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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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Japan and Statistics
Dept. of Agriculture
Dec. 24, 11

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

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VOL. XLVI.

LONDON, ONTARIO, MARCH 30, 1911.

No. 966



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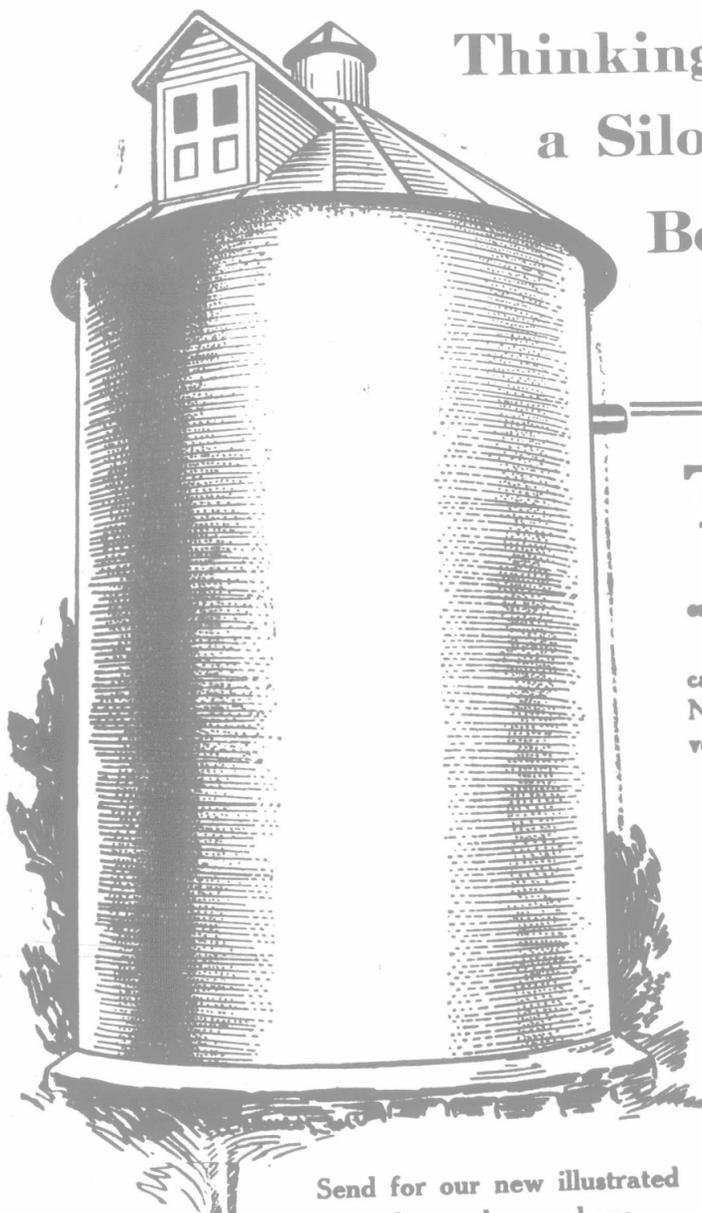
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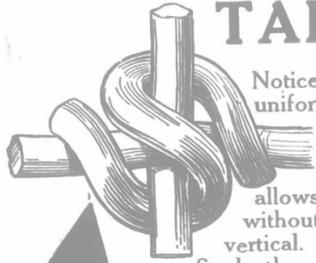
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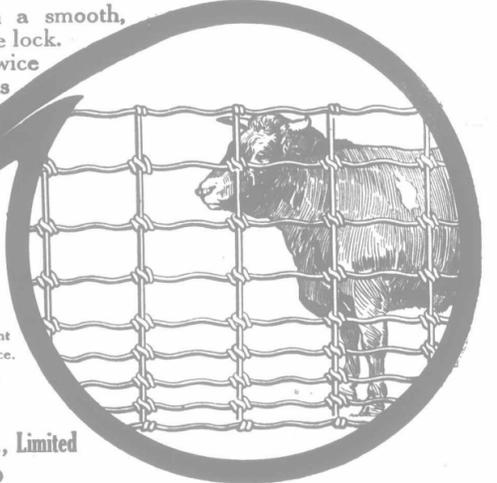
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EDITORIAL.

Our soils are not exhausted so much as the common methods of handling them.

"The time of the singing of birds is come." Let us also rejoice and be glad.

If there was any smut in your oat or wheat crop last year, treat the seed with formaldehyde before sowing.

Insulation and ventilation—these, with convenience, drainage and light, are the important problems in stable construction.

"While the earth remaineth, seed time and harvest, and cold and heat, and summer and winter, and day and night, shall not cease."

Occasionally the tables turn. Foot-and-mouth disease in England has again led to the enforcement of a Canadian embargo on British ruminants and swine.

It is the hopeful man that can do the very best of which he is capable, and enjoy doing it. The pessimist cuts the nerve of his own strength and drags along at the work. "A merry heart doeth good like a medicine."

A great many experiment stations and public officials are engaged in demonstrating the beneficial results which follow the application of certain recommended methods, but, as a rule, they stop short of proving that their methods will pay when applied commercially in ordinary farm practice. The widespread interest in, and value of, "The Farmer's Advocate" demonstration orchard work lies in the fact that these tests are carried out to the final conclusion, which is to say, the balance sheet.

After waiting four years for horse legislation in line with that in vogue in other Provinces, Australia, and many States, the friends of the Ontario horse industry were encouraged by the introduction of the mildest kind of a mild stallion-enrollment law. The rejoicing was short-lived, however, for, after exhibiting it a few days, the Minister of Agriculture withdrew the bill into the safe recesses of his Departmental offices, lest some timid voter should take alarm at too sudden enactment of such a radical measure. We hope that the next time it is brought forth, both the bill and its sponsor may exhibit a little more backbone.

A very great deal of interest was taken by the farming public in the demonstration orchard of "The Farmer's Advocate." But it was as nothing, compared with what is being aroused by the demonstration farm, where "farming without frills" is to be carried on. A farmer remarked recently to a member of the staff that he wished they had bought the farm adjoining his. "I would like to have seen them at it," said he. He clinched an unfavorable comment on the prospects of the venture, by saying very meaningfully, "They will learn two or three things about farming in a year or so." Some other opinions are more hopeful. Nearly everyone is pleased to see the experiment tried.

What Kind of a Wall?

Prof. Wm. H. Day's illuminating article last week, entitled, "Why Stone Stables Are Damp," raises for consideration by intending builders some very important points about the construction of stable and dwelling-house walls. Prof. Day points out that a wall of stone and mortar, so far from being a "warm" one, is about thirty times as poor an insulating material as an equal thickness of wood. It is open to the further criticism that, unlike wood, it allows no escape of moisture worth mentioning through the pores of its substance. Considered in the light of the fact that a 1,000-pound steer will exhale through his lungs and skin over a gallon of moisture per day, at which rate a stable of 100 cattle would charge the atmosphere with over half a ton of water daily, not allowing anything for evaporation of urine, it is not strange that an ordinary, unventilated stone or concrete stable should be damp, and that the walls should often be clammy or frosty from condensation of moisture upon them in the form of dew or hoarfrost, according to the temperature. The eighteen-inch stone wall is also open to the serious objection that it is hard to light properly without a very large area of glass, and glass, like stone, is a poor insulating material, allowing heat to pass through it by "conduction," and rendering it difficult to keep the interior temperature up to a comfortable degree. Without going into details here, but proceeding from the editorial in our issue of March 23rd, it is sufficient to state that, in order to permit of free ventilation without lowering temperature below a given point of comfort or safety, we must have well-insulated walls—the more so, the better. It is economy to provide such walls. In a house it saves fuel; in a stable, feed. We were in a large farmhouse lately, the ten or twelve spacious rooms of which had been comfortably heated up to the middle of March with about three and a half tons of coal. The construction of the walls explained it: One thickness of brick, three of siding, one ply of building paper, and two coats of plaster, with a space between, the one coat being what is known as "back-plaster," constituted a wall which reduced waste of heat almost to a minimum. While a little expensive to build, such walls make a house dry and comfortable, and in forty years' time would save from five hundred to a thousand dollars' worth of coal, as compared with a cheaper form of construction. In stables, we would not go quite this length, but even here insulation pays. From the standpoint of brightness, geniality, insulation and warmth, the ideal stable wall, to our mind, is one of two or more thicknesses of wood, with building paper between, the wooden wall to be set on a cement or masonry footing, which not only conduces to durability, but will help to exclude rats. A much better insulating wall could be built by filling with shavings between two thicknesses of boards, as the effect of the shavings is to create a large number of small dead-air spaces. A so-called dead-air space without shavings is liable not to be a dead-air space at all. Fillings of this kind, however, are open to the objection that they tend to settle down, becoming in some cases damp and mouldy, and, moreover, are liable to harbor rats and mice. If some way could be found to render them uninhabitable to these rodents, the settling difficulty might be largely overcome by a series of transverse partitions.

Of course, on the score of solidity and durability, stone or cement walls have a decided advantage. Since many will prefer them on this

account, it is well to know how they may be improved. Last week's issue contained an excellent article on construction of hollow cement walls, by N. Day, of Victoria Co., Ont., father of Professor Wm. H. Day. The idea is commendable. On no account would we build a solid cement stable wall, when it is so easy to improve the insulation by an air-space. Of course, good drainage should always be provided to keep the foundation dry.

It is a question whether it is, on the whole, more desirable to build a slop wall with a core, or a cement-block wall. The latter is more expensive, but looks better. If the blocks are well made and laid, it should prove durable.

The large, hollow building brick, made of clay, are an ideal material in some respects, but, as usually laid, they do not make a very strong wall, as some farmers learned last season to their sorrow, through the devastation of local hurricanes. Some of them also tend to discolor in time.

Those who have already built solid stone or cement walls can improve them greatly by lining with boards.

Summing up, we would say, build a well-insulated wall. A frame stable is in many respects preferable to any other kind. Next to this comes a hollow cement or cement-block wall. Do not build a solid slop wall, and do not build a stone wall, unless in your circumstances it is much more economical than the other materials named. If you have a stone or solid cement stable wall, consider carefully the advisability of lining it, especially if it is inclined to be damp.

This is the net result to date of our many years' study of the stable-wall question, but we do not claim to have exhausted the subject, and discussion by readers is invited, particularly from those who have had experience with hollow-wall construction, and can give helpful hints based thereupon.

Another Farm Chosen.

The public will be interested to learn that "The Farmer's Advocate" farm has changed its location. The place at St. John's, which was advertised, represented and purchased as 135 acres, turned out to be 15½ acres short when the title came to be delivered. Overtures for proportionate decrease in price not being satisfactorily met, we had no option but to renounce the bargain and demand return of the deposit paid down. Fortunately, we have since been able to secure another property, very much more conveniently situated. The new place is what is known as the Robert Fraser farm. It is situated just south-west of Glendale, four miles from London, fronting on the Wharnclyffe Road, along which runs the London & Lake Erie Railway and Transportation Company's electric line. The cars may be hailed hourly each way at Station No. 10, directly in front of the farm. The land comprises 112 acres of medium-heavy clay loam, lying with a gentle slope, ideal for drainage. It is a good strong soil, though at present rather dirty, and not in first-class condition. It is full of Canada thistles, and there is a certain amount of bindweed, besides mustard, ragweed, and the like. The barn is a good one, 40 x 70 feet, with part wooden basement, on a three-foot stone footing. The house is poor, but will be replaced by a new one in the course of a year or two. Some fencing will have to be done; but, beyond the points mentioned, the place is a good one, and our only regret is that we could not obtain, conveniently

THE FARMER'S ADVOCATE

AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL
IN THE DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

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

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all cliques or 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.
2. TERMS OF SUBSCRIPTION.—In Canada, England, Ireland, Scotland, Newfoundland and New Zealand, \$1.50 per year, in advance; \$2.00 per year when not paid in advance. United States, \$2.50 per year; all other countries 12s.; in advance.
3. ADVERTISING RATES.—Single insertion, 25 cents per line, agate. Contract rates furnished on application.
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13. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address—THE FARMER'S ADVOCATE, or
THE WILLIAM WELD COMPANY (LIMITED),
LONDON, CANADA.

situated, a farm in poorer condition with which to work. However, the one we have will serve admirably the main purpose, which is to apply, under our own supervision, the methods recommended through "The Farmer's Advocate," keeping strict account of every item of expenditure and income, so as to determine as closely as possible not only what things pay, but how well they pay; what ones pay best, and by what means the largest profit can be derived from each particular branch. When it is stated that the cost of this place is \$11,500, which a new house and other improvements will raise to \$14,000 or \$15,000, and that the experiment will not be considered a success unless interest and taxes is made over and above current expenditure, practical farmers will realize the task we are setting ourselves—a task which, as has been pointed out before, is a greater one than if the manager were employing his own time upon the place, being thereby in a position to keep closer watch on details.

Educate for the Farm and the Home.

For several years "The Farmer's Advocate" has thrown its best energies into the campaign for rural-school improvement. To effect real and substantial reform, one must begin at the heart of things, and put that right. For the trouble is not so much with our fields and buildings as with ourselves; and if we rectify our ideals, purposes and plans, we shall soon realize that neither our fields nor our homes are exhausted of richness, and that the school will become an ally in the upbuilding of a farm community, not a mere feeder for town offices and factories. The business of the rural school is not just to make people thrifty, but intellectual and moral, and able to realize what good there is in the very life about them. The New York Independent is doing good work in puncturing the old school system of the States which educated away from country and home life. The hopelessly mistaken conception of it has been simply this: As soon as the lads or lasses "graduate" or "get through," or "pass," they must start off somewhere to "make

something of themselves," blissfully oblivious of the needs and opportunities pressing all about them.

A remarkable evolution in education is going on at Menomonie and Winneconne, Wisconsin, where schools, established on an industrial and agricultural basis, broadly combine the two thoughts of culture and utility. Examinations in the usual school accomplishments are passed, but the farm and farm life is preserved as the central idea. That concept is clear and distinct. It is to fit pupils for building up their homes and to engage in those industries which need them to make the community and State what it ought to be. The courses and the teaching invest the home and farm life with knowledge and enthusiasm. How could it be other than that, under such a system, the boys and girls become enthusiasts for country life? The old people get relaxation when the time comes that they need it, and no more is heard, so we are assured, of the drift to congested cities and of the loss of the best blood of the farm into the factories. Industries are kept balanced, while agriculture suffers not for lack of help. Menomonie has graduated nearly one thousand pupils, and thus far only two are known to have turned to any other pursuit than that of the farm. Happy Menomonie!

The Business Man and the Consumer.

The reciprocity question is an important one, and it is only fair that everyone should be heard. We commend the frankness of those men who, independent of party affiliations, have spoken out on the subject, and recommend that our readers give every man's utterances due consideration. At the same time, it is proper to examine whether such utterances are in all cases free from unconscious bias—to inquire, in short, what men, and what classes of men, are in the best position to form sound opinions.

It might be presumed that leading financiers, with large interests in the country, would be qualified to estimate the advantage or disadvantage of tariff changes. As a matter of fact, they are, of all classes, among the least qualified to judge such matters fairly and wisely. To them the consumer is an impersonal being, to be canvassed for business. A manufacturer of binders would usually welcome an opportunity to supply 25,000 farmers at a price five dollars above what he could get under conditions of unrestricted foreign competition, but who could imagine him deploring the fact that 25,000 farmers had to pay from \$125,000 to \$250,000 more for their binders than they would have had to pay if purchasing in the most convenient market? As a rule, the seller of a commodity looks only at one side of the question, and not always at the whole of that one side. Nor does this imply that our prominent business men are more than ordinarily human. Many of them are fine characters, generous in their impulses, and philanthropic in their aims. No man with an element of selfishness in his composition can be trusted to form a wholly unbiased opinion on any matter wherein it is possible for him to have a selfish interest. So it comes that many of our business men unwittingly take a narrow view of the tariff question, ignoring the welfare of the consumer, and failing to grasp the broader ultimate interest of the country at large. The well-informed, disinterested man who stands apart from the channels of commerce can most fairly and fully size up, without suspicion of unconscious bias, this great tariff subject, about which the average man is so completely at sea.

Farmers are the one great class in Canada who see through this subject most clearly, not because they are less human, but because from their position as consumers who bear the burden of protection, and as producers who cannot be very effectively protected, they are in a better position to appreciate the effect of tariffs than any other large class. Just as soon as conditions come to pass under which Canadian farmers can be benefited by a protective tariff, just so soon will they be subject to the same bias that has for many years colored the view of our manufacturing class. We already have an illustration of this in the atti-

tude of our tender-fruit growers, who want to keep the price of early peaches up to a dollar a basket, in order to earn dividends on lands valued at a thousand dollars an acre, and ever rising. But the great body of Canadian farmers, who say little, though thinking much—the men, we repeat, who are in the best position to judge this matter fairly—are in favor of lowering the tariff walls, especially when accomplished by an agreement that opens to them a convenient market among ninety million people.

Express Companies' Profits.

The good work of the Dominion Railway Commission in ferreting out cleverly-concealed facts in reference to the Canadian Express Companies, was pointed out editorially in our issue of Jan. 11th last. The Board of Railway Commissioners, after a fairly exhaustive inquiry, found that the actual assets of the Dominion Express Company, operating on the C. P. R., and the Canadian Express Company, on the G. T. R., amounted to but \$800,000, yet they are capitalized at \$5,000,000, and paying dividends upon that sum. It was further found out that, unlike the American Express Companies, which are independent corporations, the Canadian express companies exist merely in name. "All the capital stock of each of these companies is held by the parent railway company." The express companies, through able solicitors, put up the strongest plea possible that rates should be left as they were, but the Railway Commission had found out too much, and ordered a general reduction of the rates within three months, with some reductions to be made at once.

