious and honorable and lasting peace which shall never be broken. Lord Kitchener plead for sufficient food for his army, thus the slogan for the farmer appears to be—"Produce More, Produce More."
With such a scarcity of men on the land the average farmer is sorely handicapped. In many cases he must work away alone as best he can with what little help he is able to procure from women and mere boys. This means that in some sections less crop will be put in. But in war-time especially we cannot afford to let grazing take the place of mixed farming. In the British Isles, drastic measures have had to be taken to partially allay the food problem. Necessity forced such conditions to exist, so it behooves the Canadian farmer to get the maximum number of bushels per acre. Time is money nowadays, thus modern machinery and heavier teams must take the place of an extra man. It may seem expensive at the time, but it soon pays for itself, as help cannot be procured at any price. The use of two-furrowed plows, wide harrows, cultivators, drills, mowers, binders, the side-delivery rakes, hay loaders, forks and slings for unloading in the barns helps to reduce the manual labor. But these must be kept in good condition. Have a place for the implements, and when not in use keep them in their place, do not have them strewn promiscuously around the yard and adjacent fields, in the sun, rain and snow. It does not look well, and

PERCHERONS ANNOUNCEMENT EXTRAORDINARY!

We have, and are going to sell in the next four weeks, the seven best imported Percheron stallions to be found under one roof in Ontario. Every horse is guaranteed sound and a proven foal-getter, and has been a prize-winner at either Toronto or Guelph Exhibitions. Ages run from four to seven years; colors blacks and grays; weights from 1,800 to 2,100 lbs. We are making substantial reductions in the price of these horses in order to make room for another importation. Terms to suit purchasers. Call, write, or phone.
HODGKINSON & TISDALE, Beaverton, Ontario

FOR SALE A Very High-Class Belgian Stallion

COMING 7 YEARS
Color, Strawberry roan; weight between 1,900 and 2,000 lbs. Son of the Sweepstakes Draft Mare, Chicago Horse Show, 1907. Come and see his colts. Address: **W. C. HOUCK, R. R. No. 1, CHIPPAWA, ONT.**

Clontarf Farm Manning W. Doherty, Malton, Ont. Est. 1820
Breeder of Clydesdale Horses, Holstein Cattle, Yorkshire Hogs. We can now offer Holstein bull (Pontiac Artis Thekla 30395), twelve months old, and every inch a bull, one-half white, dam Empress Thekla; has a record at two years and two days old of 16.54 butter. Sire, Pontiac Artis Canada. This is a beautiful animal and the first cheque for \$100 gets him.
Bell Telephone **HILLSDALE FARM** Farm 3 1/4 miles east of Ottawa
B. ROTHWELL
BREEDER OF HIGH-CLASS CLYDESDALES
Write me for prices on champion mares. R. R. No. 1, OTTAWA, ONT.

OUR LATEST IMPORTATION OF CLYDESDALES
arrived at our barns late in November. A number of them since have been prominent winners at both Guelph and Ottawa. But we have others (both stallions and mares) that were never out; the majority of the stallions weigh around the ton, and better quality and breeding were never in the stables. Come and see them, we like to show them. **SMITH & RICHARDSON, COLUMBUS, ONTARIO**

Elm Park Aberdeen-Angus Bulls. Our special offering (three of our prize bulls). At Toronto and London 1916 shows, out of a possible five champion prizes and a possible ten first prizes, our bulls won all the championships, and nine of the ten first prizes. The bulls we are offering are all proved breeders. Pure seed, O.A.C. 72 oats at \$1.25 per bushel, and O.A.C. 21 barley at \$1.75, bags free on lots over five bushels.
JAMES BOWMAN, ELM PARK, GUELPH, ONTARIO

WOODLANDS BROWN SWISS AND PONIES
We have no Clydes. left for sale. Our special offering is Brown Swiss bulls, out of high-testing and big producing dams. Strictly high-class Also Shetland and Welsh ponies.
R. BALLAGH & SON, GUELPH, ONTARIO

besides the implements will not be in good condition for work, and will only last half the time. So it pays and pays well to overhaul the implements in the fall before storing them for winter. Get the broken pieces repaired at once, for there is no spare time for unnecessary work in seeding.

As soon as the crops are harvested skim the land lightly to check the weeds. The second plowing should be deep and narrow, thus exposing the weed roots so that nature can do her work more efficiently. The land may appear lumpy, but the frost will pulverize it; and as a rule the crop will show the difference between deep and shallow plowing. For a field that takes a long time to dry in the spring I found it a very satisfactory method to drill as if for roots in the fall, and it was surprising how much earlier I got on the land in the spring. If spring plowing has to be done it should be shallow so that the undisturbed root-bed will hold the moisture longer than when plowed deep.

During the earlier part of the winter the farmer spends his spare time in the bush. A well-filled yard of split wood saves many a moment during the busy spring and summer. We cannot afford to idle away the less busy days of winter and crowd everything into April, and expect a well-filled granary in September. When the milder days of March have come the thrifty farmer rids his yard of the winter's manure—the best of all fertilizers—and lays in a good supply of chop feed. Some are fortunate in having a gasoline engine to cut wood, chop, etc.; this not only saves time later on but hardens the horses for the more strenuous spring work. Now he enters his granary and picks out his choice seed grain, putting it through the fanning mill twice. Sow only the best seed that can be procured for, "What a man sows that shall he also reap." He must be well versed in knowing the particular treatment that must be given his seed in order to insure it against smut, rust, etc. (From time to time the Government sends out circulars regarding such subjects, and it is advisable that every farmer should keep himself well posted along such lines.) The rotation of crops in



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You'll need horse badly from now on. Why take risk or lay up because of lameness? Send for **SAVE-THE-HORSE** THE humane remedy for lame and blemished horses. It's sold with signed Contract-Bond to refund money if it fails to cure SPAVIN, Ringbone, Thoropin and ALL Shoulder, Knee, Ankle, Hoof and Tendon Diseases, and while horse works. Our 96-page **FREE BOOK** is the last word in the treatment of 58 kinds of lameness. It's our 21 years' experience. Expert veterinary advice, Sample Contract and **BOOK—ALL FREE.** TRU, CHEMICAL CO., 145 Van Horn St., (Made in Canada.) Toronto, Ont. Drugists everywhere sell Save-the-Horse with CONTRACT, or we send by Parcel Post or Express Paid.

Bone Spavin

No matter how old the blemish, how lame the horse, or how many doctors have tried and failed, use **Fleming's Spavin and Ringbone Paste**. 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 **Fleming's Vest-Pocket Veterinary Adviser**. Ninety-six pages, durably bound, indexed and illustrated. Covers over one hundred veterinary subjects. Read this book before you treat any kind of lameness in horses. **FLEMING BROS., Chemists** 75 Church Street Toronto, Ont.

Don't Cut Out A SHOE BOIL, CAPPED HOCK OR BURSTITIS

FOR ABSORBINE

will remove them and leave no blemishes. Reduces any puff or swelling. Does not blister or remove the hair, and horse can be worked. \$2 a bottle delivered. Book 6 K free.

ABSORBINE, JR., the antiseptic liniment for man and horse. For Boils, Bruises, Old Sores, Swellings, Varicose Veins, Varkosities. Always Pain. Price \$1 and \$2 a bottle of drugs or delivered. Will tell more if you write. **V. F. YOUNG, P.D.F. 258 Lyman Bldg., Montreal, Can.**

DR. PAGE'S ENGLISH SPAVIN CURE

Cures the lameness from Bone-Spavins, Side-Bones, Ringbones, Curbs, Splints, etc., and absorbs the blemishes; does not kill the hair, absorbs Capped Hocks, Bog-joints, thick pastern joints, cures lameness in tendons; most powerful absorbent known; guaranteed, or money refunded. Mailed to any address. Price \$1.00. Canadian Agents: **J. A. JOHNSTON & CO., DRUGGISTS,** 171 King St. East, Toronto, Ont.

FOR SALE—Two Imp. Clyde Stallions—Ame (6187), a brown, the only horse in Canada that stood as high as 8th in the breeding list in Scotland. Broken to harness. Lord Stanley (6124), a bay, weighs a ton, full of quality and good action; age 8 years. Both sure and quiet. Will take work horse or some stock in part pay. Must sell. **GEO. TAYLOR, Creemore, Ont.**

Alloway Lodge Stock Farm

Angus—Southdowns—Collies

CHOICE BULLS

ROBT. McEWEN, R.R. 4, London, Ont. MESSRS A. J. HICKMAN & CO., (late Hickman & Scruby,) Court Lodge, Egerton, Kent, England, exporters of **PEDIGREED LIVE STOCK** of all descriptions. Specialty 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.

Beaver Hill Aberdeen-Angus bulls, from 15 to 24 months; cows with calves at foot, and bred again; females all ages. Rose-comb Rhode Island Red cockerels from good winter laying strains, \$2.50 each. Write **ALEX. MCKINNEY, R. R. No. 1, Erin, Ont. L-D. phone.** **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 25 cents for mailing, packing, etc. Agents wanted. Write address plainly. **DR. BELL, V.S., KINGSTON, ONT.**

systematic farming must be given thoughtful consideration.