In the United States there are thirteen express companies engaged in the pleasant business of carrying parcels at their own rates, and thereby paying large dividends on stock having a percentage of solids about equal to fresh maple sap. Of these thirteen companies, five are comparatively small concerns, the remaining eight doing 93 per cent. of the total express business.

A writer in the Saturday Evening Post says that the charge on a parcel of paper costing \$1, from Chicago to his village, 130 miles, is invariably 40 cents. For 26 cents he could have a package twenty times as heavy and bulky sent the same distance, but by freight, of course, arriving in just as good condition, and not more than 24 hours later. He goes on to say: "I cannot have express matter sent by freight, however. The express companies have contracts with the railroad companies, which forbid it. In England or Germany I could have my box of paper carried about the same distance for about ten cents. It would go by mail there; but the post office here cannot carry express matter any more than the railroads can. The law forbids it. The express business is peculiarly an American institution."

The express business was begun March 4th, 1839, by a Wm. F. Harnden, who went four times a week, both ways, from Boston to New York, carrying parcels that were entrusted to him. For several months he carried his packages in a valise. Presently, however, the business grew so extensive that he used a packing crate. From this modest beginning have developed the express companies of the United States, which handle nearly 300,000,000 parcels a year. In the year ending June 30th, 1909, they received, for doing this work, \$130,130,126. About half of this revenue was turned over to the railways for the exclusive privilege of operating on their respective lines and for the use of cars and stations. After paying all necessary working expenses, the companies enjoyed a net income applicable to dividends of \$15,382,553.

The Interstate Commerce Commission, which, like our own Railway Commission, has been making an investigation into the express business, in a recent report shows that these enormous earnings were obtained by an equipment, the total value of which is but \$9,234,071. That is the value as given by the reports of the companies to the Commission, but on their own books this same equipment stands at only \$7,381,406. About \$5,000,000 of the net income given above was received from various investments representing accumulated surplus profits, but over 100 per cent.

on plant investment was actually paid to stockholders.

Not that stockholders received 100 per cent. on the face value of their shares. Not at all. There is a way of fixing that. As an instance, in 1866, the Adams Express Company, without any new money being paid in, raised the capitalization from \$1,200,000 to \$12,000,000, where it now stands. The total capital value of the express business in the United States is more than \$200,000,000, but only a few million dollars of capital were ever invested in it. The rest grew out of Mr. Harnden's carpet-bag—after it had been improved by the exclusive contract.

In the article previously referred to, mention is made of telegraph and telephone companies also, which, like the express companies, have been piling up assets out of exorbitant rates. These monopolies exist by the passive favor of the Government. There is a growing feeling, however, which is beginning to find voice, that the whole business of parcel-carrying and sending telegraphic and telephone messages should be conducted for the people by the Government.

Farming Without Wages.

Editor "The Farmer's Advocate":

I have read with more than passing interest the letter of "Farmer's Son," in your issue of March 16th, re "Farm vs. Railroad Life," as it was only because of the strenuous opposition of parents that I did not make railroad work my life-work.

To my mind, "Farmer's Son" has brought out a strong reason why many a young man (or young woman, possibly, too) leaves the farm to engage in other pursuits. He says he has "practically nothing at twenty-five years of age." I have in mind a young man of about thirty years of age, who received a first-class public-school education, who has never tasted intoxicating liquors or used tobacco; who is never denied spending-money when he asks for it; but who, being of a saving nature, does not spend much besides the clothes he wears, and for an occasional holiday trip. This young man is an enthusiastic farmer, and has worked, ever since he was able to work, on his father's farm; yet, although money is being put in the bank or invested in profitable investments, annually this young man receives no wages, nor has he any property, stock, or real estate, in his own name. I am firmly convinced that this young man would be given an interest in the farm if he would but ask for it, but, being of a very independent turn of mind, coupled with a feeling averse to approaching such a subject, he is patiently waiting, and, by the way, keeping company with a splendid young lady, to whom he has been engaged for some time, waiting, also, until his father sees fit to give him a start. Can you blame this young man should the call of the great West or our New Ontario, with its great opportunities for young men, lure him away from a good home?

I do not wish to stir up any strife or discontent among our young farmers, but I would like to see this subject discussed through the columns of your splendid paper, as I am sure it is of vital importance to many sons or daughters of the farm.

"DUGALD."

HORSES.

Breeding and Rearing of Clydesdales in Scotland.

The mares which do our farm work are fully pedigreed, typical Clydesdales, of the soundest and most fashionable blood that can be procured. They are short-legged and thick-bodied, and, on an average, not more than 16 hands high. They are mated principally with a view to catering to the Canadian trade (which, especially these last three years or so, has become an important one to the Scottish farmer), and with the off-chance of breeding an occasional top-notch. One or two of the best mares we serve with the best breeding horses of the day, costing from £6 to £10 (\$30 to \$50) at service, and as much additional when the mare proves in foal. The other mares are put to cheaper horses, standing at, say, £2 to £3 (\$10 and \$15). It is considered to be almost folly using an inferior stallion merely because he calls weekly at the homestead, and wants only \$5 for service. Taking the last twelve years, I find that, on an average full four foals have been reared annually from six, or, in some cases, seven, mares served. Foaling is timed to take place when it can be so managed, between 1st May and 1st July. Those coming before the earlier date have more risks to run, and the late foals being worse to winter, and of stunted growth, usually look six months behind the others.

The mares are kept in regular work right up to the day of foaling, though as little shaft-work as possible is given in the later stages. It is safer that they should not be backed, especially with the loaded cart. During the last month or

two they get "chain-work" only, and that more and more leisurely and carefully as foaling-time draws near.

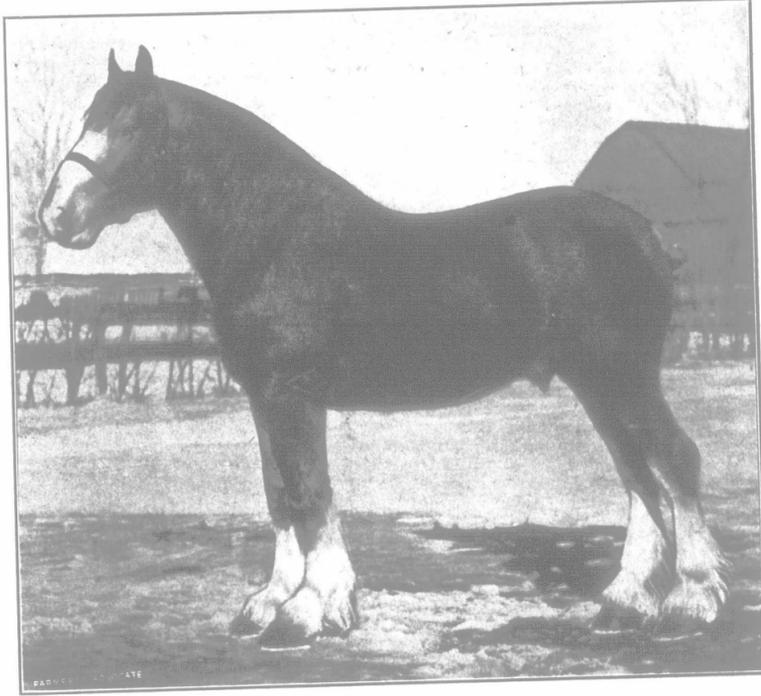
Feeding is simple. They get good home-grown oats, rolled, and thoroughly cleaned of dust and weed seeds, and mixed with about an equal bulk of chopped oat sheaves. Of this mixture, about 14 to 16 pounds, depending, of course, on the length of working day and the labor they are doing, is considered a fair allowance. Two moderate-sized Swede turnips, which must be sound and clean, are given at each meal. Till about Christmas, the mares get for long fodder as much good oat straw as they will eat, and after that date, rye grass and clover hay. A block of rock

Two or three bran mashes daily, till the mare gets up her strength, are useful, but after that she generally does well enough on what she pulls.

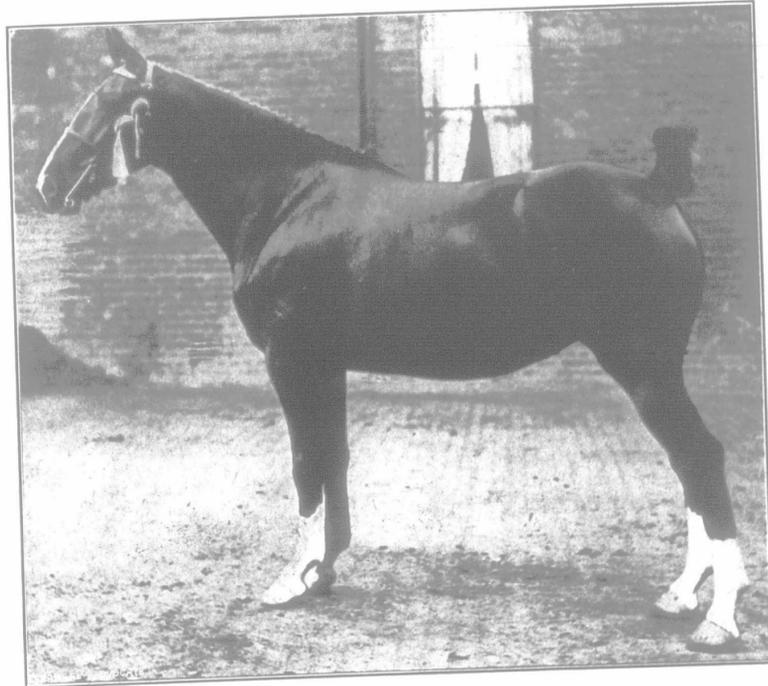
The mares are required for harvest work, which begins here usually about the third week of August. The foals are shut in a loose box, two together, when possible, and they are company for each other while their mothers are at work. At meal time the foals are allowed to go into a loose box with their dams, some milk, first of all, being drawn off, especially if heated. The foals in a few days will make a shape at eating grain along with their mothers; and, when this is noticed, a handful or two can be put in the trough for them after the mares are taken out to work.

The time of final separation of the dam and the foal is often a critical one for the latter, but, with the above system, we have little or no trouble. Two or three can be put out together in a good young pasture field, where they are kept night and day all winter. It is advisable to give each a small trough, as, when two or three are feeding together, there is a risk of the strong ones pushing out the weak. When well started to eat, rolled oats, as much chopped oat sheaf or clover hay (the latter for preference) is added, giving them as much as they will clean up. Treated thus, they go on thriving and growing all the time, and, unless in a very stormy time, they never seem to seek the natural shelter of the woods and stone walls which are the boundaries of our fields. The land in this locality is specially suited for wintering out young cattle and horses, being sharp, dry, and naturally drained, as well as having a southern exposure. Out-wintered foals do not have to suffer the setback in-wintered ones have when turning-out time comes in spring. Though the youngsters sometimes have the chance of a shed to lie in, they seldom or never make use of it, even in a stormy time, preferring a grassy knoll in a sheltered part of the field.

Hand-feeding can usually be discontinued about the second week of April, the foals still being kept in a not overstocked young pasture field. The colts are usually separated from the fillies about the 1st February, and any colt likely to be fit for the spring or summer shows is kept by himself and



Stirling (imp.) [11471] (15559). Clydesdale stallion, bay; foaled 1909. Imported and owned by Smith & Richardson, Columbus, Ont. First at Stirling as a foal, second at Kirkcudbright as a yearling, second at Guelph and Ottawa Winter Fairs. Sire Royal Edward.



Lady Beckingham. Hackney mare. First and champion, London (England) Hackney Show, 1911.

salt is kept in the trough of each, and water is always given before feeding. With the above system of feeding, we have only had two cases of colic in the last six years, and these were very mild. We aim at having as many of the mares as possible foaling at a time of year when mild enough for them to lie out at grass night and day. When this can be managed, the youngsters seem hardier, and neither mare nor foal, as a rule, need much attention, though, immediately after foaling, cold nights have to be particularly watched for, and the mare and foal housed, if necessary, the former being very liable to catch chills.

slightly better done, particular care being taken in keeping his feet well pared down and level, so that his limbs may not suffer. Any colts not good enough for export are castrated in May, the better ones (entires) being put in separate paddocks, and, when necessary, get a little hand-feeding to keep them in good natural, fresh condition till the buyer comes along.

During the second winter, the fillies and geldings are treated much the same as the foals, but rougher feed does them well enough, though, as is to be expected, a little more of it is required. They are never allowed to lose their foal-flesh al-

together, or their growth is affected to a certain extent. Occasionally, one of the best fillies is kept to replace the oldest or worst breeding mare in the stud, and, if big enough, is sometimes served to foal as a three-year-old, in which case she is not broken to farm work till she has reared her foal. The other fillies find buyers readily enough at from one and a half to two and a half years old; it is seldom, indeed, that we are allowed to keep the selling ones till they are three-year-olds. The geldings and keeping fillies are put to work at 27 or 28 months old, two taking the place of one seasoned horse; that is, working half-day about at, say, stubble-plowing, to begin with, and later on lea-plowing till February, when the geldings may be sold off, though in some cases they have to be kept to take the place of early-foaling mares.

As to the care of the feet and legs, we find it advisable to keep the feet of young horses at all times pared and rasped level, very slightly fuller on the outside halves, of course, leaving the frog and the upper part of the wall severely alone. The toes should be kept short and the heels low, to allow of the frog doing its duty as a pad. The legs, if of the right, flinty sort, and carrying the right kind of silky hair, are quite able to take care of themselves, and require no blistering or preparations such as our Shire friends use.

"SCOTTIE."

Working Colts.

While it is, unquestionably, wise to handle colts, and teach them to go in harness or saddle, or both, while young, we think it a great mistake to expect them to perform the labors of a horse until they are well matured. There is too great haste in getting colts at regular work. The general idea is that a colt at three years old should at least "earn its keep." This applies to both heavy and light horses. It is not unknown for a man to ask his two-year-old to "earn its board," but, fortunately, cases of this kind are rare. Between two and three years of age a colt should be handled somewhat, and taught to go in harness, but on no account should he be asked to do any regular work. A three-year-old is able to do considerable light work, if intelligently handled, without materially interfering with the prospects of his ultimate utility and value; but the trouble is that in many cases he is not "intelligently handled." Take a case of a pair of three-year-old colts on a farm. If there be enough horse-force on the farm, without depending upon the colts for regular work, and the owner or his son handles them, it is quite possible no injury will be done; but if horse-force be scarce, and the colts are expected to do the work of a team, and especially if given into the hands of hired help, the results may be different. At three years of age, the animal is still a youngster. His bone is not thoroughly formed, nor his muscles developed, and even a few days' hard and steady work may so interfere with their development as to do permanent harm. This probably applies more forcibly in the spring than at other seasons. The team, while probably trained to go in harness, have had little exercise during the winter, hence, are not only undeveloped youngsters, but unaccustomed to work. Spring seeding commences; a large amount of work is expected to be done in two or three weeks; the hired man goes to the field with his team; he knows that his employer expects a day's work, and he sets out to perform it, and during the two or three weeks this pair of colts are expected to do the work of a mature team; and in many cases they can do it, but in too many cases it is at the expense of permanently-enlarged joints, puffy fetlock joints, puffy hocks, cocked fetlocks, or other abnormalities. In other cases there are apparently no evil results; the team remain sound and able to continue their work, which they may be called upon to perform with more or less regularity until the next winter, when they will probably have an easy time for a few months, and as four-year-olds will again be worked steadily for seven or eight months, and still remain sound. Occurrences of this kind tend to verify the idea that a three-year-old should be expected to do a horse's work, but observation and experience teaches us that colts that have been used in this way are practically "old horses" while still comparatively young. They do not wear as long as those that have reached maturity before being asked to do the work of a mature animal. Hence, we claim that, where it can be avoided, three-year-olds should not be depended upon to do much work. The same remarks apply to the lighter classes, whether for harness or saddle purposes. It requires a very careful man to do any considerable regular driving with a three-year-old, without danger of permanent injury. A man may want a driver to do a little driving, and he can purchase a three-year-old for less money than a five-year-old of the same class, or possibly he has a three-year-old. He expects to have to drive only a few miles every week or every day, and he expects to have plenty of time to do it, and he decides that the colt is quite able to do it without injury; and probably he is, if the driving should

be only what is expected. But so many unexpected conditions arise which necessitate longer drives and less time than was figured on, and the colt simply has to go. This occurring frequently, the colt becomes tired, his gait becomes awkward, he hits his hind or fore ankles, acquires the habit of stumbling, etc., and often becomes blemished or lame. If the roads be hard, he is liable to become permanently lame in fore feet, cocked on pasterns, etc. In fact, it is not uncommon for a three-year-old to do so much roading that he is of little value afterwards. Hence we claim that he should not be depended upon as a roadster. It is all right to have him as an extra, and do a little light driving, but under no conditions should he be driven a long distance in limited time. It may be claimed that even though a colt that is worked or driven while young may not remain serviceable to as great an age as under other conditions, that it is profitable to work them while young, as it is so expensive to keep idle horses. This argument may hold good in some cases, but we must consider that, when a colt is allowed to reach maturity before being asked to do regular work, he may reasonably be expected to remain serviceable for many years longer than the one that was worked too young, and that his services will be more satisfactory; and, while it may at the time seem expensive to keep three-year-olds in comparative or complete idleness, it will pay in the end. Besides the monetary consideration, a man has the satisfaction of knowing that he has not been guilty of overworking or overdriving an undeveloped colt, and that he has given the colt a reasonable opportunity of being able to perform the functions for which he was designed, with comfort to himself and satisfaction to his owner.

The question may be asked, "At what age is the ordinary colt fit to do a horse's work?" Some claim that a three-year-old is better able to work than a four-year-old, but, of course, this is wrong. It is claimed that the teeth of a three-year-old are better able to masticate the food than those of a four-year-old. This is also a mistake. A colt should have a full mouth of molar teeth at four years old; while, between three and four, a temporary molar in each row (four all told) is being shed and replaced by a permanent one, and the sixth tooth in each row is appearing, all to be well up by the time the animal is actually four years old. Hence, we consider that a four-year-old is much better prepared for hard work than a three-year-old, but that he is not fully developed until at least five years. The

writer can call to mind a number of horses that were not asked to do hard or regular work until five and some six years old; and, where no accidents occurred, these horses became remarkable for their serviceability at a ripe old age. Hence, we plead for the colt. Give him a chance. Allow him to mature before asking him to do much, and he will give you long and satisfactory service. We ask horse-owners to consider these matters from a humane, as well as monetary standpoint.



Three-horse Lines.

The above cut of three-horse lines is published in response to a request from Huron Co., Ont. The cut is self-explanatory.



Golden Key [9997] (14694).

Clyde-dale stallion; bay; foaled 1906. Imported and owned by T. J. Berry, Hensall, Ont. Sire Lord Lonsdale. (See "Gossip," page 579.)

LIVE STOCK.

Our Scottish Letter.

The past three weeks have been occupied mainly with the great annual spring sales of pure-bred cattle and the London horse shows. This week (March 5th to 11th) the same programme is being continued, there being a five days' show of Thoroughbred stallions, hunting horses, riding and Shetland ponies, in London, with bull sales at Darlington and Penrith, in the north of England. So far as the cattle trade is concerned, the Shorthorn is still a very easy first. The highest individual price this spring has been 1,050 gs., for a Lovat bull, at the Birmingham show and sale on Friday last. The Shorthorns bred by Lord Lovat, at Beaufort Castle, in Inverness-shire, have often highly distinguished themselves at the Birmingham sales. They are cattle possessing type and individuality of their own. Lovat Shorthorns may be characterized as Cruickshank on a Booth and Bates foundation. The bulls are generally stronger than the typical "little red Cruickshank bull," as a Canadian breeder once described the Aberdeen type, and they are generally of a strong red color, which makes them specially popular with the Argentine buyers. The purchaser of the 1,050-gs. bull this year was Donald MacLennan, a native of the North of Scotland, who has long been one of the most popular men in the Argentine trade.

TRADE RATHER QUIET AT CATTLE SALES.

At the Scots sales held at Perth, Aberdeen, Inverness and Elgin, both Aberdeen-Angus and Shorthorn cattle met remunerative trade, but, apart from the top animals, there was no exciting demand, and breeders had to rest content with paying prices, and nothing more. A disquieting element in the situation at present is the increasing volume of frozen meat that is coming into this country. This is competing with the second and third-class beefs, such as dairy cows and bulls, and the outlook is far from reassuring. The price of fat cattle at present leaves little, if any, margin for the feeder, as the in-putting prices of stores was high, and in some cases feeders are selling their cattle fat at prices almost identical with those at which they bought them as "stockers." This sort of business does not put heart into a sale of breeding animals. The tendency is to buy the bulls as cheaply as possible, and, with the minds of breeders tending in that direction, it is not easy to make an auction sale "go." At the Aberdeen-Angus sales, held in the second week of February, the top price for a yearling bull was 155 gs., paid by J. Douglas Fletcher, of Rosehaugh, Ross-shire, for the Harviestoun Eupator, bred by J. Ernest Kerr. This youngster was placed second in his class, but breeders fancied him all the time. He was got by Prince of the Wassail 23757, and was popular. The bull which beat him in the class was James Kennedy's Eloro 30415, from Ayr. He is an out-and-out Erica, and was purchased by an English breeder, the Rev. Chas. Bolden, Preston Bessit, at 150 gs. The best herd average at the sale was made by Sir John Macpherson Grant, Bart., whose Ballindalloch contingent of three made an average of £124 5s. J. Ernest Kerr came next, with a record of £86 7s. 3d. for four, and Mr. Kennedy, of Doonhoun, was third, with £61 8s. 6d. for six. Mr. Bainbridge, Northumberland, came fourth, with an excellent record of £52 4s. 9d. for four.

Turning to the Shorthorn world, a notable private event has been the hiring by William Duthie, the world-famed leader of the "red, white and roan" of a stock bull for this season from A. W. Hickling, one of the youngest breeders in England. Mr. Hickling's bull is the red, Adbolton Regal King, calved in March, 1909, and got by the magnificent bull, King Christian of Denmark 86316. Mr. Hickling is best known as a breeder of Hackneys, but, although young as a Shorthorn breeder, he is not exactly young in years, and he was fortunate in laying the foundation of his Shorthorn herd. He has now, in less than a decade, achieved a distinction which many a breeder who has toiled for half a century has never once come in sight of, the supplying of a stock bull to the foremost Shorthorn herd in the world.

The highest price for a Shorthorn bull at the Perth sale a fortnight ago was secured by Sir James Sivewright, K. C. M. G., one of the South African magnates, who a few years ago purchased the beautiful estate of Tullyallan, on the banks of the Forth. Sir James has paid no fancy prices for stock, and has been most fortunate in selecting good material as foundation stock. He got first in the class for older bull calves with a roan named King George, calved in January, 1910, and this was sold to Mr. Rodger, for the Argentine, at 720 gs. C. F. Lyall, Strone, also purchased the second-prize winner in the same class, Findon Beau Ideal, a red roan, calved on 8th January, 1910, at 180 gs. The first-prize younger bull, calved in March, 1910, was Philip's Favorite, a roan, bred by W. A. Dron. Lord Lovat purchased this as a stock

bull, at 660 gs. The second-prize winner in this class was Jas. McWilliam's Proud Major, also a March calf. He was also secured by Mr. Rodger for the Argentine, at 400 gs. No herd so far outdistanced its neighbors among Shorthorns as did Ballindalloch among the Aberdeen-Angus. The best average was £178 10s., made by Mr. Finlayson, for two. Next came Mr. Dron, with £164 0s. 3d., for five, an extremely satisfactory figure. Mr. McWilliam was third, with £143 9s., for six. Sir James Sivewright had £137 17s., for seven; and Wylie Hill, Balthayock, £137 11s., for five. Several Aberdeenshire breeders had well over the century for their bunches of from five to six. Well-bred bulls were in sound demand, but the other kind were hard to sell.

Galloways and Highlanders have to rest content with much smaller prices than the breeds already named. The Highlanders were this year selling better than the Galloways. The latter were indebted to buyers on behalf of the Irish Department of Agriculture for any measure of buoyancy at the Castle-Douglas sale. The highest price realized was 57 gs., for the second-prize bull stirk, named Hero of Blackcombe 11067, owned by an enthusiastic young breeder, Mr. Fox, Brockbank, of Cumberland. The buyer was Wm. Montgomerie Neilson, a noted Galloway laird who interests himself greatly in anything that affects the wellbeing of the county. The next best price was 51 gs., paid by Colonel Kennedy, of Knocknalling, for Chief VI. of Stepford 11052, bred by David Brown, and first in the class. The best average for a group was £29 2s. 9d., made by W. A. McTurk, one of the oldest and staunchest supporters of the breed. Very few Highland yearlings or stirks are sold. The favorite bull age of this picturesque breed is two years old. Twenty-two aged bulls made an average of £27 4s. 1d.; 42 two-year-olds made £32 6s. 2d., and 19 yearling bulls made £21 14s. 2d. The highest price at Oban sale was £95, paid for the first-prize and champion old bull, from the famous Pottalloch fold, which has now, unhappily, been dispersed. The highest price for a two-year-old was £83, paid for the first-prize winner, and the second went at the same money; £68 bought the fourth, and £84 the fifth.

HACKNEY NOTES AND NEWS.

The London Shire Show was this year deficient, so far as the merits of the stallions were concerned. The mares were much superior to the stallions. The champions of last year in both sexes repeated their victories. The Hackneys, in the week following, were possibly as fine a show as ever was seen in London. The motor-car craze has unquestionably hit this breed harder than any other class of horses in this country. Yet, has there rarely been seen a better show of sound harness horses. The feature of the show of 1911 was the success of Scots-bred Hackneys and sires having their headquarters in Scotland. In the breeding classes for stallions, the supreme championship went to John Mackenzie's King's Proctor, a three-year-old, by Mathias, the stud-horse owned by Robert Scott, at Thornhome, Carlisle, Scotland. The championship in the harness section went to Mr. Marchant's Gaythorne, which was bred by J. Prentice, and also got by Mathias. Alexander Morton, the well-known Scots breeder of Hackneys, was first with another three-year-old stallion named Halrig of Touen Rais, also a son of Mathias; and a large class of stallions in harness was won by Robert Scott himself with Flash Mathias, a son of Mathias. In the class for pairs of horses or mares in harness, all the first and second prize winners—that is, the four—were got by Mathias. His most formidable competitor as a sire of winning stock was his uterine brother, Polonius, which is owned by Robert Whitworth, Market Weighton. This horse's stock were much in evidence. They have very strong action, and are generally bigger and stronger than the produce of Mathias. The latter are also, as a rule, of dark colors, while the produce of Polonius are mostly chestnuts, with white markings. On the last day of the show there were competition for the best groups of three stallions, three mares or fillies, and three harness horses (not stallions), got by one sire, and not exceeding three years old. For the stallions, Mathias was first, and Polonius second. For the mares, Polonius was first, and Royal Danegelt second; and, for horses in harness, Polonius was first, and Mathias second. The Mathias group were bigger and more handsome horses, but the Polonius group were better balanced and more after one type. All the three Mathias lots were born in Scotland. In the final championship for the best harness mare or gelding in the show, any age or height, five great animals competed. Two were got by Mathias, two by Polonius, and one by Ganymede. The produce of Mathias were first and third. The Ganymede horse, Authority, divided them. The two by Polonius, Fyde Fireaway and Argo, were fourth and fifth. In the final for the best stallion in the breeding classes, there was a phenomenal victory for the grand old mare, Ophelia, in the person of her descendants, Mathias and Polonius, and Hopwood Viceroy, the champion at the International Show at Buenos Ayres last year, are all

her sons. King's Proctor, the son of Mathias, was champion; Antonius, the son of Polonius, was reserve; and Hopwood Viceroy was third. No female of any breed or race can be named which ever equalled Ophelia. She was invincible in the showyard, and champion at the London Show. She has bred many foals, and never an indifferent one among the lot. Among them may be named Lord Hamlet, Sir Augustus, Heathfield Squire, Polonius, Mathias, Hopwood Viceroy, and Royal Ophelian, colts; with Ophelia's Daughter Grace, and several others, fillies. She is still alive, and may yet breed further champions. Her own sire is uncertain, as her dam was crossed with both Denmark 177, and Danegelt 174. But there she is, and her equal has not yet appeared.

Not only is the champion Hackney sire in Scotland, but the champion Pony sire is here, also. He is W. S. Miller's Fireboy, which stands at Gallowhill, Paisley. Most of the best ponies at last week's show were got by him, and on Friday, in the final competitions for the best group of three got by one sire, three groups got by Fireboy appeared in the ring, and on behalf of no other sire could as much as one group be made up to oppose him. The unfortunate thing in connection with all these Scots successes in Hackney breeding is the fact that there is so little demand for either Hackneys or Ponies. Only one sale was reported as made at the show, to a foreigner. The buyer was a Spaniard, from Madrid, and bought one of the commended stallions. The appearance of the streets of London shows how rapidly the horse is being supplanted by the motor. Ere many years are over, the Hackney cab and the four-wheeler will have vanished from the London streets, as the erstwhile ubiquitous 'bus has almost wholly disappeared. "SCOTLAND YET."

Rearing Calves for Beefers.

Good fat, growthy calves can be raised without much milk. W. M. Baker, of Middlesex Co., Ont., lately changed his method of breeding and handling cattle. Last year his cows, which are good milking grades, of Shorthorn crosses mostly, had been all bred to an Aberdeen-Angus bull. He had no thought of keeping the calves for breeding purposes; all heifers and steers alike are to be fattened and sold for beef. Mr. Baker's idea as to rearing calves for such a purpose is that they should not only be kept growing, but that they should be of good flesh, also. Certainly, at the time of the visit of "The Farmer's Advocate" representative, last July, his calves were as fat as if intended for extra veal. The milk was sent to the cheese factory, but Mr. Baker kept out what he thought the calves should have. The feed for each calf he prepared by first putting into the pail a handful of ground flaxseed, on which he poured about a quart of hot water and stirred it well, and into this about 2 quarts of warm new milk and a handful of shorts. The calves seemed to relish it very much, and were a very growthy lot, as well as fat and sleek.

The method of raising calves practiced by Geo. T. Nichol, Middlesex Co., is very different from that usually followed. Mr. Nichol, though he has a large area in pasture, keeps but few cows. His specialty is export steers, finished on pasture. He raises quite a number of these himself, as he finds that he is unable to buy any that are quite equal to his own. At one time his method was to put two calves on one cow, and let them run with her, but he now believes it better to have three calves to each cow, keeping the calves in box stalls into which the cows are turned night and morning. The cows are undisturbed, except at the nursing hours, and, consequently, do better. The calves are growthy and thrifty, though not extra fat, and are fed grass and hay, with a very little grain, as they show appetite for food. They are turned out about the middle of July on clover or other pasture, running with the cows until winter, when they are weaned. Mr. Nichol in this way raises calves worth \$15 each at weaning time, and naturally thinks that a return of \$45 from a cow during the summer months, without any labor or hand-milking, is about as good as he would get if he fussed with milk pails, cans, etc.

Carbolic Acid for Abortion in Cows.

In the course of an address in Victoria, recently, Professor Gilruth, who for some years occupied the position of Chief Veterinarian in New Zealand, said he failed to see how much good could be expected from the carbolic-acid treatment of abortion. The germ, to be killed, he pointed out, is present in the womb. It is more resistant to the action of carbolic acid than are the cells of the blood of any animal; yet, either from the intestines or from the tissues under the skin, the drug can only reach the womb by way of the blood stream, in which it must necessarily be so diluted as to be harmless, at least for the blood. In other words, if any antiseptic were strong enough to kill the germ in the womb, it would be

likely to do harm to the system before reaching there. In experimental cases, where it was known the microbes were actually present (having been artificially introduced), the carbolic-acid treatment had failed. In one case, the administration of a total quantity of 8 ounces of pure carbolic acid, distributed over a period, had failed to prevent the animal aborting.

He admitted, however, that in some experiments made by the Victorian Veterinary Department, the indications were that direct injection into the blood stream of small quantities of carbolic acid was of some value; and concluded by saying that at present the use of carbolic acid could by no means be condemned.—[Farmer and Stock-breeder.

Profitable Sheep-breeding.

Editor "The Farmer's Advocate":

It is a regrettable fact that, while the number of horses, cattle and swine have increased in Canada very rapidly during the past twenty-five or thirty years, the number of sheep has been steadily on the decrease. The estimated decrease in sheep was 17 per cent. between 1881 and 1901, when the last census was taken.

Some claim that there is no profit in sheep-raising; others, that the danger of worry by dogs is too great; but the main reasons seem to be the tendency of many farmers to change their method of farming at every slump in prices, and it would almost seem as though the very fact that sheep require so little attention and care made them unpopular. Men must appreciate something that causes them more work, even if the net profits are not so large. At all events, their attention has been turned to other branches of agriculture.

From the foregoing, it might seem that there was no knowledge required, and very little care necessary, in order to make handsome returns from the flock. Such is not the case, and it is perhaps due to the mismanagement and carelessness of owners that many flocks have not proved a good investment and have been disposed of, thus decreasing the number of sheep in our country. Those breeders who have kept their flocks and cared well for them, have reaped even larger profits since others have gone out of the business.

No one doubts that we have soil and climate conditions in Ontario which are ideal for sheep husbandry. True, sheep delight in high, dry pasture fields, but very few are the farms in this Province on which they will not do reasonably well if properly handled.

It is said that sheep are hard on pasture, and this is true to some extent; but, notwithstanding this, some of the best and thickest of the world's pastures are to be found in the sheep-grazing districts of England. They will live on, and give fairly good returns from land on which it is impossible to grow sufficient pasture for other classes of stock. They are very close feeders, and should not be pastured with cattle unless feed is abundant.

It is hard to realize just why farmers seem to disregard the possibilities of the sheep industry. When the small amount of labor connected with the business is considered, and when, as at the present time, labor is very high in price, and often hard to obtain at any price, it really seems that the Ontario farmer could well afford to dispose of some of his other stock and fill the vacancy with sheep.

Sheep are not difficult to fence against during the summer, and are very valuable in the destruction of noxious weeds. In fact, a small flock on a farm pays for its keep by this means alone. Of the hundreds of weed pests which infest the farms to-day, there are very few that are not eaten and relished by sheep, and many of them are eaten in preference to pasture grass. The weeds are in this way prevented from producing seed, and in many cases the sheep feed so close as to destroy the crown of the weed.