As soon as Jack frost has bidden farewell for another season, and our songsters from the south have returned it is time to get on the land. The horses come prancing out of the stable quite eager for spring work in the re-modelled harness. Never start spring work with poor harness—a strap missing here, and a broken buckle there. It is not safe for driver, horses or implements. Cultivate your fields one after the other if possible; the first may appear a little damp, but by the time you return to it again it is perfectly dry and works up easily; and you have saved much more time than if the first field had been completed before starting the second.

To be a successful farmer I would suggest: Be business-like in all your doings; plan ahead so that the work of the whole year will be equalized, making the most of slack times; be thorough in everything, do not put off necessary work—a slothful, careless farmer is a disgrace to the profession; keep only the best—have quality rather than quantity in stock, grain and implements; be progressive, take an agricultural paper, read all government reports, keep posted on current subjects; and above all love your occupation which is the healthiest, most independent, honorably important and congenial in the whole world.

Huron Co.) **D. M. W.**

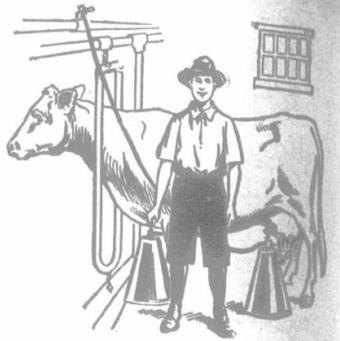
Gossip.

Dryden's Shorthorns and Shropshires.

In Shorthorn circles from the Atlantic to the Pacific, north or south of the border, there are but few more familiar figures than Will A. Dryden, proprietor of Maple Shade Farm, Brooklin, Ont., and President of the Dominion Shorthorn Breeders' Association. In all of America's largest show rings his judgment is often requested; he knows good Shorthorns, and at Maple Shade Farm he breeds only the best ones. It is easy to do this, for one would have to search a long time to find a better lot of matrons than those that make up the foundation in the Maple Shade herd. They are all big, deeply-fleshed, well-developed cows, a great number of which are imported. Among them, all the more fashionable families are well represented, and at no time since the foundation of the herd has the demand for their offspring been stronger than at present. There has been almost a score of young bulls from these dams gone out since October 1, to head various herds throughout the United States and Canada. Eleven of these were sons of the present chief sire, "Archer's Hope", which has been many times a champion winner and perhaps the greatest breeding sire that ever did service at the farm. His get have been prominent winners at all of the larger exhibitions, and have perhaps brought as high average prices as those of any other sire that Canada has ever known. In many cases to, these highest priced calves have gone out on mail orders which have, so Mr. Dryden informed us, without one single exception, always given entire satisfaction to the purchaser. The following letter from an Alberta customer is only one of almost one hundred letters that Mr. Dryden opened out before us, during a recent visit to the farm, and each, in their own way told of a satisfied customer: "Just a few lines to say I received the bull in splendid shape on February 27, but did not get your letter until last week as it had been delayed in the mail. I am very pleased to say that this is one of the very best bulls we ever owned and I find him just as you stated in your letter. I also saw the bull you shipped Mr. Potts and he sure is the makings of a fine animal. I might say that when I am in need of another Shorthorn I will sure give you my order which will, I think, be next season." It is very nice to receive letters such as these from one's customers, and Mr. Dryden also has many similar ones in connection with his Shropshire orders. He has been unable to fill any orders for either ewes or rams since February 1, although there are upwards of one hundred breeding ewes in the flock at all times.

W. H. Wright, of Saskatchewan, paid a visit to Ontario recently and purchased the prize-winning mare, Scotland's Charm, also her foal, Scotland's Charm.

"Walter would rather stay home and milk than go away on a picnic!"



HOW to get along with less hired help, and yet escape the drudgery that drives boys away from the dairy farm—this is the problem that is being solved by the

EMPIRE Mechanical Milker

No one seems to like hand milking, yet every boy loves to run a machine. Here is a typical example of how it works out:

AMHERST, N.S., Jan. 5, 1917
Dear Sirs:—Walter, who was 16 years old, loves a machine, but hated to milk cows, so we bought the Empire Milking Machine that was shown at the Winter Fair at Amherst in 1915. It has given good satisfaction in every way. We have milked at the rate of 40 cows an hour, but think it best not to exceed 32, as that leaves very little stripping to do. One cow that only gave 21 quarts the year before, gave 29 quarts with the machine; two others that gave 22 1/2 quarts the year before gave 26 to 28 quarts this year when machine milked. We have just one cow that refuses to give her milk down with the machine. The cows are very much quieter when machine milked and sore teats are all done away with. Walter has taken full charge of engine and milker since it was put in and has never missed a milking—would rather stay home and milk than go away on a picnic. **Geo. E. FREEMAN**

While overcoming the strongest objection to the life of the dairy farmer, the Empire Mechanical Milker is helping hundreds to make more money. Why shouldn't YOU be one of them? Write for Illustrated Booklet and full particulars to Dept. C

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MONTREAL. TORONTO. WINNIPEG. 64

ATTENTION! BIG SALE OF LIVE STOCK

Percherons, Clydesdales, Belgians, Standard-breds; also 60 Holsteins, AT GRENVILLE, QUE., ON THURSDAY, APRIL 26th, 1917

J. E. ARNOLD is offering by Public Auction his entire stock of 25 imported and registered horses, consisting of Percherons, Clydesdales, Belgians, Standard-breds, half-bred Hackneys and half Thoroughbreds.

In Percheron stallions there will be offered the champion, Loin 3901-99522, dark gray, and the noted prize-winner, Rosial L 3477-51645, black; Chancellor 3479-83536, beautiful dapple gray; Prospect 793, although up in years is in fine condition and gives good satisfaction in the stud. In Percheron mares, the champion, Marie 3932-106177, gray, due to foal in May to Loin; Hazelthorn 4502, and Roseline 4503, a matched pair of black half-sisters, 2 and 3 years old. Others in Percherons not mentioned.

Clydesdale stallions: Baron's Kid 9742, Pride of Eardly 9876, and Baron Aberdeen 16100, Kitty Macrae 31602-34474, Imp. mare, 6 years old.

In Belgians: Due 646 vol. 22, the champion 6-year-old chestnut; Posena 1469 vol. 20, page 720, McLaren's of Buckingham, due to foal in May.

The Hackneys are sired by the gold medalist, Ardermersy, and the thoroughbreds by Athol, the noted thoroughbred, owned by the Government. There are many others of the different breeds not mentioned here, also 60 HEAD OF REGISTERED AND GRADE HOLSTEINS, headed by Prince Xanthine Korndyke 19353, sired by Sir Rag Apple Korndyke 9562, and grandson of the noted Pontiac Korndyke—dam, Belle Xanthine de Kol. We have 18 females sired by him and many of the cows stock, as no reasonable offer will be refused. Mr. Arnold is renovating both horse and cow barns and will have no place to house them during construction.

Grenville is midway between Ottawa and Montreal on C.P.R. and C.N.R. G.T.R. Hawkesbury-Two trains each way every day. Long-distance Telephone. C.P.R. train leaves Ottawa 8.30, arrives Grenville 11 a.m. Leaves Montreal 8 a.m., arrives 10.13. Rigs will meet both these trains.

TERMS: 6 months on satisfactory security for amounts up to \$500. On larger amounts extension of time will be given to suit purchasers.

J. E. ARNOLD - GRENVILLE, QUE.

BURNFOOT STOCK FARM

Breeders of high-record, dual-purpose Shorthorns. We are now offering a fine red bull, calved Sept. 1, 1916. Sire, Burnfoot Chieftain, whose dam has an official record of 13,535 lbs. milk and 540 lbs. fat. Also a nice 12-months-old bull by same sire. Write for particulars, or better still, come and see our herd. Farm one mile north of Caledonia. **S. A. MOORE, Proprietor, Caledonia, Ontario**

SALEM SHORTHORNS

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

J. A. WATT, ELORA, ONTARIO

IMPORTED SHORTHORN BULLS

We have several newly-imported bulls of serviceable age. Cruickshank, Marr and Duthie breeding, Royal Blood. Get our prices before buying elsewhere. **RICHARDSON BROS., Columbus, Ont.**

SCOTCH SHORTHORNS (Show Material—Both Sexes)

We are offering some extra quality in young bulls, two of the Emmeline family, fit for service now; one very promising Mat-thess bull (9 mos.); show bulls every one. Any person wanting something good of either sex will do well to see our herd. **Geo. Gier & Son, R. M. D., WALDEMAR, ONTARIO** R. R. Station, Grand Valley

IMPORTED SHORTHORNS

11 imported cows have calved since arriving at farm, others due soon. Now is your opportunity to get something worth while to add to your herd at reasonable cost. Imported bulls of serviceable age. **A. G. FARROW, OAKVILLE, ONTARIO**

OAKLAND SHORTHORNS --- BULLS

Present offering is 7 fine bulls, from 11 to 18 months of age; all have good bone and are good feeders, being thick and low set and all of one milk strain and excellent breeding. In good growing condition and priced so you can buy. **JNO. ELDER & SONS, HENSALL, ONTARIO**

A Choice Offering of Shorthorn Bulls—We have several good, thick low-set bulls that are now just ready for service, all reds and whites, and mostly of Booth breeding. We would like to have you see these. They are priced to sell. **Geo. E. MORDEN & SONS, Halton Co., Bell Phone Oakville, Ont.**



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The more you know about the uses of concrete, the more money you can make out of farming.