The dog nuisance can be quite successfully overcome by bringing the sheep to the yard at night. After a short time they will become so accustomed to it that they will come of their own accord. Where this is not practicable, open bells on the sheep's necks are quite effectual.

In starting a flock, it is always advisable to begin with a few sheep. Many a man has made a failure of the business simply because he started on too large a scale, and, not understanding the business thoroughly, made many costly mistakes, which ultimately caused him to give up sheep in despair. A good beginning can be made with about a dozen good grade ewes upon a farm of 100 acres. Scrubs are dear at almost any price. Always select the breed that you fancy, provided it is suitable for your locality, because success is more likely to follow when working with something you have a liking for. With these selected ewes, mate only a strong, well-made, pure-bred ram of the breed. This done, the foundation is laid for the flock, which can, by selecting only the best individuals for breeding purposes, and disposing of the inferior animals to the butcher, be improved in quality from year to year. Indiscriminate breeding should be discouraged, and, in

selecting the breeding stock, the breeder should have an ideal, and adhere as closely as possible to it.

After the beginner has had a few years' experience in managing his flock of grade sheep, he usually feels that he would like to own a pure-bred flock. At this time, such a flock is generally a safe investment, because, owing to the experience gained in handling the grades, he is quite competent to make a success of the management of a better and larger flock.

There is no best breed, but, as in the selection of the grade flock, the breed that is most suitable to the environment and to the fancy of the breeder should be chosen. Any of the standard breeds are sure to yield a profit if rightly managed.

More care is required in selecting the foundation stock now than for the grade flock. Breed type, individuality, pedigree, conformation, fleece, covering and quality, deserve more emphasis than in the grade flock.

Sheep lacking in constitutional vigor should never be selected. A large sheep is not necessarily a strong-constituted sheep. Always select well-muscled sheep, with full neck veins, strong, straight backs, well-sprung ribs, broad loin, plenty of heart room, and sheep that stand well on short, well-placed legs, and the flock will be practically exempt from any constitutional disease. Always remember that there is no place for culls in a flock, and that the quality of the lamb crop depends largely on the quality of their sire.

The feeding of the flock is an easy matter. Pasture grass or clover and fresh water suffices during summer, with rape or cabbage added in the fall months. During winter, well-cured clover hay, roots (preferably turnips), and a small allowance of oats, makes an ideal ration.

The ram should have a little extra feed, as grain, during the mating season, which is usually from September to December; and the ewes should receive an extra allowance immediately after yearning to provide the extra nutriment required for the young, without lowering the condition of the mother.

The sheep barn need not be expensive. One thickness of lumber, with the cracks battened, makes a suitable pen for the flock. A portion of it should be built warmer for ewes at lambing time, provided early lambs are desired. This portion should be divided by low partitions into smaller pens for the mother and her very young progeny. A dry yard to the south of the building is always desirable, and the sheep should have access to this at all times.

The small amount of capital necessary to commence the business is one of the many good features of it. One hundred dollars will purchase a foundation flock, and, by careful management, this flock can be increased and improved rapidly.

Nearly every farm has on it a building or box stall in which the sheep can be housed until larger and better quarters can be provided.

To prove that there is a profit in sheep, the writer may refer to a small flock which he managed for some time. The foundation flock consisted of six pure-bred Shropshire ewes, which were purchased at the average price of about \$15 per head. In 1908 the flock consisted of 15 ewes and an imported Minton-bred ram. These 15 ewes raised, in 1908, 22 lambs, which were sold the following winter, when about nine to ten months old, for \$231, which, with the wool, brought the returns up to \$250, or over \$16.66 per head. This, you may say, is an exceptional case; but not so. The following year the same ewes raised 25 lambs, which, with the wool, brought in as large returns as those of the previous year. No money was lost on rams purchased. The rams were used in the flock during the time from its establishment until last year, and these were sold after being used for two, and in one case three, years, for more money than they cost.

These sheep were fed a liberal supply of clover hay, about two bushels of Swede turnips per day, with a small quantity of oats just before yearning. After lambing, the quantity of roots was increased, and a few more oats were fed. In summer they ran on blue-grass pasture, and in the autumn were fed cabbage as a supplement to the pasture. Lambs were dropped in March and April, and weaned early in September. Clipping was done early in April. The work of caring for the flock would not average fifteen minutes a day for the year.

Granting that the sheep paid for their summer feed by the destruction of noxious weeds, it is certain that they gave a large net profit; and even if the pasture was reckoned against them, they still yielded a handsome profit.

It is estimated that six sheep can be kept as cheaply as one cow. This being true, and the return from each sheep being \$16.66, the return from the number of sheep kept where one cow could have been kept was \$16.66 times 6, or \$99.96. How many cows are giving a gross return of this amount? Surely there is profit enough in sheep-

breeding to warrant the establishment of at least a small flock on every stock farm in Ontario.

When, as is the case to-day, choice lambs are selling on Toronto market for \$6.50 to \$7.15 per cwt., live weight, and when dressed lamb sells for 15 to 18 cents per pound, surely the breeder and feeder can make a living profit at the business.

The sheep supplies two necessities of the human race—food and raiment; consequently, as our population increases, so will the demand for the products to satisfy these needs increase. Let us hope that our Ontario farmers will consider this, and will establish flocks and increase the number of sheep in our country, until we can boast of the numbers of our sheep as rightfully as we now boast of the high degree of excellence of our flocks.

WADE TOOLE.

THE FARM.

Pumpkins Valuable as Crop and Feed.

The pumpkin crop is one much neglected by the average farmer, but is a crop capable of great things as a moneymaker, both directly and indirectly. Directly, it will furnish a lot of feed at low cost for cultural operations, easy of harvesting, and handy for feeding.

In days gone by, farmers grew pumpkins in the corn field. The advent of the silo and the corn harvester has effectually done away with this system, as it is practically impossible to handle the corn binder in fields where the pumpkin vine flourishes. Further, where corn is grown for forage, it is usually sown something more thickly, hence interferes with the production of the vine and fruit of the pumpkin.

Pumpkins grown by themselves, under suitable conditions, yield large returns per acre, and for expenditure of land and labor. Experience seems to demonstrate planting in hills about 8 feet apart on light, loamy soil, well manured, thoroughly cultivated, and in good tilth, to be about the ideal condition for pumpkin production. In a favorable year, when so grown, it is not too much to expect from 18 to 20 tons per acre of this excellent feed. The land should be, as indicated, well manured in a general way. If, in addition to the general manuring, a small amount of short manure be buried 6 inches or 8 inches below the seed-bed or hill, or scattered on the small area around the hill, so serving as a mulch, as well as a fertilizer, even greater returns in the way of crops may be anticipated. Some wonderful results have been secured from supermanuring of this crop; but, generally speaking, such returns are not profitable, due to the extra labor and much greater cost for fertilizer necessary to get the same. Tales are also told of milk-feeding the rapacious pumpkin or squash vine, but, like many other legends, are found, on investigation, to be folk-lore, rather than fact. Milk applied to the roots would, no doubt, prove of some value, but would be an expensive way of manuring the pumpkin.

With crops running from 15 to 20 tons per acre, it is quite possible to produce the pumpkin for from \$1.50 to \$2.00 per ton, land, labor, manure and all other expenses included, until the fruit is ready to feed to the animals.

The best use to make of the pumpkin is for milk production or pork. As a feed for dairy cows, it is welcomed as a very acceptable change from the usual feeds fed. It serves as a stimulant and appetizer, as well as a feed, in which respect it somewhat resembles roots; but, coming as it does at a time when roots had better not be fed, it is probably of greater value than roots for milk production in the fall.

For pork production and for feeding to sows in the fall, pumpkins are unexcelled. Our experience here shows that cooked pumpkins, mixed with meal and milk, will give gains unsurpassed by any other combination ever tried. Contrary, too, to what might have been expected, pigs will keep their shape—that is, not develop paunchiness—while making extraordinary gains. A mixture of shorts, barley and corn, equal parts, with about three times the weight of boiled pumpkins, and a quantity of milk equal in weight to the meal fed, will start any of the worst subjects doing well, and prove highly profitable as a ration for pork production.

The cost of growing an acre may be put about as follows:

Rent	\$ 3.00
Manure, at the rate of 15 tons per acre.....	3.00
Extra manure in hills	6.00
Plowing in spring	2.50
Harrowing twice36
Marking, making hills, and planting.....	4.00
Hoeing	2.66
Cultivating, single horse	1.04
Hauling	7.50

\$30.06

J. H. GRISDALE, Dom. Agriculturist.

CO-OPERATIVE EXPERIMENTS WITH FARM CROPS.

The results of co-operative experiments throughout Ontario, as reported at the last annual meeting of the Ontario Agricultural and Experimental Union, held at Guelph, in January, are presented herewith for the information of our readers at this season, when all farmers are interesting themselves in the question of varieties.

There were, in all, thirty-nine separate and distinct lines of co-operative experiments in agriculture conducted throughout Ontario during the present year. These included spring and fall grains, root crops, forage, fodder, silage and hay crops; culinary crops; the growing of grains, grasses and clovers in different combinations; the application of commercial fertilizers, farmyard manures, etc.

CO-OPERATIVE EXPERIMENTS WITH GRAIN.

The tabulated results presented give the average of the successfully-conducted experiments with grain crops throughout Ontario in 1910. The figures in the column under comparative value are made up from the answers obtained from the experimenters on placing the varieties in order of merit, after taking everything into consideration. The yield of straw, as given in the second column, represents the total crop, less the amount of grain, and, therefore, includes the chaff with the straw. The yield of grain is given in pounds, as well as in bushels, per acre, in order that the results may be more clearly understood, and that comparisons may be made between the different classes of crops, as well as between the varieties of each class. While it is true that the different classes of crops were grown on different farms throughout Ontario, yet, as most experiments were conducted in a large number of localities, the complete table enables one to make a fairly good comparison of the yields of the different classes, as well as the different varieties of crops throughout the Province. Owing to the great variation in weight per measured bushel of the different crops, it is much easier to compare the results in pounds than in bushels per acre.

The Liberty variety of oats, which stands at the head of the list in yield of grain per acre of the four varieties tested throughout Ontario in 1910, possesses a spreading head, and white grain of fairly good quality. Of all the varieties of oats which have been grown at the College, the Liberty is one of the very best in quality of straw. The straw of this variety possesses sufficient elasticity to prevent its becoming badly lodged, except in very unusual cases. A heavy storm will sometimes cause it to bend considerably, but very seldom causes the straw to break. The Siberian variety of oats also possesses a spreading head and a white grain. The quality of the straw is not quite equal to that of the Liberty variety. The Siberian was imported by the College from Russia twenty-two years ago, and is one of the leading varieties in grain production at the College. Of all of the varieties which have been grown in the experiments at Guelph during the last five years, the Siberian stands fourth in the average yield per acre. The Yellow Kherson variety of oats was imported from the Agricultural College at Kansas. It is a Russian variety, which was introduced through the United States Department of Agriculture. We obtained this variety five years ago, and the sample which we obtained was badly mixed, some of the oats being white, and some being yellow. After the first year's growth, we made a hand separation, and have continued to grow the yellow and the white strains separately in each of the past four years, and we find that they reproduce true to color. The Daubeney oats have been grown at the College for some twelve years, with a good deal of satisfaction. This variety occupies highest place in average yield per acre of all the varieties which have been grown in the Experimental Department at Guelph for the past five years. This variety possesses a spreading head and a white grain which is exceptionally thin in the hull. In the average of four years' experiments at the College, the Daubeney oats had 24.7 per cent. of hull, the Yellow Kherson 26.3 per cent., and the Siberian and Liberty each 29.5 per cent. of hull. The Daubeney oats are very early, and are one of the best varieties for mixing with six-rowed barley when it is desired to grow oats and barley in combination.

According to the reports obtained from experimenters, the Siberian variety had slightly more rust than either the Daubeney or the Kherson, but it was somewhat stiffer in the straw than either of these two varieties. Either the Liberty or the Siberian are good oats for general cultivation. The Daubeney and the Kherson varieties are amongst the very best of the early oats, and are both well suited for growing in combination with barley.

In 1910, arrangements were made for testing the comparative merits of the O. A. C. Number 21 barley, which is now the leading six-rowed bearded barley, with the Success, which is one of the leading beardless varieties, and also with the Common Emmer, which has been a fairly close rival in productiveness of the leading varieties of barley and of the leading varieties of oats throughout Ontario during the past three or four years. The results of the co-operative experiments conducted on twenty-eight farms during the past year show that the O. A. C. Number 21 barley headed the list in yield of straw and in yield of grain per acre. In fact, it surpassed the Emmer by 353 pounds, and the Success barley by 522 pounds of grain per acre. While some experimenters referred to both the Emmer and the Success barley as having a small amount of rust, no experimenter reported any rust on the O. A. C. Number 21 variety. The O. A. C. Number 21 has been particularly free from the attacks of the rust, not only in 1910, but also in the co-operative experiments for the three years previous, and in the experiments at the College. This barley was also a little stiffer in the straw than either the Emmer or the Spelt throughout Ontario in 1910. Some experimenters referred to the Success barley as being slightly affected with the smut, but no reports were received of smut occurring in either the Emmer or the O. A. C. Number 21 barley.

According to the results at the College and throughout Ontario, the O. A. C. Number 21 barley appears to be the best variety of six-rowed barley in cultivation in the Province at the present time.

In 1910, as in 1909 and in 1908, the two varieties of two-rowed barley which were used for the co-operative experiments throughout Ontario were the Hanna and the Two-rowed Canadian. In each of these three years, the former surpassed the latter in yield of grain per acre. In the results for the past year, there was an average yield of grain per acre of nearly five bushels more from the Hanna than from the Two-rowed Canadian. The Hanna is a Russian variety, obtained by us through the Department of Agriculture of the United States.

Hulless Barley.—Considerable interest was taken in the hulless barley in Ontario, especially at the time when the weevils were causing so much damage to the pea crop in the south-western part of Ontario, and when the farmers were, to some extent, growing hulless barleys to take the place of the peas, especially in a few localities. We have tested in all some fifteen varieties of hulless barley at the College. These have been obtained from a number of different countries. The Black Hulless is the oldest and probably the best-known variety in Ontario. The Guy Mayle hulless barley has surpassed the Black variety in yield per acre and in strength of straw in the experiments at the College. It will be seen from the tabulated results here presented that the Guy Mayle surpassed the Black Hulless in yield of grain per acre in the co-operative experiments in 1910. This was also the case in the experiments throughout Ontario in 1909, the difference being even more marked in that year than it was in 1910. In the co-operative experiments in Ontario during the past year, the Guy Mayle proved to be somewhat stiffer in the straw than the Black Hulless variety.

Spring Wheat.—Three varieties of spring wheat were distributed in the spring of 1910. These represented two distinct classes or types. The Wild Goose represents the durum or the macaroni wheats, and the Red Fife and Hungarian the flour wheats. In experiments at the College, the Wild Goose variety usually produces a larger yield of grain per acre than any of the varieties of spring wheat which are grown especially for flour production. In the co-operative experiments throughout Ontario in 1910, the Wild Goose again heads the list in yield of grain per acre, surpassing the Red Fife by an average of nearly two bushels of grain; and, in turn, the Red Fife surpassed the Hungarian by nearly one bushel per acre on the average.

Buckwheat.—As in each of the past two years, the Rye buckwheat has surpassed the Silver Hull in yield of grain per acre in Ontario. The yield in 1910 was considerably lower than that of 1908, and slightly lower than that of 1909.

Emmer and Spelt.—Both Emmer and Spelt have been distributed throughout Ontario for co-operative experiments in each of the past seven years, the following being the yields per acre from the two varieties, respectively: 1904—2,274 pounds, 1,263 pounds; 1905—1,589 pounds, 1,276 pounds; 1906—1,578 pounds, 1,106 pounds; 1907—1,768 pounds, 952 pounds; 1908—1,731 pounds, 1,002 pounds; 1909—1,815 pounds, 1,190 pounds; and, in 1910—1,374 pounds, 1,314 pounds. It will, therefore, be seen that the Emmer has surpassed the Spelt in yield of grain per acre in every one of the past seven years. In both the experiments at the College and in the experiments throughout Ontario, the Emmer forms a close rival to the best varieties of oats and the best varieties of barley in yield per acre. In 1910, however, the Emmer was surpassed considerably by the O. A. C. Number 21 barley, as will be seen by an examination of the test previously referred to.

Winter Wheat.—Five varieties of winter wheat were distributed to the co-operative experimenters in the autumn of 1909. Only three varieties were sent to each individual, but, as the American Wonder variety was sent to every experimenter, this formed a basis by which all the results could be brought into one table. The American Wonder, which heads the list in yield of grain per acre and in popularity, is a winter wheat resembling very closely the Dawson's Golden Chaff, both in appearance and in quality. It is a stiff-strawed variety, possessing a beardless head, with red chaff and white grain. The Imperial Amber, which stands second in yield per acre in 1910, is not quite as stiff in straw as the American Wonder variety, but is a somewhat better wheat for flour production. The Tasmania Red, which stands third, and the Crimean Red, which stands fifth on the list in yield per acre, are both very excellent wheats for bread production, according to the tests made in the Chemical Department at our College.

Winter Rye.—Of the four varieties of winter rye which have been tested at Guelph in each of the past seven years, the Mammoth White has headed the list in yield of grain per acre in six of these years, and stood second in yield per acre in the other year. It also surpassed the Common rye in the co-operative experiments throughout Ontario in 1910. This variety of winter rye has certainly made the highest record of all the varieties which we have had under test.

Field Peas.—For three years we distributed no field peas throughout Ontario, except in those districts where the pea weevil has not yet been found. In each of the past five years, however, we have complied with practically all requests for peas for experimental purposes. In the spring of 1910 we distributed two varieties, and have received thirty-five good reports of carefully-conducted experiments. These reports show us that,

Experiments.	Varieties.	Comparative Value.	YIELD PER ACRE.		
			Straw. Tons.	Grain. Bush.	Grain. Lbs.
Oats (75 tests)—					
	Liberty	100	1.39	52.01	1,768
	Siberian	86	1.37	50.26	1,709
	Yellow Kherson	55	1.10	47.75	1,624
	Daubeney	63	1.05	44.11	1,500
Six-rowed Barley and Emmer (28 tests)—					
	O.A.C. No. 21 Barley	100	1.53	41.17	1,976
	Emmer	60	1.46	—	1,623
	Success Barley	55	1.29	30.39	1,451
Two-rowed Barley (5 tests)—					
	Hanna	91	1.25	34.58	1,660
	Two-rowed Canadian	100	1.33	29.67	1,424
Hulless Barley (13 tests)—					
	Guy Mayle	100	.87	22.11	1,326
	Black Hulless	100	.93	21.75	1,305
Spring Wheat (27 tests)—					
	Wild Goose	93	1.49	25.06	1,504
	Red Fife	97	1.59	22.23	1,394
	Hungarian	100	1.43	22.31	1,339
Buckwheat (2 tests)—					
	Rye	100	1.57	20.99	1,008
	Silver Hull	82	2.06	14.65	703
Emmer and Spelt (13 tests)—					
	Common Emmer	100	1.17	34.34	1,374
	Alstrom Spelt	90	.94	32.86	1,314
Winter Wheat (23 tests)—					
	American Wonder	100	2.19	31.25	1,875
	Imperial Amber	84	2.39	27.80	1,668
	Tasmania Red	82	2.24	27.60	1,656
	No. 5 Red	66	2.68	26.70	1,602
	Crimean Red	59	2.33	26.59	1,595
Winter Rye (4 tests)—					
	Mammoth White	100	1.38	23.04	1,290
	Common	92	1.54	22.14	1,240
Field Peas (25 tests)—					
	New Canadian Beauty	100	1.56	26.72	1,603
	Early Britain	88	1.40	25.51	1,530
Field Beans (15 tests)—					
	White Wonder	100	.66	21.11	1,266
	New Prizewinner	83	.57	20.57	1,234
	Marrowfat	100	.71	20.23	1,214
Soy Beans (2 tests)—					
	Brown	100	.46	9.00	510
	Early Yellow	100	.49	8.00	480
Corn (20 tests)—					
	Wisconsin Little Dent	100	4.97	45.16	2,529
	Genesee Valley	93	5.64	40.14	2,248
	King Phillip	69	6.25	36.61	2,050

on the average, the New Canadian Beauty gave a little higher average yield of grain per acre than the Early Britain variety. According to the reports of the experimenters, the Early Britain possesses rather better straw for feeding purposes than the Canadian Beauty, the straw of the last-named variety being rather large and coarse. The Early Britain peas appear to be rather better for rich land than the Canadian Beauty variety. Although the weevils did comparatively small damage in 1910, from careful observations it was found that they were still active in a few localities, and that the Early Britain appear to be slightly more affected with this insect pest than the Canadian Beauty variety.

Field Beans.—The tabulated results show that the highest yield in 1910 was produced by the White Wonder, with an average of 21.1 bushels per acre. This variety also occupied highest place in the co-operative experiments over Ontario in 1909, and second place in yield per acre in each of the years 1908 and 1907. Both the White Wonder and the New Prizewinner varieties are earlier in reaching maturity, and possess a shorter straw than the Marrowfat variety.

Soy Beans.—Two of the earliest varieties have been selected, and have been sent out for experiments in the Province. The results are very meagre for 1910, and show the yields to be comparatively low. It should be remembered, however, that the soy beans are exceedingly rich in digestible nutrients, comparing favorably with cottonseed meal when ground and used for feeding purposes.

Corn for Grain.—The area used for the production of corn for husking in Ontario in 1910 amounted to 320,519 acres, or almost exactly the same as the area used for the production of corn for the silo. As the different varieties of corn vary so much in the time which they require to reach maturity, etc., many of them are quite unsatisfactory for grain production in this Province. Three varieties which have given very good results in the experiments at Guelph, and which were comparatively early in reaching maturity, were selected for distribution for the co-operative experiments in the spring of 1910. Although a considerable number of reports were received, giving the total yield and other information, the number of these giving the full information in regard to the yield of shelled grain was twenty. In former years, three flint varieties were used for this experiment. In 1910, however, one dent variety was included with two flints. The results of the twenty experiments show that in yield of shelled grain the Wisconsin Little Dent gave the highest average yield per acre, being about five bushels more than the Genesee Valley yellow flint, and 8.5 bushels per acre more than the King Phillip red flint. Not only did the Wisconsin Little Dent give the greatest yield per acre, but it was the most popular variety with the experimenters. As time advances, and varieties of corn are better known, it is probable that some of the very earliest varieties of dent corn will be used much more extensively than they are at the present time. In the co-operative experiments over Ontario in 1909, the average yield per acre of the three varieties sent out in that year were in the following order: Genesee Valley, Compton's Early and King Phillip. It will, therefore, be seen that the Wisconsin Little Dent, which surpassed even the Genesee Valley in the co-operative experiments in 1910, has made a very good showing. It will be noticed that the total crop is very light. A few of the experiments gave a small amount of total crop, but a fair amount of grain.

MIXTURES OF GRAIN FOR GRAIN PRODUCTION.

In the spring of the present year an experiment was arranged for the Experimental Union in which barley and oats, mixed in three different proportions, could be tested throughout the Province. For these three rates of seeding, the following amounts, by weight, were used per acre: (1) Oats, one-half bushel, and barley, one-half bushel. (2) Oats, one bushel, and barley, one bushel. (3) Oats, one and one-half bushels, and barley, one and one-half bushels. It will, therefore, be seen that the total amount of seed would amount to 1, 2 and 3 bushels per acre. The varieties used in this experiment were the Daubeney oats and the Mandscheuri barley. The following table gives the average results of the good reports of successfully-conducted experiments with the mixtures of oats and barley for 1910:

Varieties and Combinations.	SEED PER ACRE.		Com- parative Value.	YIELD PER ACRE.	
	Varie- ties.	Mix- tures.		Straw. Tons.	Grain. Pounds.
Daubeney Oats	17				
Mandscheuri Barley...	24	41	40	1.3	1,528
Daubeney Oats	34				
Mandscheuri Barley...	48	82	100	1.5	2,104
Daubeney Oats	51				
Mandscheuri Barley...	72	123	100	1.6	2,096

It will be seen that the results over Ontario correspond closely with those at the College, viz., that one bushel of Daubeney oats and one bushel of Mandscheuri barley, by weight, has given a greater yield of grain per acre than either a heavier or a lighter seeding. The yield, however, is only slightly greater than that obtained from the heaviest seeding. It must be remembered, however, that less seed was required for the mixture which gave the highest results than the one which gave a yield slightly less. The area in Ontario which is being used for mixed grain is increasing from year to year, and we notice, from the report of the Bureau of Industries for 1910, that no less than 497,936 acres were used for mixed grains in the past year.



“The Strategic Point in the Warfare with Weeds.”

While the enemy is in our power, let us give no quarter

EXPERIMENTS WITH FIELD ROOTS, FODDER CROPS, GRASSES, CLOVERS AND ALFALFA.

Besides co-operative experiments with varieties of grain crops, potatoes, sweet corn, and with different kinds of fertilizers, farmyard manure, etc., others were conducted with mangels, sugar beets for feeding purposes, Swede turnips, fall turnips, carrots, fodder corn, sorghum, millet, grass peas, vetches, rape, kale, field cabbage, grasses, clover and alfalfa. It is difficult to secure full reports of the grasses, clovers, alfalfa, etc.

FIELD ROOTS AND FODDER CROPS, 1910.

Experiments.	Varieties.	Comparative Value.	Yield
			per Acre. Tons.
Mangels (10 tests)—			
	Ferry's Yellow Leviathan.....	100	23.20
	Ideal	87	22.11
	Sutton's Mammoth Long Red.....	78	22.05
Sugar Beets (3 tests)—			
	Bruce's Giant White Feeding.....	100	27.03
	Rennie's Tankard Cream.....	67	22.72
Swede Turnips (2 tests)—			
	Carter's Invicta	100	17.20
	Steele-Briggs' Good Luck.....	96	16.56
	Rennie's Prize Purple Top.....	90	14.89
Fall Turnip (1 test)—			
	Red-top White Globe.....	100	19.56
	White Egg	100	19.36
Carrots (7 tests)—			
	Simmers' Imp. Giant Short White... ..	100	22.34
	Steele-Briggs' Imp. Short White.....	84	21.67
Fodder Corn (2 tests)—			
	Henderson's Eureka	100	14.52
	White-cap Yellow Dent	100	10.52
	Sterling White Dent.....	100	10.46
Grass Peas and Vetches (3 tests)—			
	Grass Peas	86	8.06
	Hairy Vetches	100	7.27
	Common Vetches	71	5.21
Hairy Vetches and Winter Rye (1 test)—			
	Winter Rye	100	10.80
	Hairy Vetches	96	10.16
Millet (1 test)—			
	Japanese Panicle	100	11.36
	Hungarian Grass	98	10.88
	Golden Wonder	96	10.80

For the co-operative experiments throughout Ontario for 1910, a leading variety of each of three classes of roots were distributed. The Yellow Leviathan, which comes at the top of the list, belongs to the intermediate class. The Ideal, which comes second on the list, is tankard in form, and the one indicated by the name Sutton's Mammoth Long Red, which gave the lowest average yield per acre in the co-operative experiments, belongs to the long-red class. The Yellow Leviathan has now been used in the co-opera-

tive experiments for several years in succession. It occupied highest place in average yield per acre in 1904, 1905, 1906, 1907, 1909, and 1910, and second-highest place in yield per acre in 1903 and in 1908. It will therefore be seen that in the co-operative experiments throughout Ontario during the past eight years, the Yellow Leviathan occupied highest place in six of those years.

For the co-operative work over Ontario, two varieties of sugar beets for feeding purposes were tested in 1910. The Bruce's Giant White Feeding occupied highest place, with 27 tons per acre, and the Rennie's Tankard Cream second place, with nearly 23 tons per acre. It should be mentioned in this connection that, according to the analyses made at the College for several years in succession, the Bruce's Giant White Feeding gave 8.1 and the Rennie's Tankard Cream 8.6 per cent. of sugar. In the average of six years' experiments at the College, the Bruce's Giant White Feeding has given 26.8, and the Tankard Cream 23.6 tons per acre per annum.

Fall Turnips.—The fall turnips are not grown very extensively in Ontario. In 1910, the Red-top White Globe, the highest-yielding variety of this class, gave only 19.56 tons of roots per acre.

Fodder Corn.—The White-cap Yellow Dent variety is now one of the most popular and extensively-grown varieties of fodder corn in South-western Ontario. It produces a fairly good yield of total crop per acre, is of good quality, and is much earlier than the Henderson's Eureka or a number of other varieties of large dent corns. The Henderson's Eureka is one of the best of the very large varieties of dent corn, but it is only suitable for the light, warm soils in the extreme southern part of the Province. The Sterling White Dent is quite early, and might be suitable in some localities where the White-cap Yellow Dent is a little too late.

Sorghum.—Two kinds of sugar cane were distributed in the spring of 1910 for co-operative experiments, viz., the Early Amber and the Early Minnesota varieties. Owing, particularly, to the cold, wet weather in the month of May, this crop did unusually poor this season, and, although a number of reports were received, we were unable to make a summary of the exact yields per acre of the two varieties.

Grass Peas and Vetches.—The results of the co-operative experiments during the past few years vary considerably. The Hairy Vetches occupied highest place in average yield of green crop per acre in 1906, 1907, 1908, and 1909, and second place in yield per acre in 1904 and 1910, and third place in yield per acre in 1905. The Common Vetches usually give poor results when grown by themselves in Ontario.

Millet.—Three varieties of millet were distributed in the spring of 1910. The Japanese Panicle variety gave the largest yield of green crop per acre. This variety heads the list in fodder production of about thirty varieties which have been grown at the College for the last few years.

Clovers.—The Common Red, the Alsike, and the Mammoth Red varieties of clover have been distributed each year for some time past. As the Common Red usually produces two crops in the one year, and each of the others one crop per season, and as the Common Red is not apt to survive the second winter as well as the Mammoth Red, it is difficult to get accurate results which will form a good summary report.

Alfalfa or Lucerne.—In thirteen years' experiments at the College in growing alfalfa, the average yield of green crop per acre has been a little over 21 tons, and the yield of hay per acre slightly over five tons. There has been an average of three cuttings per annum, or of thirty-nine cuttings during the thirteen years.

VARIETIES OF POTATOES.

There were 168,454 acres of potatoes in Ontario in 1910. The average yield of potatoes per acre, according to the Bureau of Industries for Ontario, was 130 bushels in 1910, 145 bushels in 1909, and 116 bushels in the average of the last twenty-nine years.

In the spring of 1910 the Experimental Union distributed two varieties of late, two varieties of medium-ripening, and four varieties of early potatoes, for experimental purposes. Only two varieties were sent to each experimenter, but in each group of potatoes one variety was distributed throughout, and used as a basis of comparison in summarizing the results.

The average results of the co-operative experiments throughout Ontario show that the Empire State surpassed the Dempsey's Seedling by nearly five bushels per acre. Of the medium-ripening varieties of potatoes, the Burpee's Extra Early has headed the list in the co-operative experiments throughout Ontario in each of the past four years. Not only has it given the greatest yield per acre, but it has also been the most popular with the experimenters in each of these years. The Extra Early Eureka has been distributed in connection with the co-operative experiments in each of the past four years. It stood second in the list in yield per acre of the early varieties

in 1908, and the highest in the list in this respect in 1907, 1909, and again in 1910. The Early Ohio variety was used in the co-operative experiments in 1909, but as it came at the bottom of the list in yield, in mealiness, and in comparative value, it was dropped from the co-operative experiments in 1910.

Better Seed.

Editor "The Farmer's Advocate":

The subjects that you suggest in your issue of March 9th are very pertinent to our coming spring work, and will bear a good deal of discussion. For some years I have been coming to the conclusion that the cheapest and most economical way in which we can increase our crops is by the use of better seed, and by "better seed" I mean seed that has been produced by plants that have been selected for their vigor and productiveness. It is now four years since I commenced the selection of seed potatoes, and I will try to describe, as briefly as possible, the method of selection, as practiced by the Canadian Seed-growers' Association, and the results achieved in my case by it.

The first season, I chose 125 medium-sized tubers of the type desired. These were planted whole about two feet apart in the regular field rows. When mature, they were dug by hand, and carefully weighed. Of the 125 hills, only 17 showed any decided merit. These were each kept distinct, and stored for planting next season. In the spring, after noting weight and condition of each lot, they were planted in 17 plots, of eight hills to the plot, as before, in the ordinary field rows, getting no favors in any way—the same manure, cultivation and general attention that the rest of the field got, and no more. The most noticeable trait about these plots during the growing season was the evenness and uniformity of each. There were marked differences between the plots, but each plot was absolutely even in itself. The same uniformity was noticeable when the potatoes were raised. Every hill in a group would give about exactly the same weight of tubers, and the family likeness was most apparent. The difference between the plots, however, was startling. The best one gave exactly double the yield of the poorest. Several of the poorer yielders were thrown out, and only the best ones were stored for seed. Five lots were kept distinct for further test, and seven were stored together as showing no special individuality. This season was a good one for potatoes, and the average yield per acre for four acres was 210 bushels. The 17 plots of selected seed yielded at the rate of 245 bushels per acre, a gain of 35 bushels, but the best plot gave at the rate of 353 bushels, a gain of 148 bushels per acre.

The following year, 1909, there was quite a quantity of improved seed to plant, and I watched with a good deal of anxiety to see whether it would "make good." The season proved a very poor one for potatoes, and my crop was very small. Ordinary seed gave a yield of only 125 bushels per acre, but the selected seed yielded 175 bushels, an increased yield equal to 40 per cent. of the crop from ordinary stock. As there were twelve rows, 30 rods long, of the improved seed, and the ordinary stock was on each side, other conditions being precisely similar, I regard this as a very satisfactory and conclusive test.

The season of 1910 proved a good one for potatoes. Improved seed gave me 252 bushels per acre, with ordinary stock 42 bushels behind. It would seem as though the selected seed was better able to withstand adverse weather conditions, had more vigor and stamina than ordinary stock, but that its advantages are less marked in a favorable than in a poor season. Although the method of selection here outlined is hardly practicable when applied to grains, for general use, the modification of it advised by the Seed-growers' Association is very effective, and can be practiced by any farmer. It consists in hand selection from the standing crop of a certain quantity of heads of the desired type, the grain from these being used to sow an improved seed plot, from which a further selection is made the following year, and so on. The product of these plots can soon be multiplied, and will be found much superior to ordinary stock for seed purposes. Just how much improvement we may expect is hard to say; much depends on the skill of the operator, but I would consider five to ten bushels per acre increase to be easily obtainable.