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Will it be a Dry Season?

You don't know—nobody knows. But if you take the precaution of proper tilling you will have as little to fear from insufficient moisture as hundreds of users of Peter Hamilton Cultivators last year. Good seed deserves better treatment than simply planting it haphazard. Work up your soil with a

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and you'll get improved results. All teeth cultivate to the same depth and thoroughly work up every inch of the ground. Every tooth reinforced, each section of heavy steel. See this splendid implement before investing in any cultivator.

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The Peter Hamilton Company, Ltd.
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Palmer's Summer Packs

GIVE real foot comfort to tired, aching feet. They are made from oil-tanned Skowhegan waterproof leather. These summer packs or plow shoes are light, strong, durable—made with water-proofed leather sole and heel and solid leather insoles are laced, have large eyelets and bellows tongues. The ideal shoe for working on the land.

They are also specially suitable for ranchers, trackmen, laborers, sportsmen and all others requiring extra strong yet comfortable footwear.

The style shown—No. 109, is nine inches high. Ask your dealer for Palmer's famous "Moose Head Brand" footwear—many styles and sizes to choose from.

JOHN PALMER CO., Limited
Fredericton, N. B. Canada.

Questions and Answers. Miscellaneous.

Heating by Electricity, etc.

1. How many K. W. H's. of electricity would be required to heat and light a twelve roomed house and cook for a family of ten per year?

2. How much current would be generated from a stream flowing about forty cubic feet past a given point in one minute if dammed to a height of ten feet?

3. What would be the most suitable voltage for carrying this current a half mile each way from source, and could it be carried on a telephone pole lead along with telephone circuits, and would No. 12 iron telephone wire do for this purpose?

J. E. W.
Ans.—1. To heat a twelve-roomed house for say seven months will require at least 8 tons of coal, and some use as high as 12 to 15 tons for houses this size. It would take 10 H. P. of electricity running full strength every minute for 7 months to give as much heat as 8 tons of coal, and even then the electricity would not take the place of the coal, because at night time and during mild weather the store is run light, but in the daytime and during severe weather it is forced and burns two or three times the average, consequently it would require at least 20 H. P. of electricity to give the same heating capacity as 8 tons of coal, and 25 H. P. would be safer. Eight H. P. for 7 months = 30,365 K. W. H.

The lighting is a small item in comparison with this. Say that on the average

ROBERT MILLER Pays the Freight on his Shorthorns

I have six Lavender bulls over a year old, two Duchess of Gloster bulls over a year, four other bulls from good families, all have good bone and good feeding qualities, and they are naturally thick-fleshed, but not highly fitted in some cases. They are half reds and half good roans. I have some heifers in calf and some to be bred soon

You can get the right kind from me at reasonable prices.
ROBERT MILLER, STOUFFVILLE, ONT.

Pleasant Valley Farms We have for sale (at prices that will move them in the next 30 days) the following exceptionally good bulls, 1 ROAN LADY, 1 BROADHOOKS, 1 ROSEWOOD, 1 WIMPLE, 1 STAMFORD, 1 MERRY LASS, 2 DUCHESS OF GLOSTERS and several others. Also equally well bred cows and heifers bred to (Imp.) ROYAL SCOTT and BEAUMONT BEAU. Inspection invited. Our cattle will interest you. \$0 head to select from.
GEO. AMOS & SONS, Farm 11 miles east of Guelph, C.P.R., MOFFAT, ONTARIO

SHORTHORNS AND SHROPSHIREs—T. L. Mercer, Markdale, Ont. Have sold all the Shropshires I can spare this season. Present offering in Shorthorns—ten really choice young bulls, sired by Broadhooks Golden Fame =50018= (imp.), and out of such noted families as Campbell-bred Clarets, Nonpareils, Marr Missies, Stamfords, Crimson Flowers, Village Girls and Charming Gems, ranging from 9 to 16 months old. All are good reds and roans.

IMPORTED SHORTHORNS

35 imported cows and heifers, forward in calf to service in Scotland, also five imported bulls. Our 1916 importations are all choicely bred. Have also home-bred bulls and females. Farm half mile from Burlington Junction. Write or call and see us. **J. A. & H. M. PETTIT, Freeman, Ont.**

Creekside Farm Shorthorns We have for sale at present a number of young things by our former herd sire, Clan Alpine (the Claret-bred bull, by Proud Monarch). We like them; so will you. If it's young bulls, or a few females you need, we would welcome a visit from you. Write or phone. Visitors met by appointment.
Geo. Ferguson, Elora Stn., C.P.R., G.T.R., Salem, Ontario

WILLOWBANK STOCK FARM SHORTHORN HERD Established 1855. This large and old-established herd has at the head the two great bulls: Imported Roan Chief =60865=, a Butterfly, and the prizewinning bull, Browndale =80112=, a Mina. An extra good lot of young stock to offer of either sex. Splendid condition. Good families of both milking strain and beef.
JAMES DOUGLAS, Caledonia, Ontario

Spruce Glen Shorthorns of such popular strains as Minas, Fames, Miss Ramsdens, Florences, Emilys, etc. Present offering, our stock bull, Earl Derby 2nd, 5 yrs. old, a show bull, hard to beat. Also a few young, thick, mellow fellows, fit for service.
James McPherson & Sons, Dundalk, Ontario

BLAIRGOWRIE SHORTHORN OFFERING Imported and Canadian Bred. More bulls to select from than any herd in Ontario, all of serviceable age; also a large number of females, which are bred right and priced right. All the stock for sale.
JOHN MILLER, Ashburn, Ontario Myrtle Station, C.P.R. and G.T.R.

there were 12 lamps each of 25 watts, in use for four hours each day, the total power used in the year would be only 448 K. W. H.

The current necessary for cooking is harder to arrive at, but perhaps we can approximate it. The "elements" in some electric cookers take about 1,300 watts each. Assume for each meal, including also the baking, that two elements would be run an average of one hour at morning, noon and night. That would make 2,600 watts 3 hours or 7,800 watt hours per day, or 7,800 x 365 = 2,847,000 watt hours per year = 2,847 K. W. H.

Adding the heating, lighting and cooking together the requirements would be 33,660 K. W. H.

2. A stream flowing 40 cubic feet in one minute and dammed to 10 feet high would generate not more than 20-33 of one horse power, which going steadily all year would give 3,940 K. W. H. which is almost exactly 1-9 of the amount required for heating, lighting and cooking.

3. 110 or 220 volts would be ample, because the current for 20-33 H. P. at these pressures would be only 4 amperes for the 110 volt circuit and 2 amperes for the 220 volt circuit, and the loss at these strengths would be very small. A small amount of power like this would probably not disturb the telephones to any appreciable extent. A No. 12 iron wire one-half mile long and back would have about 110 ohms resistance and 110 volts against this could only drive 1 ampere of current, to say nothing about doing work at the end of the line. Hence the iron wire would not do. A copper wire the same size would do as it only has about one-fourteenth as much resistance as the iron. **W. H. D.**

Giant Yoke Ropes

vs. Leather Pole Straps



A year ago when we introduced the Giant Yoke Ropes, many were skeptical of its wearing qualities. But a year's trial under the wear and tear of actual working conditions has proved the Yoke Rope a better buy than the Leather Pole Strap.

A pair of Giant Yoke Ropes fitted with snaps and slides will cost you less than half the price of similar equipment in leather. They are just as strong and will last as long. The 3/4-inch, hard, manilla rope used in this specialty gives the same pulling strength as leather.

Giant Yoke Ropes, per pair, cost \$1.00 (\$1.25 per pair, west of Fort William.)

Order from your dealer, or direct, if he won't supply you. Our Free booklet describes the Griffith line in an interesting way. Send for a copy of it.

G. L. Griffith & Son
68 Waterloo St.
Stratford, Ont.

16⁹⁵ ON TRIAL

Upward

American

FULLY GUARANTEED CREAM SEPARATOR



A SOLID PROPOSITION to send you, well made, easy running, perfect skimming separator for only \$16.95. Closely skims warm or cold milk. Makes heavy or light cream. Bowl a sanitary marvel, easily cleaned. Different from picture, which illustrates larger capacity machines. See our easy Monthly Payment Plan.

Shipments made promptly from Winnipeg, Man., Toronto, Ont. and St. John, N. B. Whether dairy is large or small, write for handsome free catalog and easy payment plan.

AMERICAN SEPARATOR CO.
Box 3200, Bainbridge, N. Y.

LIVINGSTON BRAND
The purest and best.

OIL CAKE MEAL

THE DOMINION LINSEED OIL CO., Ltd.
Manufacturers, Baden, Ont.

CREAMO
Cotton Seed Feed Meal
FOR
DAIRYMEN and FEEDERS

Ask your dealer or write for prices.
Fred Smith, 32-34 Front St. W., Toronto

GLENFOYLE SHORTHORNS

Seven bulls, big, straight, smooth, fleshy fellows, some from cows milking 40 to 60 lbs. a day. Also a few outstanding heifers that are bred. Three young cows. Prices right. Bell 'phone.

Stewart M. Graham, Lindsay, Ont.

Mardella Shorthorns—Bulls; females; size; quality; breeding dual-purpose cattle over 40 years. The Duke—dam gave 13,599 lbs. milk, 474 lbs. butter-fat—at the head. **THOMAS GRAHAM, Port Perry, Ont., R. R. 3.**

"Maple Leaf Farm"
Shorthorns; Shropshires; both sexes. Mail orders satisfactorily filled.