My work with potatoes has opened my eyes to the great possibilities in this direction, and I would like to urge more to take it up, and everyone to use this seed, if he can possibly obtain it. Very few of us can operate with more than one crop; it entails a good deal of work, though it is work that is intensely interesting, and many will not be able to take it up at all, but must depend on others for their seed supply. Hand selection is the only way by which we can insure a supply of seed absolutely pure and free from all weed seeds.

A year ago, I purchased enough registered seed to sow six acres. The cost per acre was only 60 cents over the price of ordinary seed,

and I am convinced that I gained five bushels per acre, at least, in increased yield—12 cents per bushel. Could I have increased the yield as easily and cheaply in any other way? But this was not all; I had the satisfaction of having a crop that was all one kind of grain, and all one variety of that grain, not three or four different varieties, each a different height, and ripening at a slightly different season from its fellows, as is usually the case. Now I have seed enough to sow a farm, and, with ordinary care, should be able to keep it clean and pure for two or three years, anyway, when a fresh stock may be purchased.

The selection of the best variety is quite as important as the best strain; and here, I am afraid, we, as farmers, do too much experimenting. I have done perhaps more than my share, and I am very much of the opinion that most of the old standard varieties, if carefully selected for vigor and productiveness, are the best we have. Let the experimental farms do the experimenting; that is what they are for, and let us be guided by the results they obtain. Of all the oats that have been introduced in recent years, where is the beat of the old Banner and Siberian for general crop? Seed oats have been sold in Ontario within the past two or three years at \$3 and \$4 per bushel, and where do they stand on the experimental lists? Often away down, and some of them are not there at all, being some old kind with a new name and highly-colored picture, to enable the seed pedlar to sell it at ten times its value. But I must close, or this letter will be consigned to the waste-paper basket.

ALFRED HUTCHINSON.

Wellington Co., Ont.

Grain Varieties at the O. A. C.

"O. A. C. No. 21" barley has made a name for itself. Twenty-one years ago last spring, a pound of Mandscheuri barley was secured through an English seed firm from Russia, and tested, with sixty other sorts, in the experimental plots of the Ontario Agricultural College. It gave a rather stiff straw and a large yield of plump grain (bearded). In the plots for 22 years, it has averaged 73.3 bushels per acre per annum, or 9.5 bushels more than the common six-rowed barley, under similar conditions. For seventeen years it has been distributed through the Experimental Union, so that now there are over half a million acres of it grown in the Province. It is now being supplanted by O. A. C. No. 21, originated by Prof. Zavitz through selection from an individual plant of Mandscheuri. In 1903, 9,972 selected grains were planted, and, when ripe, 33 of the best were chosen. These were sown separately in 1904, and the best strains chosen—14 in 1905, 8 in 1906, 7 in 1907, and 3 in each of the last three years. The best of these proved to be No. 21. For four years it has surpassed the Mandscheuri in yield, in freedom from rust, and in length and strength of straw, according to the co-operative tests throughout the Province. In 1909, 20,000 bushels of it were traced, and it is now being quite generally grown, many farmers advertising it for seed in "The Farmer's Advocate." A promising hullless barley, Guy Mayle, is being developed in a similar way, and it is to be put in the co-operative experiments.

The oat is a popular crop, not only because of the utility of the grain and considerable protein content, but because it can be successfully grown on such a great variety of soils, and produces such an abundance of valuable straw, free from disagreeable beards. In the average results from five years on the Ontario Agricultural College plots, Daubeney heads the list with an average of 87.44 bushels per acre. It is an early oat, with spreading head, thin-hulled, medium height of straw, and white grain of excellent quality. Alaska yielded 86.40 bushels, and 1.83 tons straw per acre; stands well usually; grain white, thin hull, and heavier than standard weight per measured bushel. Iowa Silver Mine—86.09 bushels; spreading head, yielding 2.03 tons of straw per acre. Siberian—86.02 bushels; a well-known sort, of medium length of straw, but five days later in maturing than Daubeney. Peerless—85.70 bushels; ranks fifth. Hullless is at the bottom in yield, 47.44 bushels, though at the top in yield of straw, 2.67 tons. On these plots, the American Banner has not done as well as formerly, but it and the Siberian are the most extensively grown oats in Ontario. The Regenerated Abundance oat, introduced as a non-stooler, is reported, under trial, to have given exactly the same number of stools as the Banner. The Liberty oat is a fair yielder, 75.96 bushels, and possesses straw of excellent quality.

In spring wheat, Minnesota No. 163, originated by Prof. W. M. Hays, tops the list, with a yield of 35.54 bushels per acre; Red Fife, next, 34.33 bushels; Climax, 34.29 bushels; Hungarian, 33.74 bushels; Saxonka, 33.53 bushels. The poorest variety reported on is the Colorado. Of the macaroni wheats, Wild Goose holds highest place, 35.8 bushels per acre. Dawson's Golden

Chaff continues to head the winter wheats, 54 bushels, with Imperial Amber second, 49.6 bushels.

Emmer is shown to be a much heavier yielder of grain than Spelt, and is thin in the hull or chaff. Yield of straw, 2.1 tons; grain, 3,023 pounds per acre. At the College and throughout the Province it is a close rival of leading varieties of oats and barley in yield of grain by weight. Mammoth White Rye gave the largest yield, 60.8 bushels, of four varieties tested, Common being the lowest, 53.7 bushels. Of spring rye, Petkos gave the largest yield, 30.2 bushels.

Rye buckwheat headed the list of five sorts, with 33 bushels per acre, Common Gray being next, 24.5 bushels.

Field peas, an exceedingly valuable crop in Ontario, is recovering slightly from the weevil outbreak. Early Britain, 37.7 bushels, a brown pea, imported from Britain, heads the eleven-year trial list. The color is against it for market, but it is liked for the split-pea trade. Potter, a good white variety, stands second, 35.8 bushels. Golden Vine shows an average yield of 9.8 bushels less than Early Britain.

Field beans, twelve-years' trial: Pearce's Improved Tree, 25.1 bushels; Scholfield Pea, 23.1 bushels; White Wonder, 22.4; Medium or Navy, 22.3 bushels; Burlingame Medium, 21.2 bushels.

Flax.—Manitoba, 2.6 tons straw, and 17.7 bushels grain; Common, 2.6 tons straw, and 16.3 bushels grain; Russian, 2.4 tons straw, and 15 bushels grain; Holland, 2.3 tons straw, and 15 bushels grain. In 1910, Minnesota No. 25 surpassed the Manitoba by nearly two bushels grain per acre. It was originated by Prof. W. M. Hays.

Millet.—Siberian, 53.8 bushels, as against only 36.5 bushels for the Golden Wonder, and 37.9 for the Common millet of Ontario. Japanese Panicle and Japanese Barnyard are both good producers of seed, but for four years the Siberian heads the list of all sorts tried. For green fodder and hay, Japanese Panicle, five-year average, headed the list, 9.7 tons and 4.3 tons, respectively. Siberian gave 7.8 tons and 3.2 tons respectively. Common, lowest of nine sorts, gave 6.8 tons and 2.8 tons, respectively. To secure heavy yields, June 1st is the favorite time of seeding.

Corn.—In 1910, 98 varieties and strains were under trial on the College plots. Of 14 sorts grown for grain for five years, the following five top the list: Early California Flint, 11.23 tons (stalks, leaves and husks), 66.7 bushels shelled grain, per acre; Wisconsin Little Dent, 7.21 tons, 60.9 bushels; White-cap Yellow Dent, 10.49 tons, 60.0 bushels; University No. 13, 10.33 tons, 59.7 bushels; Longfellow, 12.62 tons, 56.4 bushels. Salzer's North Dakota was the lowest in grain yield, 42.4 bushels, but gave the greatest yield of fodder, 15.14 tons. There appears to be a great difference in the strains of the same variety. Three strains of White-cap seed, received from different persons, yielded, respectively, 60, 56.2, and 48 bushels shelled grain per acre. In the case of two strains of Longfellow, six-year average, the yields were 59 and 47.1 bushels, respectively, the better yielder being Essex County corn. Of fodder corns, as a result of five years' trials, Eureka (harvested at early-milk stage) topped the list with 3.16 tons husked ears, and 25.52 tons green fodder; Mogul, 3.18 and 22.83; 100-Day Bristol, 3.26 and 22.47; Landreth's Large White Flint, 2.62 and 21.13; Dark County Mammoth, 8.83 and 20.75; going down to Malakhoff, a sweet corn, 2.59 and 8.09. For silage and other purposes, farmers will do well to make trials for themselves with varieties and strains, until they secure what give a heavy yield of well-matured corn in their own locality.

Potatoes.—Davies' Warrior, a Scotch introduction, in the average of five years' trials, heads the list, with 267.7 bushels per acre. It is a large white sort, shallow eyes, rather late maturing, but good in quality. Other leading varieties are Empire State, American Wonder, Rural New Yorker No. 2, of the late varieties; Burpee's Extra Early, and Rose of the North, medium; Early Eureka, Early Puritan, and Early Fortune, early.

Mangels.—In the germination tests for two years, the Yellow Leviathan (O. A. C.) heads the list.

Sugar Beets.—The highest yielders are the lowest in sugar content. Of the sorts grown in 1910, the highest yields per acre were: Steele-Briggs' Giant White, 30.8 tons; Rennie's Jumbo, 30.4 tons; Giant Half Sugar White, 30.3; Keith's Prizewinning Half Sugar, 30 tons, and Bruce's Giant White Feeding, 29.7 tons. The latter has given the highest average yield for six years, 26.8 tons.

Of turnips, Carter's Invicta, 22.52 tons, tops the list as a yielder, and is of fine table quality; Carter's Prizewinner, 22.41 tons; Sutton's Queen, 22.18 tons; Improved Purple-top Yellow, 21.65 tons; and Rennie's Empress, 21.60 tons.

Carrots.—Steele's Imp. Short White Wonder, 28.4 tons; Mastodon White Intermediate, 27.9 tons; Simmers' Improved Giant Short White,

27.4; and Bruce's Mammoth Intermediate Smooth White, 26.8 tons.

Alfalfa.—Because of its heavy production of nutritious food, perennial growth and benefit to soil, the area of its cultivation is sure to extend. Five heaviest-yielding sorts, four years' trial: Texas Panhandle, 17.5 tons green crop, 4.6 tons hay; Nebraska, 16.9, and 4.3; Turkestan Khiva, 16.5, and 4.1; Turkestan Samarkand, 16.2, and 4; Nebraska, 14.9, and 4.

Barley and Emmer.

Having observed, under the heading, "Emmer vs. Spelt," in your issue of 16th inst., the inquiry of "S. A. O.," and your reply thereto, I have thought that perhaps "S. A. O.," and, it may be, some others of your readers, might be interested in reading a letter I recently received from Professor L. S. Klinck, of Macdonald College, Quebec, in reply to an inquiry I made from him. I therefore enclose you the letter herewith. I intend to follow his advice, and will sow a few acres of emmer by itself, but will use barley as a nurse crop with which to seed to alfalfa.

PROF. KLINCK'S LETTER.

"Emmer has given very satisfactory results in our experiments here, as the following table, giving the average number of pounds of grain per acre for the principal cereal crops for the past five years, shows: Six-rowed barley, 2,744 pounds; two-rowed barley, 2,257 pounds; emmer, 2,225 pounds; oats, 2,169 pounds; peas, 2,047 pounds; spelt, 1,790 pounds; milling spring wheat, 1,783 pounds. The results with emmer have been obtained by sowing 90 pounds of seed to the acre.

"While emmer is a very satisfactory crop to grow by itself, I much prefer barley as a nurse crop for alfalfa, as it is less exhaustive of soil moisture, ripens earlier, and shades the ground less. Of the various barleys tried as a nurse crop for alfalfa, the Success (beardless) has given us best results. Three pecks to the acre is sufficient to hold weeds in check and give the young alfalfa plants a good start in life."

H. H. MILLER (M. P.).

Smut and Its Prevention.

Bunt, or stinking smut of wheat, lives as a parasite in the growing wheat. During the summer it consists of branched jointed threads not unlike certain molds, and so fine as not to be seen by the unaided eye. While the wheat is heading, these threads grow up into the young grains, which swell up, blacken, and become the well-known smut balls. These are filled with a brownish-black powder, the spores of the smut.

The loose smut of oats has a similar life-history, but a great proportion of its spores are scattered before the grain is ripe, though, when the crop is badly affected, enough remain at threshing time to make all hands look like "niggers." The spores that adhere to the surface of the grain at the time it is sown are the principal source of infection, though the growing plant for a time is subject to infection from spores that have remained in the soil.

It is fortunate that there are several methods of killing spores on seed grain without killing the seed. Many tests have been made to find out whether the spores in unbroken smut balls can be destroyed. Smut balls have been soaked in solutions, some of which were strong enough to take all vitality out of the seed, for periods of from 20 minutes to 12 hours, and in some cases all the smut spores were living, and, at best, a large percentage resisted treatment. The conclusion is that all practical methods of treating seed are without avail, so far as smut balls are concerned. These should be got rid of before sowing, and may be by immersing the seed in tanks or barrels and stirring well, when the smut balls will float, and can be skimmed off and destroyed.

Though there are other methods, the treatment of seed for smut by solutions of bluestone or formaldehyde are the only ones that need be described, as they are the simplest, and are entirely effective. It is important, in carrying out any method advised, to be careful to have solutions of the exact strength recommended, and no stronger, and to immerse the seed or keep it moist no longer than actually necessary. Instances are not wanting of farmers completely killing the seed prepared for a large area by following wrong instructions or by neglect in some detail of proper ones. Indeed, to judge from experiments conducted by Frank T. Shutt, Ottawa, in 1908, every grade of wheat, from No. 1 hard, down to frozen wheat for feed, was injured to some extent by being treated for smut prevention. In these experiments the solutions were of two different strengths: formaldehyde, 1 pound to 32 gallons, and 1 pound to 48 gallons; bluestone, 1 pound to 8 gallons, and 1 pound to 12 gallons. Two sowings were made, the one in 24 hours, and the second three days after treatment. Several of the conclusions reached may be quoted: (1) The stronger the solution, the greater the injury; (2) the degree of injury was decidedly greater in the lower than in the higher

grades; (3) all the grades suffered more from the bluestone than from the formaldehyde treatment, the difference in vitality, when stronger solutions were used, being 10 to 30 per cent. in favor of formaldehyde; (4) a delay of three days in sowing lowered the percentage of vitality, and resulted in an increase of weak and slender plants, and also retarded germination.

The percentage of higher grades of seed destroyed by treatment when the more dilute solution of formaldehyde was used, was but slight. Vital seed in No. 1 hard was lowered from 98 per cent., untreated, to 93 per cent. when sown in twenty-four hours. No. 1 northern was lowered from 97 per cent. to 91 per cent. In the case of wheat grown for seed by a specialist in that line, experiments carried through by Prof. J. Horace Faull, of Toronto University, showed 100 per cent. vital seed after being immersed in a formaldehyde solution, 1 pound to 40 gallons water, for one, two, three, four and six hours. Commercial wheat, No. 1 northern, in the same series of tests, in a similar solution, lowered from 91 per cent. vital seed immersed one hour, to 48 per cent. immersed six hours. Another important point that the work of Prof. Faull makes clear is that a solution of 1 pound of formaldehyde to 40 gallons of water, or 1 pound bluestone to 20 gallons of soft water, is sufficiently strong to kill any smut spore that is wet by it. A stronger solution could not be more effective in killing smut spores, and is specially undesirable because it does increased and unnecessary injury to the seed wheat by killing from 10 to 50 per cent. of it, and greatly weakening the rest of the seed.

A serious difficulty in treating seed grain for a short period of time is in bringing the solution into contact with every smut spore. The groove on the face of the grain is often deep and narrow, and sometimes there are cracks in the seed coat. Air bubbles form over these grooves and cracks, and many smut spores are not wet by the solution, and hence are undestroyed if the treatment is too rapid.

Below is a table showing results of an experiment with oats treated with formaldehyde solution, 1 pound to 35½ gallons water.

Time.	Good Heads.	Smutted Heads.
Soaked 1 hour	2,814	none
Soaked 15 minutes	3,354	36
Soaked 5 minutes	3,480	360
Sprinkled	3,060	342
Untreated	2,784	996

The method of treatment for seed wheat recommended by Prof. Faull, is as follows:

Use one full pound of formaldehyde (40 per cent. aqueous solution) in every forty gallons of water. If the seed is from a smutted crop, immerse in the solution, stir thoroughly, and skim off the smut balls. Leave the seed in the solution two hours before taking it out to dry, or remove the seed from the solution at the end of fifteen minutes, pile, and cover closely with canvas or sacking to keep in the fumes. Leave in the pile for two hours, and then spread out to aerate. Sow as soon as possible. If the seed is from an unsmutted crop, wet the seed thoroughly by sprinkling, while turning, with the solution; pile, and cover with canvas or sacking. Leave the grain in the pile for two hours, then aerate and sow.

The Experimental Department of the Ontario Agricultural College reports that the greatest yields of both winter wheat and oats were produced from seed grain immersed in a solution made by adding one pint of formaldehyde to 42 gallons of water for 20 minutes, which completely prevented trouble from smut. In the case of oats, untreated, there was an average, during five years, of over 5 per cent. of smut; and, while untreated oats gave an average of 60.3 bushels per acre, the seed treated yielded 68.3 bushels. Smut spores do not lose their vitality through age of the grain; and even after grain has been treated as advised, there is danger of reinfection in bins, boxes or drills which may have contained smutty grain.

In the case of oats, the use of bluestone is hardly to be recommended, on account of the injury to the grain.

Differs from Prof. Gridale.

Editor "The Farmer's Advocate":

I am sorry to see Prof. Gridale, in March 16th "Farmer's Advocate," making such mistakes about the quantities of seed to be sown. For turnips, he recommends from 4 to 5 pounds. If the ground is in proper shape, and the seed good, 1½ pounds will be thick enough. Anyway, half the quantities he mentions would be quite sufficient. Prof. Gridale recommends sowing considerably over one-half bushel of corn. When the ground is in good condition, we find a little over a peck quite sufficient. I am sorry to see an authority like the Professor make such mistakes.

Oxford Co., Ont.

D. LAWRENCE.

Experience with Hydraulic Ram.

Editor "The Farmer's Advocate":

In your issue of March 9th, I see a Huron County correspondent in trouble with his hydraulic ram. I take the water from a spring creek just the same as he does, but I have to raise the water 35 feet, instead of 22, as your correspondent has to do. In my opinion, he should have his drive pipe about 10 feet longer than he has it, this would be the means of steadying his ram. If the ram is standing too close to the supply tank, every stroke of the valve causes the water to be forced back in the pipe, but a longer drive pipe prevents this, as a greater weight of water is in the pipe. The speed of a ram running at full stroke should not exceed more than 70 or 75 strokes per minute. I believe the trouble with the valve sticking is sand. I remember, on two occasions, the valve of my ram stuck so fast with sand that I could not push it down with my hand. If the creek becomes swollen after a rain, you are sure to have this trouble. I would advise your correspondent to unscrew the valve of the stand and wash it thoroughly; also unscrew the tap at the back of the ram and allow the water to rush through at the same time. If the water becomes dirty in the creek, it is best to shut off the ram until the water clears. The globe valve on the supply pipe will cause an obstruction to the flow of water. Hoping that this will get your correspondent out of trouble.

Wellington Co., Ont. D. SCOTT & SONS.

THE DAIRY.

Digestibility and Food Value of Cheese.

An exhaustive study of the food value and digestibility of American cheese in various stages of ripening has been made in the United States. Several officials, acting in co-operation with the Office of Experiment Stations of the Department of Agriculture, conducted a series of thorough and valuable digestion experiments with human subjects. One set of experiments was carried on at the Wesleyan University, Middletown, Conn., and the other the year following at the Minnesota Agricultural Experiment Station.

The subjects in these experiments were mostly University students, between the ages of 19 and 32 years. Each experiment extended over three days. In the Middletown experiments, the diet, in addition to cheese, consisted of whole-wheat bread and bananas; while, at the Minnesota Station, white-wheat bread, oranges and cheese constituted the food ration. The Americans are not great for eating cheese, using it more in the nature of a condiment than as an article of food, but for the three days' period of experiment, the boys had all the cheese they cared for. The amount eaten per man per day varied somewhat, according to the appetite and preference of the subjects, but an average was not far from one-half to one pound per day. The exact amount eaten was in every case recorded, as were all experimental data.

Some conclusions quite contradictory to popular conceptions on the subject were reached. For instance, a very prevalent idea, especially among cheesemakers, is that the eating of curd or green cheese tends to constipation. In the tests, the green curd did not appear to cause constipation. In fact, constipation resulted more frequently after the cheese had had time to become well ripened. Associated with the idea that green cheese caused constipation was the other common belief that it was not nearly so digestible as after it had been mellowed and made soluble by age. The results show that there is little or no difference in the comparative digestibility of cheese at different stages of ripening. The perfectly green curd appeared to be as digestible, and, so far as nutritive value was concerned, as good a food as the same cheese at any stage of ripening.

In comparison with other foods, in the matter of digestibility, cheese of every kind was found to rank very high. "It would, in fact," says the bulletin, of which this article is a condensation, "be undesirable for a larger per cent. of any food material to be absorbed than was the case with the cheese."

Another of the surprises revealed was that the per cent. of digestibility of skim-milk cheese was not surpassed by that of any of the kinds of cheese used in the experiments, and was distinctly superior to some. "The physical properties of skim-milk cheese have been such as to give consumers the impression that it was indigestible, and, on the whole, of questionable value as food." Long years have passed since we have tasted the product, but boyhood memories recall a semi-transparent substance, the outside rind of which was almost as hard as the shell of a cocoanut, and tough, as well. That was the homemade article, of course, a cross-section slice of which could be completely consumed only by those blessed with sound teeth. When toasted, however, it would stretch out in strings reaching from

GARDEN & ORCHARD.

Recommended Vegetable Lists.

More fascinating than the "best sellers" in the newest books of fiction are the seedsmen's catalogues at this time of the year. They fairly glow with the beauty and toothsome of next summer's crops. Without such ideals before us, we should never spread on the fertilizing materials with such zeal, heroically harden our muscles with the early and later battalions of weeds with the early and later battalions of war. Blessings on the seedsmen's catalogue; but the multiplicity of its old-time favorites and novelties often baffle the beginner. So, as a help in the task of deciding upon what varieties to plant, the horticultural experts at the Maritime Agricultural College, Truro, N. S.; Macdonald College, Quebec, and the Ontario Agricultural College, Guelph, have revised, for the benefit of "The Farmer's Advocate" readers, their list of recommended sorts as follows:

NOVA SCOTIA LIST.

- Beans.—Wardwell's Kidney Wax, Davis' Kidney Wax, Giant Stringless Green Pod.
- Beets.—Early Turnip, Edmand's Early, Crosby's Early Egyptian, Detroit Dark Red, Half-Long Dark Red.
- Cabbage.—Early Jersey Wakefield, Charleston, Wakefield, Henderson's Succession, Flat Dutch, Solid Emperor, Red Rock, American Savoy.
- Carrot.—Golden Ball, Chantenay.
- Celery.—White Plume, Paris Golden Yellow, Chicago Self-Blanching.
- Corn.—First of All, Mammoth White Cory.
- Cucumber.—Improved White Spine, Paris Pickling.
- Lettuce.—Grand Rapids, Big Boston.

- Onion.—Early Yellow Cracker, Early Flat Red, Early Round Yellow Danvers, Prize-taker.
- Parsnip.—Hollow Crowned Guernsey.
- Pumpkin.—Sugar.
- Peas.—First of All, Gradus, Early Morn, Thomas Laxton, Nott's Excelsior, Admiral Dewey, Carter's Daisy, Little Marvel, Bliss Everbearing, Heroine, Telephone.
- Radish.—Non Plus Ultra.
- Squash.—Hubbard, Golden Hubbard, Delicious.
- Tomato.—Earliana, Early Ruby, June Pink.
- Turnip.—Early White Milan, Golden Stone, Carter's Improved Swede, American Rutabaga.

P. J. SHAW.
N. S. Agr. Col.

QUEBEC AND EASTERN ONTARIO.

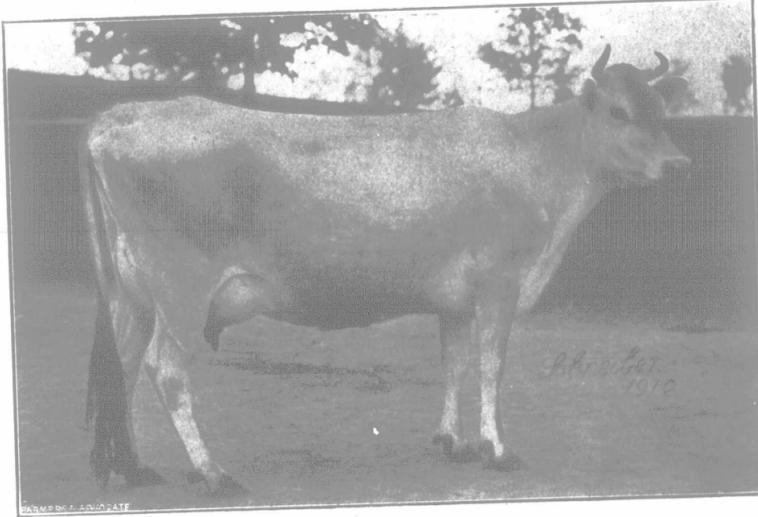
- Asparagus.—Argenteuil.
- Beans.—Red Valentine, Stringless, and Refugee or 1,000 to 1 (green pod); Davis' Wax, Keeney's Wax (golden pod), Lima Beans, Henderson's Bush.
- Beets.—Egyptian Turnip, Eclipse, Half-long Blood.
- Kale.—Green Curled Scotch.
- Broccoli.—White Cape.
- Brussels Sprouts.—Improved Dwarf.
- Carrots.—Chantenay, French Market, Danvers.
- Cauliflower.—Extra Early Erfurt.
- Cabbage.—Paris Market (very early), Jersey Wakefield, Early Spring (early), Succession (medium), Autumn King, Savoy Drumhead, Danish Roundhead (late).
- Celery.—Paris Golden and Perfection Hearts-well, or Triumph.
- Corn.—Peep o' Day (very early), Early Cory (early), Golden Bantam, Crosby's Early (medium), Country Gentleman (late).
- Cucumber.—White Spine.
- Citron.—Colorado Preserving.
- Eggplants.—New York Improved, and Black Beauty.
- Kohl-rabi.—Early Purple Vienna.
- Lettuce.—Grand Rapids, and Unrivalled or Hanson.
- Melon (musk).—Paul Rose, Montreal, Rocky Ford, and Hackensack.
- Melon (water).—Cole's Early.
- Onions.—Yellow Globe Danvers, Large Red Wethersfield, Mammoth, Silver King White.
- Parsnips.—Selected Hollow Crown.
- Parsley.—Champion Moss Curled.

and the elaboration of milk in the cow's udder; how milk is produced from the blood, and the blood from the food and water she consumes, and the abundance of pure air that she needs, would save many dollars and much vexation of spirit. "Prevention is better than cure," and I will endeavor to deal chiefly with preventive measures against the principal troubles.

The all-important thing is to have the cow in good health and vigor, and in comfortable quarters, at calving. Imitate nature. Have, as much as possible, summer conditions in the winter season. A cow that is expected to do well must be in good condition, and will require grain and an abundance of succulent food and roughage to put her in condition. The grain ration should be withdrawn the last week or ten days, as the case may be, but roots in reasonable quantities are always in order, to keep the digestive organs laxative and in good shape. I always like to feed some oil-cake meal, and especially the last month; it helps to keep the digestive organs in good tone, and assists to throw off all impurities out of the blood. A tablespoon of Epsom salts twice a day, fed in bran, for a week or so, when danger of a caked udder is visible, will greatly assist in avoiding trouble. Exercise will also assist, but great care must be taken that the cow takes no chill.

Never milk a cow before calving; it is not nature's way; the milk will commence secreting, and multiply troubles. In most cases it is best to remove the calf to a different place as soon as the cow has licked it dry. Only in very extreme cases, it may be well sometimes to let the calf draw the milk, where it is almost impossible to do it by hand.

Of all the commoner troubles, the most dangerous is milk fever. If the cow is prepared, as already mentioned, with the precaution of only milking a little at a time three times a day, not milking out clean for the first 48 hours, little



Sophie 19th of Hood Farm 189748.

World's champion yearly authenticated test Jersey cow, four to five years' old: 14,373 lbs. 3 ounces, testing 1,005 lbs. 11 ounces butter, Jan. 1, 1910, Dec. 31, 1910, inclusive. Owned and tested by Hood Farm, Lowell, Mass.

danger may be feared. Never be in a hurry to milk. With the excitement of calving, the cow needs rest; get her quiet, and leave her alone. It is always well to put a blanket on a cow, even in a warm stable. A heavy milker, in good condition, is apt to be feverish, and may take a chill. Always give water—a pailful—with the chill taken off. When the water is in the stable, let her have all she wants. Feed light until the udder gets in shape.

Retention of afterbirth is another common ailment. There is little trouble where the cow is prepared as above, but it will happen, and sometimes where least looked for. In this case, also, it is better not to interfere too soon. If it does not come in the first six or eight hours, it is well to take a handful of lard, insert your hand into the womb, and let it dissolve slowly; it has a cooling and cleansing effect. I never force it away; leave it for three or four days, if necessary, but keep the cow sweet by flushing the womb once a day with a few quarts of water (blood heat), with a little Zenoleum or other disinfectant dissolved in it. By taking a couple of flat sticks, and gently rolling, it generally comes away clean in that time. If it has a tendency to break, it is not ready. I like this much better than taking away by hand.

For caked or inflamed udder, I find bathing with new milk and plenty of hand-rubbing one of the best applications I can give. A man should always be on hand, if possible, to render any assistance at calving time, and to prevent casting of the withers, which is often the case with a hard birth. A. C. HALLMAN.

Waterloo Co., Ont.

a stick held high, clear down to the floor. And yet this rubbery article, so the tests show, yields readily to the stomach juices, and, moreover, furnishes a highly valuable food.

The value of cottage cheese was still another surprise. This is an article made by allowing skim milk to become sour and thick, after which it is heated to induce separation of the whey, when it is put into a cloth, as if it were plum pudding, and squeezed dry. Flavored to taste, it is quite palatable; some people are very fond of it. It was found that this simple product took high rank both as to food value and digestibility.

A comparison of the food value of cheese with that of other highly nitrogenous food materials, may be of interesting value. No kind of meat, excepting dried beef, carries such a large percentage of protein as cheese, and, as dried beef contains a much greater percentage of water, the other food constituents, aside from the protein, are much less than found in cheese. Fresh beef, as purchased, has, weight for weight, little more than half the food value of cheese in either protein or fat; and the same is true of practically all other fresh meats, which have, in many cases, such a large percentage of refuse, and in all cases such a large percentage of water, that they are noticeably inferior to cheese in food value. To sum the matter up, a pound of cheese has nearly the same food value as two pounds of fresh beef or any other fresh meat as a food; it is worth as much as, or more than a pound of ham, and is more digestible; and it is equal to two pounds of eggs or three pounds of fish.

Cottage cheese, or cheese made from partially-skimmed milk, is cheaper than the American or Cheddar cheese. The first costs about one-third as much, and the partly-skimmed product about two-thirds as much, as the so-called "full-cream" cheese. Practically the only food product that rivals cheese in food value and cheapness is dried beans.

Cheese can no longer be discriminated against because of a suspicion that it is not a healthful food. The absolute lack of any disturbance of the general health of the subjects used in the experiments reported in this bulletin is evidence that cheese can be eaten in large quantities without danger to health.

Cow at Calving.

Editor "The Farmer's Advocate":

To get a first-class dairy cow, you must have proper breeding. The dam should be strong, a good feeder, and a good performer at the pail; the sire, large, with good constitution, and bred from good milking stock. When the calf arrives, if it is a heifer, always pail-feed it. As soon as it will eat grain or roots, give it a few. Keep it growing nicely, but do not fatten it. Breed at about twenty months old.

The bowels should be moving freely a few days before calving, and for some time afterwards. Don't feed too heavily at first; gradually increase till you find the feeding capacity of your cow. I have a Shorthorn that gives from 50 to 60 pounds milk, testing 4.2 per cent., every twenty-four hours, and find that she must be milked three times during that period. If afterbirth does not come away twelve hours after calving, I remove it, and give the cow a dose of salts. Don't leave longer than 12 hours.

About abortion: If a dairyman keeps a bull for service, let him look sharp for suspicious cows. If he is not satisfied that they are free from abortion, fight shy of them, as abortion can be conveyed to the bull, and thence to his own herd.

Have not had a fatal case of milk fever in 25 years; very few cases of any kind. Have saved the cows' lives by the oxygen treatment, but find the cow's udder and teats are never the same afterwards. It spoils a cow for heavy milking. A cow that is about seven months gone with calf has a great appetite, and is liable to overfeed if she gets a chance. Watch her, especially in late fall on pasture. Keep a cow in at night in the fall if she is near calving, and give her a few roots and other green feed to keep her bowels moving freely.

To make a success of dairying, and make the most of every cow, a man must use perseverance, and stay on the job all the time.

Halton Co., Ont. JAMES BROWN.

Editor "The Farmer's Advocate":

Where milch cows are kept, there is always a greater or smaller number of ailments and troubles before and after calving time. These troubles seem to multiply with the efforts to promote large milk production. "Experience is a dear teacher," and many dairymen have been taught dear lessons by being over-anxious for a large milk yield immediately after calving. Cow knowledge is very valuable, and a closer study, with more teachers, how milk is secreted, and the intricate mechanism of the cow's digestive organs

Peppers.—Cayenne and Ruby King.
Peas.—Alaska (very early), Thomas Laxton (early), Admiral Dewey, Heroine (medium), Stratagem, Juno, Telephone (late).
Potatoes.—Early: Irish Cobbler, Early Michigan; Late: Carman No. 1, Green Mountain.
Pumpkin.—Calhoun.
Radish.—French Breakfast, Icicle.
Winter Radish.—Long Black Spanish.
Spinach.—Victoria.
Salsify.—Sandwich Island.
Squash.—English Vegetable Marrow (summer, fall and winter), Hubbard (winter).
Tomatoes.—Earliana and Alpha Pink (early), Early Jewel (medium), Tucker's Favorite (late).
Swede Turnips.—Favorite Purple Top, Westbury Swede.
Rhubarb.—Victoria, Linnaeus.

Macdonald College. W. S. BLAIR.

WESTERN AND CENTRAL ONTARIO.