J. BAKER, R. R. 1, Hampton, Ont.

SHORTHORNS—Pail-fillers for sale. Young bull and heifers out of high-record cows. A few young cows and bulls with extra good breeding and quality. **PETER CHRISTIE & SON, Manchester P.O., Port Perry, Ont. Co.**

Questions and Answers.
Miscellaneous.

Starting a Creamery.

What would it cost to purchase machinery for a creamery? How many cows should there be in the neighborhood to make it profitable to start a creamery?

2. Could you give me information regarding the United Co-operative Company? Where could I get a book of instructions, or the name of the Secretary of the society?

3. What will kill blue lice on cattle?
J. A. B.

Ans.—1. It is difficult to state what the machinery would cost when we do not know the size of creamery which you purpose equipping. We would advise you to write the manufacturers of dairy supplies, advertising in these columns, for their present prices of machinery. There should be in the neighborhood of four or five hundred cows within the radius of five miles from the factory to warrant a sufficient supply of cream.

2. For information regarding what the United Farmers' Co-operative Company, Limited, of Ontario, are doing, write this company at 110 Church Street, Toronto. Bulletins giving the principles of co-operation in general have been published by the department at Toronto, and no doubt can be secured from the Parliament Buildings.

3. Sifting a mixture of dry cement and hellebore powder into the hair is recommended. Pyrethrum powder alone will also do the trick. Care should be taken not to turn the cattle in the wet for a few days after applying. Four parts cement to one part hellebore is the strength used. If the lice congregate around the horns, apply a little blue ointment.

Growing Lentils—Potatoes for Seed.

I received a small quantity of lentil seed from England which I understand is quite the best of nitrogenous vegetable foods. Could you give me cultural directions?

2. Quite a large proportion of my potatoes last fall were small, running around 2 ounces per tuber. They are sound and smooth. Would it be safe to use them for seed?

3. I find it hard to keep my potatoes through the summer. What method of storage do you recommend? Would sinking a barrel in the ground, filling it with potatoes and then covering it with straw and earth be satisfactory?
E. S.

Ans.—1. The lentil plant is slender and branchy. It grows only 12 or 18 inches high and bears small pea-like flowers, which are succeeded by pods which contain the seeds. The plant resembles the common pea a good deal, and the cultivation is very similar to that of the pea. It requires a dry, warm, sandy soil and is sown early in May, broadcast if intended for fodder, but in drills if the ripe seeds are desired. As green feed for stock it is valued highly in some countries.

2. It is not good practice to select small potatoes for planting year after year. However, they will produce a very satisfactory crop the first year, but the following year we would advise selecting a larger sized tuber. Many small potatoes will be planted this spring.

3. Potatoes should be kept in a cool, partially darkened cellar or basement or in a pit. It is natural for growth to commence and this should be kept broken off in order that the vitality of the tuber will not be wasted. Potatoes properly pitted in the fall will keep quite sound and firm up to planting time. If the temperature of the pit could be regulated, no doubt they could be left in the pit until well on in June. Ventilation is necessary. Sufficient covering must be placed over the potatoes to keep out the frost and yet not so much as to cause heating. Storing them in a barrel, as mentioned, might prove satisfactory.

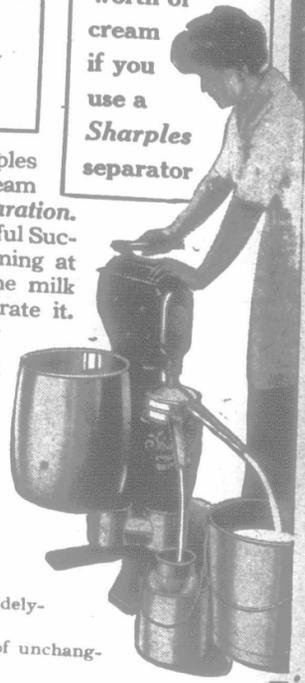
From a 10-cow dairy you get

\$575
worth of cream if you skim in pans

\$690
worth of cream if you use an ordinary separator

\$720
worth of cream if you use a Sharples separator

The above figures show just how the use of the Sharples Separator will soon pay for itself in cream saved over every other method of separation. The reason for this lies in the wonderful Suction-feed which insures clean skimming at widely-varying speeds—drinks up the milk only as fast as it can perfectly separate it. The \$30 gain of the Sharples over other separators (see above figures) is due to clean skimming regardless of how slow the separator is operated.



SHARPLES
SUCTION-FEED CREAM SEPARATOR

- is the **only** separator that skims clean at widely-varying speeds
- is the **only** separator that delivers cream of unchanging thickness—all speeds
- is the **only** separator you can turn faster and finish skimming quicker
- is the **only** separator with just **one** piece in the bowl—no discs, easiest to clean
- is the **only** separator with knee-low supply tank and a once-a-month oiling system

The Sharples Tubular Bowl (broadly patented) is unique in its cream-saving qualities. Firstly, this bowl is very long, so that the milk travelling from one end to the other is thoroughly acted upon by centrifugal force. Secondly, it is remarkably small in diameter. The milk is whirled around in a very small circle—always going around a sharp turn, which separates the cream quicker and more thoroughly. This patented Tubular Bowl has over **double** the skimming force of any other separator bowl.

Over a million Sharples users! Made and strongly guaranteed by the oldest and greatest separator factory in America. Write today for catalog to Dept. 78.

The Sharples Separator Co. - Toronto, Can.
The Buckeye Machine Co., - Calgary, Alta.
Distributors for British Columbia, Alberta & Saskatchewan
The Mitchell & McGregor Hdw. Co. - Brandon, Man.
Distributors for Manitoba

Glengow Shorthorns, Cotswolds

For the present, we have sold all the Cotswolds we wish to spare, but 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, Ont., Myrtle, C. P. R., Brooklin, G. T. R., Oshawa, C. N. R.**

IMPORTED SHORTHORNS

Cows and heifers in calf, or with calf at foot. Yearling bulls and bull calves. One of the best importations of the year. You will be surprised when you see them. **Will A. Dryden, Maple Shade Farm, Brooklin, Ont.**

Spring Valley Shorthorns

Herd headed by the two great breeding bulls, Newton Ringleader (imp.) 73783, and Nonpareil Ramsden 83422. Can supply a few of either sex. **Kyle Bros., Drumbo, Ont. Phone and telegraph via Ayr.**

HOW DOES THIS BREEDING SUIT YOU?

Sr. sire LAKEVIEW DUTCHLAND HENGERVELD 2nd, Grand Champion C. N. E. and Western Fair, 1916, 75 per cent. blood of L.D. Artis, Can. Champ. Sr. 3, with 34.66 butter in 7 days. Jr. sire, KING SYLVIA KEYES, born Dec. 12, 1915; faultless individual. Sire, Iuka Sylvia Beets Posch, the sire of MAY ECHO SYLVIA, world's greatest dairy cow, milk 1,005 lbs. butter 41 lbs. in 7 days, best day 152 lbs. Dam, Helena Keyes, milk 1 day 100 lbs. At 3 years 25.13 lbs. mature 28.20 at 16 years, 20.69 lbs., Can. Champ. 20 of "KING'S" nearest relatives average, 7 days, 29.97 lbs. butter prices, etc. **W. G. BAILEY, OAK PARK STOCK FARM, R. R. NO. 4, PARIS, ONTARIO.**

Dumfries Farm Holsteins

175 head to choose from. We have on hand at present about 20 young bulls. Visitors always welcome. **S. G. & ERLE KITCHEN, St. GEORGE, Ont.**

2 ONLY ORCHARD LEIGH HOLSTEINS ONLY 2
We have only 2 young bulls fit for service left. No. 1—Born November 7th, 1915. His dam was first prize mature cow at Guelph Dairy test, 1915. R. O. M., 7 days, 27.96 lbs. butter and 514 lbs. milk. Price \$200. No. 2—Born October 18th, 1915. His sire's 7 nearest dams average over 30 lbs. butter in 7 days. His dam, at 3 years, made 25.81 lbs. butter and 559.5 lbs. milk in 7 days. Price \$175. **JAS. G. CURRIE & SON, (Electric car stops at the gate) INGERSOLL, ONT.**

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Hog Raisers Can Lower The Cost of Pork Production

Big profits cannot be expected from Hogs that cost too much to fatten. Unless a Hog's digestion is good he cannot earn you a penny, as too much high-priced grain passes through its system undigested and is wasted.

Can You Afford to Waste High-priced Grain Feed ?

Remember, it is not what a Hog eats, but what is digested and assimilated, that gives strength, rapid growth or quick fattening.

INTERNATIONAL Stock Food Tonic

used as directed for Hogs gives appetite, pure blood, perfect digestion and assimilation, good health and quick growth. It quickly expels worms and keeps the system in such a clean and healthy condition that it makes worm development impossible.

International Stock Food Tonic is endorsed by the best known Hog raisers the world over. It has never been equalled for promoting rapid growth, and enabling Hogs to stand the forcing process without loss of vigor or digestive powers.

The cost to use this preparation is remarkably small—"3 feeds for one cent." Just try it on one batch of Hogs. You will be quickly convinced of the big extra profits it will make you.

Sold by dealers everywhere, 50c. and \$1.00 packages. \$1.50 lithograph tins, and 25 lb. pails \$3.75. Buy from your Local Dealer. If he cannot supply you, write us direct.

INTERNATIONAL STOCK FOOD CO., LIMITED
TORONTO - ONTARIO

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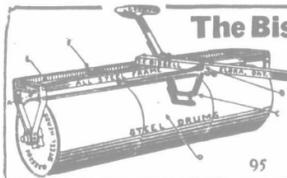
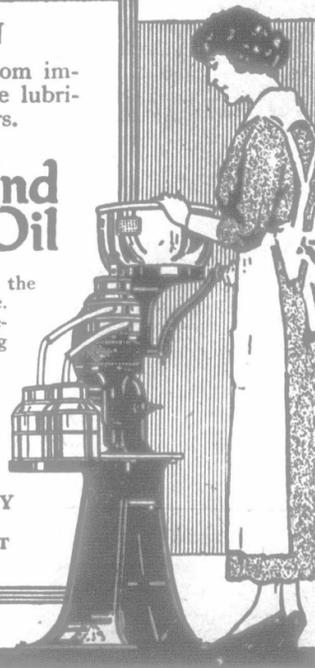
QUICK ACTION
and an absolute freedom from impurities are necessary in the lubricant used for hand separators.

Standard Hand Separator Oil

has all the properties to make it the best lubricating oil for the purpose. It IS the best. Manufactured especially for use on the close-fitting bearings and delicate mechanism of hand separators, it not only gives perfect lubrication, but protects the separator from seam rust and corrosion.

Put up in cans of 1 pint to 4 gallons. Sold everywhere by reliable dealers.

THE IMPERIAL OIL COMPANY Limited
BRANCH STATIONS THROUGHOUT CANADA



The Bissell Steel Roller has a rigid steel frame—no wood whatever.

Large roller bearings and strong 2" axles insure durability and great strength. The Bissell is a 3-drum Roller of good weight, built to stand hard usage and give great service. Write Dept. W for free catalogue. **T. E. BISSELL CO., LTD., Elora, Ont.**

Questions and Answers. Miscellaneous.

Soft Shelled Eggs.

I have a goose which lays soft-shelled eggs. What is the cause? C. S. M.

Ans.—It is possible that the goose is too fat, or does not take sufficient exercise. Plenty of shell-forming material such as oyster shell, plaster, etc., should be available. If the geese have been chased or unduly excited it may cause them to lay abnormal eggs.

Foundation for Barn.

1 purpose building a plank barn 35 by 70 feet in dimensions. How much cement and gravel would it take to put a 3-foot foundation, one foot thick under the building?

2. How much gravel and cement will it take to put a cement floor in the stable?

The posts for this barn will be 21 feet long. Five feet of them will be in the cow stable and the balance in the barn. The stable part is to be rough boarded and clap-boarded on the outside. Is lumber preferable to concrete for the stable walls? What size windows would be best and how many should be used? Where should tile be put for proper ventilation and what size should be used? J. W. C.

Ans.—1. It will require about 24 cubic yards of gravel and 20 barrels of cement to put in the foundation, provided it is mixed in the proportion of one of cement to eight of gravel. The one-foot wall is no doubt heavy enough to carry the barn, but it is advisable to have it resting on a firm foundation or footing.

2. Laying the floor 4 inches thick and using one part cement to eight parts of gravel, practically 30 cubic yards of gravel and 26 barrels of cement will be used.

3. It is generally considered that lumber will give a considerably drier stable than concrete. Three by four-foot windows put in vertically and arranged to slide up and down or open inward proves very satisfactory. A window every 10 feet should give very good light. Three or four-inch tile put in near the top of the stable will give partial ventilation, although inlets near the bottom of the stable and outlets through flues leading to the roof is a better means of providing stable ventilation.

ESCANA FARM SHORTHORNS

Sires in use: NEWTON GRAND CHAMPION (IMP.), a Marr Clara, recently imported, and RIGHT SORT (IMP.). His get has won numerous first and special prizes at Toronto. For Sale—Seven bulls, choice individuals, at reasonable prices. Also a dozen cows and heifers, some of them bred to our herd sires. Herd numbers 100.

MITCHELL BROS.,
Jos. McCrudden, Manager

BURLINGTON P. O., ONTARIO
Farm ¼ mile from Burlington Jct.

MAY ECHO CHAMPION

our herd sire is full brother to May Echo Sylvia, world's record milk cow, 1,003 lbs. milk, 41 lbs. butter in 7 days; 153 lbs. milk in one day. For the sum of \$200 and upwards we can supply you with one of his very choice year-old daughters or a good cow or heifer bred to him. For quality his sons and daughters are about perfect. Large, low set, straight top lines; deep, smooth, and handsome. They are producers also. One of his three-year-old daughters has completed a 30-lb. record; a pair of his two-year-old daughters have completed R.O.P. records of over 700 lbs. each of butter in a year.

R. F. HICKS - - NEWTONBROOK - YORK COUNTY - ONTARIO
Farm near Toronto. Metropolitan Electric Railway.

HIGHLAND LAKE FARMS

Herd sire, Avondale Pontiac Echo (under lease) a son of May Echo Sylvia, the world's record cow for milk production, and Canadian record for butter, 41 lbs. Only one other 41-lb. bull in Canada. Our herd of one hundred includes nearly fifty daughters of a 33.31-lb. son of the great King Segis, brother to the sires of three world's record butter cows: Mature, 50.68; sr. 4-year-old, 46.84; jr. 4-year-old, 40.32 lbs. Junior herd sire, King Segis Pontiac Canada, a half brother to Avondale Pontiac Echo, out of a 30-lb. Segis cow. He is for sale.

If this combination of breeding interests you, write for prices on either males or females.

R. W. E. BURNABY, Farm at Stop 55, Yonge Street Radial, JEFFERSON, ONTARIO

ROYCROFT FARM HOLSTEINS

FORMERLY THE HET LOO HERD

We have a few exceptionally nice, straight, 9, 10 and 12-month heifers, principally all from high-record cows we have purchased in both Ontario and United States. They are all from good-record sires, but as our stabling is limited we are offering these at prices away below their value, so we may keep only those of our own breeding. They will not remain with us long. Write quick if you want them.

WE ARE AT PRESENT OFFERING THE SERVICES OF KING SEGIS ALCARTRA SPOFFORD TO A LIMITED NUMBER OF APPROVED COWS. WRITE FOR PARTICULARS.

W. L. SHAW, PROPRIETOR Gordon S. Manhard, Superintendent, Newmarket, Ontario

Silver Stream Holsteins

Herd headed by King Lyons Hengerveld, whose five nearest dams average 31.31 lbs. butter in 7 days, and by King Lyons Colantha, 6 nearest dams average 30 lbs. butter in 7 days. Bulls fit for service; also bull calves from above sires and out of R.O.P. dams for sale.

J. MOGK & SON., R. R. 1, Tavistock, Ontario

HOLSTEIN BULLS READY FOR SERVICE

Two are by King Korndyke De Kol, a son of the great Pontiac Korndyke. One is from a 25-lb. three-year-old, and the other from Queen of Oxford, dam of Queen Butter Baroness. We have others younger, by King Walker Pride, a 30.11-lb. son of King Walker. Write us also for females.

Collver V. Robbins,

Bell Phone,

Wellandport, Ontario

PIONEER FARM HOLSTEIN HERD

Of long-distance record makers, the kind that milk heavy and test around 4 per cent. the whole year. Of the six highest butter-fat records of two-year-olds in Canadian R.O.P., one half were bred at Pioneer Farm. Young bulls for sale from dams of the same breeding as these and sired by Canary Hartog, whose three nearest dams average 30 lbs. butter in 7 days and 108 lbs. milk in one day.

WALBURN RIVERS, R. R. No. 5, INGERSOLL, ONT. Phone 343L., Ingersoll Independent

CLOVERLEA HOLSTEINS

Our entire lot of bulls, fit for service, as advertised are sold. We still have a number coming on, eight months and under, which will be priced right for immediate sale. Write quick, for they will go fast—as the others did.

GRIESBACH BROS.,

COLLINGWOOD, ONT.

TWO HOLSTEIN BULLS FOR SALE

We have for sale two Holstein bulls, 11 months old, sired by Schuiling Posch Prince, whose dam, Olive Schuiling Posch, has an official record at 5 yrs. of 533.5 lbs. milk and 27.5 lbs. butter in 7 days. Her average test was 4.12% fat. They are growthy, typey animals and from large-framed cows, which are heavy producers. Inspection solicited, prices right. **W.T. Whale & Sons, Goldstone, Wellington Co., Ont.**

Questions and Answers. Veterinary.

Knuckling.

Driving mare has a tendency to knuckle on fetlock joint. J. M. P.

Give rest. Get a blister made of 2 drams each of biniodide of mercury and cantharides mixed with 2 ounces vaseline. Clip the hair off all around the joint. Tie so that she cannot bite the parts. Rub the blister well in. In 24 hours rub well again and in 24 hours longer apply sweet oil. Turn loose into a box stall and oil every day until the scale comes off. Then tie up and blister again and after this blister once monthly so long as you can give rest. Recovery is slow. If you cannot give rest you will find benefit by showering frequently with cold water and rubbing well with a stimulant liniment as one made of 1 ounce each of tincture of iodine and tincture of arnica, ½ ounce gum camphor and 4 ounces extract of witch hazel, with sufficient alcohol to make a quart. Add an equal quantity of water and rub well in. Keep joints bandaged when in the stable. V.

Difficult Urination—Scratches.

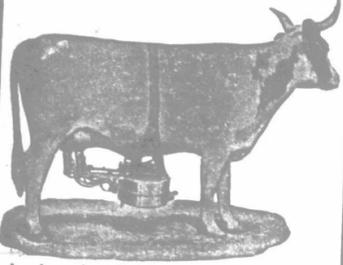
1. Six-year-old horse has trouble urinating. When he is standing he walks backwards and forwards every five minutes and voids a small quantity of urine each time. When working he is all right.

2. Horse has scratches very bad and his legs are swelling. J. C.

Ans.—1. As he is all right when working it is probable that the symptoms he shows in the stable are due to habit. They indicate obstruction, (either calculi) stones in the urethra, a collection of foetid substance in the little sac at the point of the penis. A veterinarian could probably detect the presence of calculi and possibly remove them. Any person can ascertain the latter condition and if present remove it. Medicines will do no good.

2. Purge him with 8 drams aloes and 2 drams ginger, then follow up with 1½ ounces Fowler's solution of arsenic twice daily for a week. If the raw surfaces have become foul smelling, poultice with warm linseed meal and a little powdered charcoal for 2 days and nights. Then dress three times daily with a lotion made of 1 ounce each of acetate of lead and sulphate of zinc to a pint of water. Unless the parts are foul, commence the lotion at once. V.

THE OMEGA Milking Machine



has been installed in the private dairy of H. M. King George V. at Windsor Castle, and also at His Majesty's private estate at Sandringham. The OMEGA, in a 17-day test on ten cows (against 17 previous days) at the O.A.C., Guelph, increased the milk flow 206 lbs., or 3 per cent.

Cleanly and Efficient

The OMEGA is the only machine that draws the milk from the teats through stiff transparent celluloid tubes to the pail which is suspended from the cow. (See cut.) The pail cannot be kicked over and the teat-cups cannot fall to the floor and suck up straw or manure. There are no rubber tubes in the OMEGA to crack and harbor germs. The OMEGA is simple in design and easily cleaned.

Write to-day

for free booklet describing the many exclusive and desirable features of the OMEGA.

C. RICHARDSON & CO.,
St. Mary's, Ontario

Make Big Money Boring Wells

Have water on your own farm. In spare time make wells for your neighbors. Means \$1000 extra in ordinary years, double that in dry years. No risk—no experience necessary.

One Man
One Team



Complete Outfit for Getting Water Quickly Anywhere

Includes boring rigs, rock drills, and combined machines. One man with one horse often bores 100 feet or more in 10 hours. Pays \$50 to \$1 per foot. Engine or horse power. Write for Easy Terms and Illustrated Catalog.

Lisle Mfg. Co., Clarinda, Iowa.
Address: Saskatoon, Sask. Dept 172

18 HOLSTEIN BULLS FOR SALE

Eleven months and under; also 1 cow; 8 heifers, freshening from March till September, from tested and untested dams.

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

INVEST \$40 AND MAKE \$1,000

By breeding your best cow to King Segis Alcartra Calamity, the \$2,000 bull. Mr. Stock paid us \$40 for the service of Baroness Madoline, and sold the offspring for \$1,000. Better get in touch with "King" and make some easy money.

Arbogast Bros., Sebringville, Ont.

For Sale

A son of Inka Sylvia Beets Posch, eleven months. Write for particulars and pedigree to
W. T. Fritz, R. R. No. 2, Brighton, Ont.

FOR SALE

Ayrshire Bull—Calved Dec. 16, 1915

Color white, with brown on neck, ears and head. Bred in the purple. Dam stood fourth in dairy test at Ottawa Winter Fair, 1916. First cheque for \$100 takes him. Address:

C. H. McNISH, Lyn, Ont.

Glencairn Ayrshires Herd established 40 years. Producing ability from 8,600 to 11,022 lbs. If that sort of production appeals to you, we have heifers all ages and young bulls for sale. **Thos. J. McCormick, Rockton, Ont., Copetown Stn., G. T. R.**

City View Ayrshires

for April—One R.O.P. cow, fresh; two bulls fit for service, and a few choice bull calves.

JAS. BEGG & SON, St. Thomas, Ont.

Choice Offering in Ayrshires

At Special Prices. Several young bulls of serviceable ages. All from R.O.P. sires and dams. Come and see them.

Geo. A. Morrison, Moun. Elgin, Ontario

Questions and Answers. Miscellaneous.

Permanent Pasture.

Some time ago I read in "The Farmer's Advocate" of a mixture of grasses for permanent pasture, but I neglected to save the paper. Would you again publish the mixture?
G. J. F.

Ans.—For fairly high land, there are a number of grasses which give fairly satisfactory results. Orchard grass, 4 lbs.; meadow fescue, 4 lbs.; tall oat grass, 3 lbs.; meadow foxtail, 2 lbs.; white clover, 2 lbs.; alsike, 2 lbs.; Kentucky blue grass, 4 lbs., and timothy, 2 lbs., will give very good pasture throughout the entire season once they get a good start. Some prefer adding 3 or 4 lbs. of alfalfa and 3 lbs. of red clover to the mixture to furnish feed the first year, before some of the finer grasses become established. Alfalfa does not generally stand pasturing and red clover dies out after the second year.

Basic Slag—Colt's Shoulders.

Have you used basic slag on potatoes on Weldwood farm? Do you prefer using it with farmyard manure, or with a fertilizer of three per cent. ammonia and ten per cent. phosphoric acid?

2. What is best to put on a colt's shoulders to toughen them for spring work?

3. What is the analysis of basic slag and how is it produced?

J. R.

Ans.—1. Basic slag, on potatoes, has given very good results at Weldwood. If manure was available we would prefer using it in conjunction with the slag rather than the fertilizer mentioned.

2. It is advisable to give the colt light work for a few weeks previous to the spring rush, in order to toughen up the shoulders. See that the collar fits snugly to the shoulder and that the hames are properly adjusted. Do not overwork the colt the first day or two on the soft ground. Overheated blood is the most prolific cause of sores appearing on the shoulders. Keep the collar and shoulders clean; bathe with salty water, or with alum water. This will tend to toughen the shoulders.

3. High-grade basic slag contains from 18 to 24 per cent. of phosphoric acid and a considerable quantity of lime. This material is a by-product in the manufacture of steel by the Bessemer process.

Henhouse With Stone Walls too Moist

I have a flock of about 70 bred-to-lay hens which do not lay. They receive the best of care and feed, consequently we have come to the conclusion that the henhouse is at fault. It has a stone wall on the north and west sides, which has been covered with white frost most of the winter. The other two sides are board with a stone foundation. The south side is partly canvas and also has a window about 3 by 3 feet. Would covering the stone wall with boards be of any advantage? How would you change the building to make it suitable?
A. E. J.

Ans.—The frost on the walls indicates dampness and lack of ventilation. Under these conditions it is hardly reasonable to expect the hens to lay. Your birds must have strong constitutions or they would have fallen a prey to some ailment when living under the conditions mentioned. No doubt the pen could be made drier by placing 2 by 4 studding against the stone wall and then covering with matched lumber. This would leave an air space which should tend to prevent the dampness from the stone wall. You do not state how large a pen you have, consequently it is rather difficult to state the amount of glass and cotton which it should contain. Board the south side one-third of the way up, then try using about one-third glass and one-third cotton. Have the glass extend to the top of the pen in order that the rays may shine to the back of it. During calm days in the winter the cotton should be raised. The cotton will furnish ventilation which will tend to offset the dampness. If the pen has a gable, this might be filled with straw, which will tend to absorb dampness. However, we believe that by lining the walls and then allowing more glass and cotton space the pen will be more satisfactory.

MANOR FARM



KING SEGIS PONTIAC POSCH SENIOR SIRE IN SERVICE AT MANOR FARM

Sire King Segis Pontiac Alcartra (the \$50,000 Sire)
Dam Fairmont Netherland Posch (32.59 lbs. at 4 yrs. old)

Young Sires from Manor Farm

Are in great demand. I have only two bull calves left, both of very choice breeding, one from a 28-lb. dam, the other from a 20-lb. two-year-old now under test and making good.

They are priced right to sell. Write for extended pedigree and photo.

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AT SERVICE

May Sylvia Pontiac Cornucopia

"The most perfectly bred bull of the breed," and a perfect individual. Sire, Spring Farm Pontiac Cornucopia, a son of the 44.18-lb. cow, K. P. Pontiac Lass. Dam, May Echo Pontiac, a daughter of the great May Echo Sylvia, champion milk cow of the world. The butter records of his two grandams average 42.59 lbs. in seven days, and 170.5 lbs. in thirty days, being also another world's record.

Apply early, as only a number of approved cows will be accepted. Terms, a matter of arrangement.

Owners—W. F. Elliott, A. J. Camplin, C. R. Dyke, L. M. Kennedy, G. Brownsberger.

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is the best description we can give you of the half dozen we are now pricing—from our Korndyke bull and R.O.P. dams, testing 4.08 per cent. butter-fat. Ages range from three to twelve months. No females offered.

Apply to Superintendent

20,177 lbs. milk, 780 lbs. butter

is the official record of "Burkevie Hengerveld" (9996), the first 20,000-lb. 4-year-old in Canada. We offer a young sire, born Oct. 16, out of a 2-year-old daughter of this great cow, sired by a son of "Calamity Johanna Nig" 25,443 lbs. milk, 1,097 1/2 lbs. butter (semi-official) in one year, 108 lbs. milk 152 lbs. milk in one day; 1,005 lbs. milk, 41.00 lbs. butter in 7 days.

This calf is a beauty and is priced very reasonable. Write us.

JOSEPH O'REILLY, R. R. No. 9, PETERBORO, ONTARIO

SUMMER HILL HOLSTEINS

The only herd in America that has two stock bulls that the dam of each has milked over 116 lbs. a day and their average butter records are over 35 lbs. a week. We have fifty heifers and young bulls to offer, by these sires, and out of dams just as well bred. We invite personal inspection.

D. C. FLATT & SON, R. R. 2, HAMILTON, ONT. Phone 7165

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To breeders who wish to make secure their future success we are offering some extra choice bull calves at living prices. Two of these are from daughters of a son of Lulu Keyes, 36 lbs. butter 7 days, and 21 lbs. milk per day, and sired by Prince Colantia Abbecker, whose dam made 32 lbs. butter 7 days and 104 lbs. milk per day.

A. E. HULET, NORWICH, ONT. BELL PHONE 48-r. 3

Glenthurst Ayrshires For 50 years I have been breeding the great Flos tribe of Ayrshires, dozens of them have been 60-lb. cows. I have lots of them get 60 lbs. a day on twice-a-day milking. Young bulls 1 to 10 months of age, females all ages. If this kind of production appeals to you, write me.

James Benning, Williamstown, Ont.

How that is p grass?

Ans.—P chief mean weed from ing crop to weaken by cultiva when the and again time to running ro go deeply the roots i and cultiva to the surfof their vi are very g gather the known bad in this wa

What is sorghum f cattle? W it? Which it, with a d

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3. If the the busines the product However, it trip and c spent on th usually try distance of considerable canning fac what is call which can quantity of short time. gardening on the advisab The home co boiler for co pressure, a capping the difficult to a

Questions and Answers. Miscellaneous.

Twitch Grass.

How would you clean a plot of land that is practically nothing but twitch grass? R. E. A. Ans.—Persistent cultivation is the chief means of eradicating this perennial weed from the land. Growing a smothering crop such as buckwheat will tend to weaken the plant and make eradication by cultivation easier. Avoid cultivation when the ground is wet. June or July and again after harvest is a very good time to wage war upon weeds with running roots. Twitch grass does not go deeply as a rule. Plow the depth of the roots if possible then use the harrows and cultivator. The roots will be drawn to the surface where they will be sapped of their vitality by the hot sun. If they are very thick, use the horse rake to gather them up, then burn. We have known badly infested fields to be cleaned in this way.

Growing Sorghum.

What is your opinion about growing sorghum for milk cows and fattening cattle? When is the best time to plant it? Which is the better method of sowing it, with a disc drill or little garden seeder? 2. How would you stop a horse from pawing and striking the manger when the feed is being distributed? J. W. G. Ans.—1. Some who have grown both corn and sorghum claim that the latter outyields the former. It does fairly well on most soils, but a gravelly soil is to be preferred. Owing to the sugar content it is not advisable to ensile sorghum, but it makes excellent fodder if fed dry. On account of the saccharine nature it tends to fatten animals readily and is relished by all classes of stock. If properly harvested and cured, the stalks are entirely consumed by the animals. It can be harvested with the corn binder and left in large shocks until it is thoroughly dry. It should be drilled about the first week in June and about 10 lbs. of seed gives a good stand, provided the germination is all right. The seed is rather slow to start growing therefore the land should be clean. Cultivation is similar to that of corn. 2. This is merely a bad habit which the horse has contracted. Chastisement at the time the horses are being fed is about the only means of breaking him of the habit.

Canning Vegetables—Ticks on Sheep

Is there any way you can kill ticks on sheep without dipping them? 2. Would you advise keeping two-year-old sheep if they had failed to have lambs? 3. Would it pay to go into the gardening business if a person lived 25 miles from the Toronto market, even if they had a truck for transporting the produce? Would it pay better to build a small canning factory to can what vegetables are grown? What equipment is needed for a canning factory? R. B. Ans.—1. Dipping is the easiest and most practical method of ridding the sheep of ticks. The dip may be poured over the sheep to destroy the ticks. This will save constructing a dipping tank. 2. If two-year-old sheep failed to breed we would be inclined to market them. If they were high-quality stock we might be tempted to try them another season. 3. If the soil is suited for gardening the business could be conducted and the produce hauled the distance mentioned. However, it would mean 50 miles every trip and considerable time would be spent on the road. Market gardeners usually try to locate within reasonable distance of a market. It would take considerable money to build and equip a canning factory. However, there are what is called "Home Canning Outfits" which can be used to put up a large quantity of vegetables in a comparatively short time. Unless you are going into gardening on a very large scale, we doubt the advisability of building a factory. The home equipment consists of a large boiler for cooking the vegetables under pressure, and materials required for capping the tins, etc. The outfit is not difficult to operate.



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ANNOUNCEMENT

Southdowns and Shropshires

Mr. John D. Larkin has recently added to his flock at Larkin Farms by purchasing from Mr. J. C. Duncan, Manager of the Niagara Stock Farm, Lewiston, N. Y., their entire flocks of Southdown and Shropshire sheep. The breeding and management of these long-established and well-known flocks will continue along the same lines as in the past. The continued patronage of those who have drawn from these flocks and those who require Southdowns and Shropshires of merit is solicited and complete satisfaction is assured. Address:— LARKIN FARMS, QUEENSTON, ONTARIO

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

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The home of Canada's greatest producing Jersey. SUNBEAM OF EDGELEY, the Sweepstakes Dairy Cow at the recent Guelph test; is also the champion R. O. P. butter cow for Canada. Would a grandson or a great-grandson of this famous cow improve your herd? We have them. Write for particulars. WOODBRIDGE, C. P. R., Concord, G. T. R. EDGELEY, ONT. JAS. BAGG & SON.

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 For Sale
 Large numbers of choice males and females. All ages.
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 A large number of choice pigs, February farrowed. One of our sows farrowed 59 pigs in three litters. Correct bacon type. Pairs not akin. We guarantee satisfaction.
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TAMWORTHS
 Young sows bred for April and May farrow, and a nice lot of young boars for sale. Write:
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Morrison Tamworths and Shorthorns.
 Bred from the prizewinning herds of England. Tamworths, both sexes, 20 young sows, bred to farrow in June and July. Young boars from 2 to 5 months old; Shorthorns of the best milking strain. Chas. Currie, Morrison, Ont.

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 Young stock at all times, both sexes and all ages. Can also supply anything in Dorsets or Southdowns. Everything priced to sell.
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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.

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

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 I am offering a splendid choice of sows, bred for May and June farrow. All bred from prize-winning stock. Prices reasonable.
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 My herd won all the champion prizes at London, Toronto and Windsor, 1916. Young stock for sale, pairs not akin. Come and see them, or write. Trains met by appointment.
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Cloverdale Berkshires and Shropshires In Berkshires I can furnish boars or sows, all ages, pairs not akin. All breeding stock imp. or from imp. stock. In Shropshires, can furnish rams or ewes, any age, from imp. stock. Prices reasonable.
C. J. LANG, R.R. No. 3, Burketon, Ont.

Questions and Answers.

Miscellaneous.

Treating Clover Seed.

Does white-blossomed sweet clover require treatment the same as alfalfa to ensure a good catch and keep it from winter killing?
 S. W.

Ans.—Sweet clover generally catches fairly readily and if given a chance does not tend to kill out very badly during the winter. Consequently, culture is not used on the seed.

Scratches.

What is a good treatment for scratches in horses?
 A. G.

Ans.—Give a purgative of 8 drams aloes and 2 drams of ginger. Follow up with 1½ ounces Fowler's solution of arsenic twice daily for a week. Apply hot linseed poultices to the affected parts for two days and two nights changing the poultices every 8 hours, then dress the parts three times daily with a lotion made of one ounce each of acetate of lead and sulphate of zinc to a pint of water. Do not wash the legs. If the parts get wet or muddy, rub well until dry. Purgative should not be administered to pregnant mares.

Seeds—Disinfecting Stable—Flax.

What mixture of seeds do you recommend for seeding black muck for permanent pasture?

2. What material is used for disinfecting a stable? What is the best way to apply it?

3. I purpose sowing 2 or 3 acres of flax this season. What variety would you recommend for black muck soil? How much seed do you sow per acre and how is it sown?
 W. W.

Ans.—1. A mixture of red top, 4 lbs.; orchard grass, 4 lbs.; Kentucky blue grass, 2 lbs.; alsike, 2 lbs.; white clover, 2 lbs.; timothy, 2 lbs., gives very good satisfaction.

2. There are a number of commercial disinfectants on the market, which give good satisfaction. The best way to apply them is with a spray pump. Go over the stable and sweep down the dust and cobwebs before applying the spray.

3. If growing flax for fibre, Russian or Dutch seed should be obtained or the produce of such seed grown in Canada. The amount of seed to sow per acre depends on a number of circumstances, such as the nature of the land and the germination of the seed. It is advisable to sow a little more thickly on heavy soil than on light soil. From 1½ to 2 bushels per acre is very good seeding. It can be sown with the drill, or by hand.

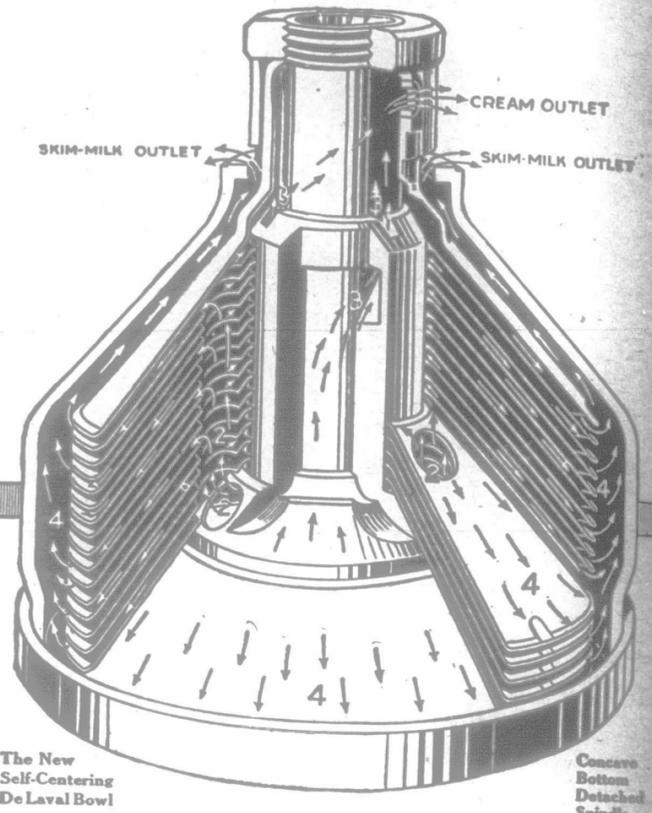
Langshan Breed of Fowl.

I would like to have some information about the Langshan breed of hens. Are they utility birds or only a fancy fowl?

2. What is the cost of registering a deed in Labell County, Quebec?
 W. H. McL.

Ans.—1. Langshans represent the meat type of fowl. They are larger and blockier than the egg breeds and have a fairly good depth and thickness of body, with a full breast. As a rule they are rather slow at moving and are docile. The meat breeds as a rule are slow at maturing. They are also persistent sitters and make good mothers, but, owing to their weight and the feathered shanks, they are rather clumsy and there is danger of eggs being broken in the nests and the young chicks crushed. Even if given free range they do not roam nearly so far from their roosting place as do members of the egg and utility breeds. The general purpose breeds usually surpass them in egg laying. This is possibly due to the fact that more attention has been paid to the egg-laying properties of the latter breeds than of the Langshans, which have been developed for meat. While they are a good type of fowl, they cannot be called a utility breed in the same sense as the Rocks, Wyandottes, Reds, etc., which lay a reasonable number of eggs during the year, and also will produce good roasters. The standard weight of a Langshan male is 9½ lbs., and of the hen, 7½ lbs.

2. We are not familiar with the fees of registering deeds in the Province of Quebec. Write the Registrar of your County for this information.



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Concave Bottom Detachable Spindle

The Supremacy of the NEW DE LAVAL

THERE may be some question as to who makes the best wagon or the best plow or the best watch, but when it comes to cream separators the supremacy of the De Laval is acknowledged at once by every fair minded and impartial man who is familiar with the cream separator situation.

Thousands and thousands of tests, the world over, have proven that the De Laval skims the cleanest.

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It outlasts and outwears all other makes by far, and can be run with much less cost for repairs.

The world-wide De Laval organization, with agents and representatives in almost every locality where cows are milked, ready to serve you, insures that the buyer of a De Laval will get quick and valuable service when he needs it.

More De Laval's are sold every year than all other makes combined.

The New De Laval has greater capacity than the 1916 style, is simpler in construction, has fewer and interchangeable discs, is easier to wash, and the skimming efficiency is even greater.

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

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In Duroc Jerseys we have either sex of any desired age, bred from winners and champions for generations back. In Jerseys, we have young cows in calf and young bulls, high in quality and high in producing blood.
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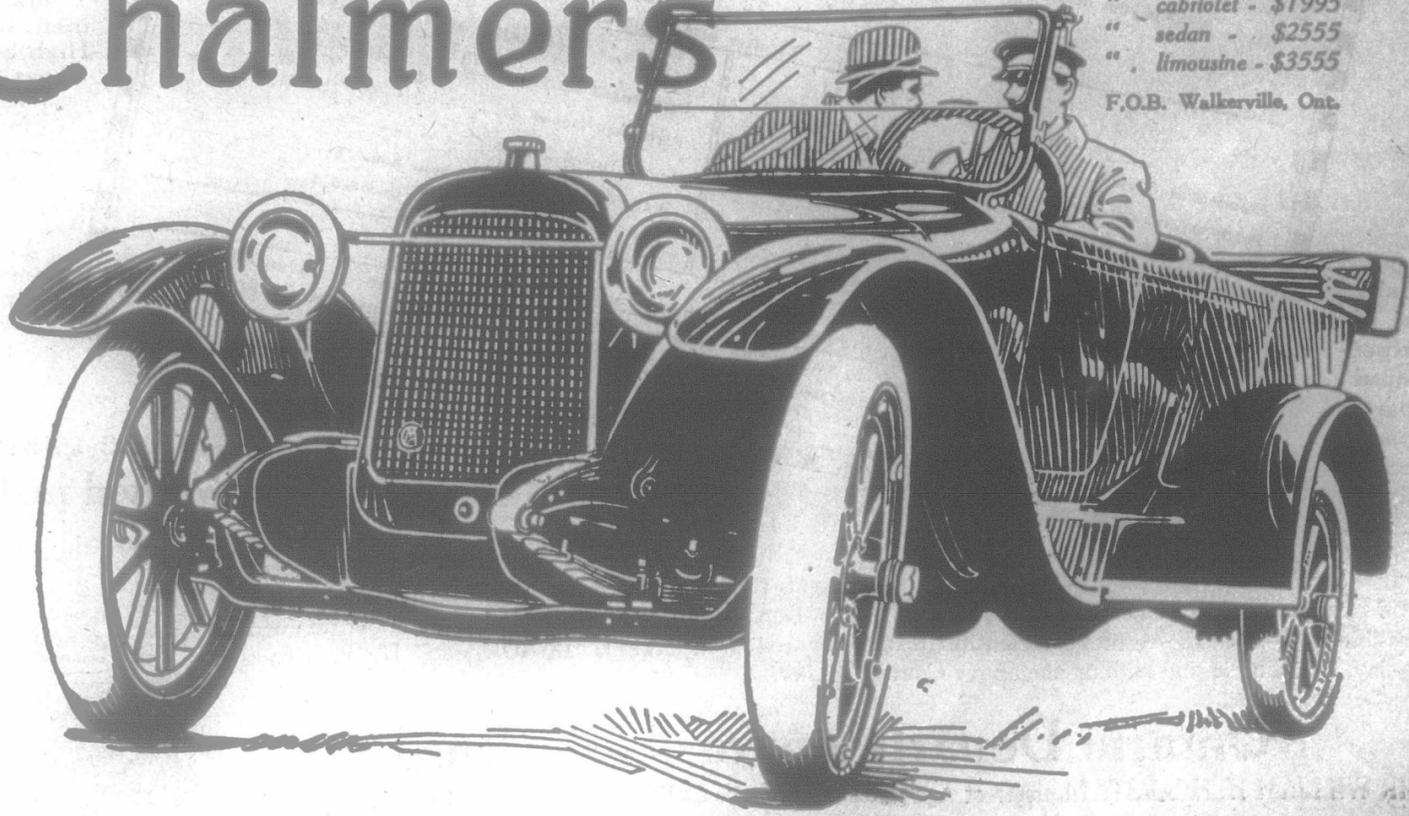
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The Ontario Department of Agriculture will help you to get it. All we ask is that you use this Coupon now.

THE Department is fully awake to the needs of Ontario farmers, particularly with reference to the shortage of labor, and is taking quick and vigorous steps to secure an ample supply. The newspapers of Ontario are ringing with appeals for volunteers to work on the farms—business men, retired farmers, students, and others are being canvassed, mass meetings are being held in the cities and towns, and we expect the response will be tremendous.

Apply for Your Labor Early

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APPLICATION FOR FARM HELP

Date.....

SIGNATURE OF FARMER..... POST OFFICE..... COUNTY.....

What is your nearest Railway Station?..... Acres in farm.....

What kind of farming practised?
Mixed.....
Fruit.....
Dairy.....

Mark (X) after help required

SINGLE MEN
Experienced (Plough, Milk, etc.).....
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Business Men (3 weeks).....
High School Boys.....

MARRIED MAN AND WIFE
Experienced.....
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WAGES—If Wife works in your house, \$.....
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Age Limit..... Length of time help is required..... months, from.....

All engagements subject to two weeks' trial with wages, and railway fare—if advanced.
High School Boys will all be 14 and over, and will be available for from 2 to 5 months after April 20th.
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