At this season, wide-awake gardeners are getting in their supply of garden seeds, and making plans for work on the land as soon as the ground is ready. To have the work well planned and seeds all on hand when wanted, is a good start, which counts for success throughout the season. The intelligent selection of varieties from the lengthy lists given in seedsmen's catalogues is often a difficult task, even to experienced gardeners. As a guide in such selection, we give below a few of those which have proved best at the Ontario Agricultural College. A few brief notes with regard to the time of seeding, etc., are added, which may be helpful to beginners.

Asparagus.—Conover's Colossal, Palmetto, and Argenteuil. Plant in rows four feet apart, and eighteen inches to two feet apart in the rows; apply manure liberally in June, after cutting ceases, and cultivate thoroughly.

Beans.—Summer: Keeney's Rustless Golden Wax, Detroit White Wax, German Stringless, Stringless Green Pod, Valentine. Autumn: Burpee's Bush Lima matures well in southern section, but too late for northern parts of Ontario. Sow when danger of spring frost is past.

Beets.—Egyptian Turnip for extra early; Early Model, Eclipse, Black Red Ball (the darkest of the Globe varieties). For main crop: Detroit Red, Long Smooth Blood. For early use, sow as soon as ground is fit to work; for winter use, sow about first of June. Sow seed so thinning is not necessary. Test seed before sowing.

Carrots.—Chantenay is best for market or home garden; Danvers and Rubicon. Sow early for early use, and about first of June for winter use. For exhibition, thin first to two, then to four inches. No thinning is necessary, if care is taken to test seed and sow accordingly.

Cabbage.—Early: Jersey Wakefield and Winningstadt. Late: All Seasons, Danish Round Head, Flat Dutch, and Savoy. The Houser is a rough, late cabbage, the least subject to rot of any we have tried. Houser should be started two weeks earlier than main crop. Red: Mammoth Rock. Seed of early varieties should be sown in hotbed first to middle of March, and transplanted to open ground about end of April. Sow seed of the late varieties in the open ground about the middle of May, and transplant about first of July.

Cauliflower.—Extra Early Erfurt, and Early Snowball. Treat the same as cabbage.

Celery.—Early: White Plume, Golden Self-Blanching. Medium: Paris Golden Yellow. Late: Giant Pascal, Evan's Triumph, Winter Queen. Sow seed in seed-box or hotbed about middle of March. Prick out into flats or cold-frame when about an inch high, and transplant into trenches four or five feet apart about first of May. Late crop: Start last of April, and plant in open by July 1st.

Corn.—Early: Golden Bantam, and White Cory. Medium: Metropolitan. Late: Country Gentleman and Stowell's Evergreen. Sow about first of May, and, if plants are injured by cold or frost, sow again about 24th of May. Some prefer Golden Bantam to all others, and plant at intervals of two weeks for succession.

Citron.—Colorado Preserving. Sow in hills 6 to 8 feet apart when danger of frost is over. Thin to three plants in hill.

Cucumber.—Davis' Perfect, Cumberland, for slicing; Westerfield, Chicago Pickling, for pickling. Sow in drills about 4 to 6 feet apart when danger of frost is over; thin to three or four plants.

Eggplant.—Black Beauty, New York Improved. Sow seed in seed-box in hotbed about middle of April, and transplant in the open when danger of frost is past.

Kohl-rabi.—Early White or Purple Vienna. Sow seed early for summer use, and again about middle of June for winter use.

Lettuce.—Grand Rapids, Black-seeded Simpson, Hanson, Big Boston, Paris White Cos. Sow seed as early as possible, and at intervals of a month, for succession. Thin plants at first to three inches, then to six and twelve inches apart, to secure good heads.

Muskmelon.—Rocky Ford or Emerald Gem, Hactensark, and Montreal Market. Osage. Sow

seed in enriched and well-prepared soil when danger of frost is past. Hills should be five or six feet apart. Thin to three plants in hill. To get earlier crops, start the plants in the hotbed on sods 4 x 4 x 3 inches, or in berry boxes. Start seed about one month before plants can be placed in the field.

Onions.—Yellow Globe Danvers, Prizetaker, Red Wethersfield, Southport Yellow Globe, Southport Red Globe. Sow seed as early as possible. The thinnings may be used as green onions. Thin to three inches apart for big onions only, never for a big crop.

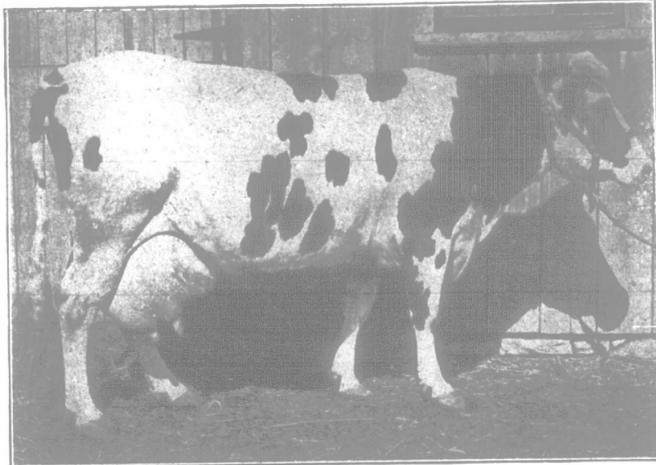
Parsnips.—Hollow Crown, Guernsey. Sow as early as possible. Sow seed so as to avoid thinning. Leave part of the crop in the ground over winter for spring use.

Peas.—Early: Extra Early, Alaska, Nott's Excelsior. Medium: Gradus. Late: Advancer, Stratagem. Sow early kinds as early as possible, and others a couple of weeks later, for succession.

Potatoes.—Early: Eureka, Early Ohio, Early Fortune, Irish Cobbler. Late: Empire State. Keep potatoes for early planting in a warm room, in the light, for three weeks before planting. Plant a few for early use as soon as ground is fit to work, and follow with others when danger of frost is past. Plant late varieties about 24th of May.

Pumpkin.—Sugar, best for pies; Jumbo. Plant when danger of frost is past. Hills should be six by eight feet apart. Dig well-rotted manure into hill.

Radishes.—Early: Rosy Gem, Scarlet Turnip White Tip, French Breakfast, White Icicle. Winter: Scarlet China, Black Spanish. Sow early varieties as early as possible, and at intervals of two weeks for succession. Sow winter varieties in summer, after crop of early peas.



Evergreen March, No. 3896, C. H.-F. H. B.
Holstein cow. Holder of several new Canadian milk and butter records.
Owned by G. W. Clemons, St. George, Ont. (See Gossip, page 553.)

Rhubarb.—Victoria, Raspberry, or any carefully-selected pink-stalked variety. Plant four by three feet, manure liberally, cultivate thoroughly, and break out seed stalks as they appear. Grow a few extra plants to force in the cellar for winter use.

Salsify.—Mammoth Sandwich Island. Sow as early as possible, and thin to four inches apart in the row. Part of the crop may be left in the ground over winter for spring use.

Spinach.—Victoria, Viroflay, Bloomfield. Sow as early as possible, and at intervals of a month, if succession is desired.

Squash.—Summer: Crookneck and White Bush Scallop. Winter: Hubbard. Do not plant until danger of spring frost is over. Bush varieties require about four feet of space between hills. Hubbard should have eight feet.

Tomatoes.—Early: Earliana and Wealthy. Medium: Chalk's Jewel. Late: Stone and Success. Sow seed in seed box or hotbed about the middle of March. Transplant in the open when danger of frost is past. In northern sections, the early varieties only are likely to ripen.

Turnips.—Early: Extra Early Purple-top Milan, Golden Ball. Late: Swede. Sow early for summer use, and about June 20th for winter use.

Vegetable Marrow.—English Vegetable Marrow, Long White Bush. Plant when danger of frost is past, in hills four feet apart.

Watermelon.—Hungarian Honey, Cole's Early. These are the earliest varieties most likely to ripen in northern sections. Plant when danger of frost is past in well-prepared hills eight feet apart.
A. H. MacLENNAN,
Ontario Agricultural College.

THE FARM BULLETIN.

The Ontario Session.

Minister's Report.—In the early days of Ontario agriculture, improvement was looked after by a Commissioner of Agriculture, who also took care of one of the other portfolios, such as Public Works. The Agricultural Report in those days was a very modest volume in comparison with what comes forth in these later days. There was an introduction which gave a summary of the year's work. When, however, a Minister of Agriculture was first appointed, in 1888, this annual review disappeared. It has now reappeared. At the recent session there was presented the first report of a Minister of Agriculture for Ontario. It reviewed the entire Provincial field for 1910, and will be much appreciated by those who desire to keep in touch with the various lines of work undertaken in the Province.

Ontario Agricultural College.—At the recent session, the salaries of the staff were increased, in accordance with an arrangement arrived at whereby the maximum of a Professor's salary is raised from \$2,200 to \$2,500. Provision was made for a couple of additions and appropriations for maintenance were increased, so that each department can be carried on independently, and the exact expenditure determined. The report presented, and now ready for distribution, shows that the attendance still continues up to the maximum. Provision was made in the estimates, available Nov. 1st, 1911, for an addition to the farm (\$5,000). It is understood that fifty acres will be purchased. The extension of the various departments has so encroached on the crop area that this additional acreage is required to maintain the stock.

Veterinary College.—When the College was taken over by the Government from the late Dr.

Andrew Smith, a lease of the old buildings in Temperance St., Toronto, was taken for five years. This will expire in 1912. Notwithstanding that the fees have been increased, and the course lengthened to three years, the attendance has steadily increased. It is now nearing the 300 mark. Some of the lectures are given by the University, and laboratory instruction necessitates the students going to Queen's Park. Provision has been made for the purchase of a new site, and \$50,000 provided for the building. This will probably be supplemented at the next session. It is understood that the new college will be located somewhat nearer to the University laboratories in Queen's Park. The report sets forth a teaching staff of twenty-one.

Agricultural Societies.—\$129,645 is the amount voted under this branch.

We notice for the first time a grant of \$250 for the Ontario Plowmen's Association. This is to be incorporated under the Agricultural Associations Act, and this brings a new work under the supervision of the Department. And yet it is not a new work; it has been one of the prescribed objects of the regular agricultural societies for years. These societies have, however, dropped it for some time, and so some energetic plowmen have taken up the work. The enthusiasts are in evidence mainly in York County, but with a Provincial Association to oversee the work, we may look for a revival of the good old-fashioned, and very important, plowing matches all over Ontario. The special appropriation of \$3,000 for agricultural societies in the Northern Districts is increased to \$5,000 in 1912.

Institutes.—Owing to the great increase in short courses, an additional \$1,000 has been provided. During the past year, C. P. Bailey, B. S. A., has been doing most effective and satisfactory work in connection with the live-stock classes, and he has now been placed as a permanent assistant to Mr. Putnam, with the title of Live-stock Specialist. The growing interest in this work was recently shown in the Better-Farming Special Train which was run through Southern Ontario in co-operation with the M. C. R. The great success of this will probably open the eyes of our Canadian railway companies and bring them into closer co-operation with the agricultural work.

Live-stock Branch.—First of all, we notice that the Eastern Winter Fair (Ottawa) gets another \$1,000 for its prize list, bringing its annual grant up to \$8,500. A vote of \$5,000 in 1911, and another of \$5,000 for 1912, are intended to enable the Board of the Guelph Winter Fair to increase

and improve the accommodation at Guelph. Four thousand dollars voted to the Ottawa Fair Board, completes the \$6,000 promised for the new dairy building, which was used at Ottawa this past winter for the first time. Toronto and Ottawa Horse Shows get the same grants as last year, \$500 each. The Cobourg, Galt and Toronto Open-air Horse Shows get their grants out of the general vote for Horse Shows. D. T. Elderkin has been raised in title to Assistant Director.

Dairy Branch.—The Eastern Dairy School, at Kingston, is now being run the year round, producing butter when the school is not in session. Owing to the increasing work in connection with the factory inspectors, G. G. Publow has been relieved of the supervision of the School, and L. A. Zuvelt, an able assistant of Mr. Publow, has been given charge as superintendent. Mr. Singleton is continued as assistant to Mr. Publow. Both of the latter, however, continue to give instruction in the school. The one important bit of legislation in the Agricultural Department comes under dairying. Last year, the Milk Commission brought in its report, and made a large number of important suggestions looking to the improvement of city and town milk supply. A temporary statutory provision was made last year providing for the inspection of sources of supply. This year, however, a comprehensive bill was introduced and passed, the enforcement of which should tend greatly to improve the milk supply. We have now two good Dairy Acts in Ontario: the Milk Products Act, dealing with milk for creameries and cheese factories, and the Pure Milk Act, dealing with milk for human consumption. Provision is made for its wide distribution. This is a "local option" act, and provides for thorough inspection from producer to consumer. In order that no over-rigorous regulations shall be adopted, provision is made for their revision and approval by the Minister of Agriculture. As this Act has already been dealt with before, further reference is unnecessary here.

Fruit Branch.—A new work is provided for at the Experimental Farm, in Lincoln County. An expert French chemist, Mr. Meunier, has been engaged to carry on investigations in the making of fruit juices and cider. With the spread of local option, there should be an increasing demand for apple juice, grape juice, and cider. The extended manufacture of these should enable our fruit-growers to dispose of their cull fruit to good advantage. Those who have tried pure, unfermented grape juice, apple juice and sweet cider will appreciate what a big opening there is in Ontario alone for these wholesome products. The excellent results of orchard demonstrations during the past year have led to an increase in the grant for this work from \$5,000 to \$8,000.

The Fruit Pests Act, which deals with yellows, little peach, San Jose scale, etc., was amended in three particulars: (1) No one was allowed to sell, dispose of, or offer for sale, fruit affected with San Jose scale, yellows or little peach; (2) all by-laws for the appointment of municipal inspectors must be submitted to and be approved by the Minister of Agriculture before the first day of March (instead of May); (3) the local inspector reports to the Provincial inspector, and gets instructions from the latter as to the spraying and burning of infested trees, instead of from the head of the municipality. These three changes were made on the recommendation of the Ontario Fruit-growers' Association.

District Representatives.—Last year there were fourteen teachers of Agriculture and District Representatives of the Department located in as many counties, with two extra men located at the Soo and in Alexandra County. Five more are provided for this year. The salaries which were voted under education amount to \$22,800, and the Department of Agriculture has this year increased the appropriation for office expenses and assistants from \$16,600 to \$27,600. At this

rate of increase, it will not be long before the work is established in every county and district throughout the Province.

Colonization.—Provision has been made for the reconstruction of the London Office (England), for further help in advancing the passage money of farm laborers and domestics, and for adding to the buildings on the Demonstration Farm in Northern Ontario.

Electricity.—An Act to provide for the local distribution of electrical power. This was the title of a simple Act, which in itself did not seem to be very far-reaching; but when we study the provisions of the same, it takes on a new importance, for it is intended to enable groups of farmers to get the advantage of cheap electricity. A group of farmers may, through the township council, apply to the Hydro-Electric Power Commission, and be served just as towns and cities are now being served. The Commission will furnish estimates of cost, and debentures may be issued to cover same, these debentures not to be met by special levies to cover interest and principal. It is on the basis of the frontage-improvement tax. This opens up what may be a new era in agricultural work in the Province of Ontario.

Education.—That the Minister of Education has in view some new work, is suggested by an appropriation of \$5,000 for "special industrial and agricultural education." During the session, an exhaustive report on technical education, by Dr. John Seath, was presented to the House. Teachers-in-training will again this year take a three-months' course at the Agricultural College. It looks as though the work of teaching agriculture in High and Public Schools is to be extended and systematized. For details, we shall have to wait for more definite announcement from the Department of Education. One thing, however, was settled, the boys and girls in country schools are to have two weeks more of holidays, giving them the same vacation as town and city pupils.

Appropriations.—The following is a statement of the appropriations voted for 1911 under the various services, together with the similar appropriations for 1910:

	1910.	1911.
Civil Government	\$ 38,120	\$ 41,850
Agricultural College	242,966	259,041
Veterinary College	32,100	32,488
Agri. Societies Branch.....	124,395	125,505
Live-stock Branch	33,705	44,720
Institutes Branch	36,950	39,583
Dairy Branch	57,870	62,750
Fruit Branch	43,420	50,020
Statistics Branch	5,500	5,500
District Representatives....	16,600	27,600
Farm Forestry	10,000	10,000
Immigration Branch	84,175	100,600
Demonstration Farm	5,000	8,000
Miscellaneous (reports, etc.)	28,250	30,250
	\$759,051	\$837,907
Exp. on Capital Account....	39,850	70,732
	\$798,901	\$908,639

Experiments in the breeding of new navel oranges and other citrus fruits have been under way for several years, but these experiments are still in the preliminary stage. None of the new sorts will be distributed until thoroughly tested under the auspices of the United States Department of Agriculture, and found to be of promise. None of them has as yet fruited; therefore, it is not known whether any will be of commercial value.

The next meeting of the International Commission on Control of Bovine Tuberculosis will be held in Toronto late in August.

Express Rates on Cream.

The Railway Commission, in Ottawa, on Tuesday, March 21st, heard the application of some fifty representatives of the creamerymen and cream-shippers, of Hamilton, Toronto, Montreal, Renfrew, Ottawa, and other points, for an order of the Board to compel the express companies to reduce their rates in shipments of cream. Recently, rates were increased from 30 to 35 cents on eight-gallon cans, with an additional charge of 10 cents each for returning empty cans. It was pointed out that this increase meant about 52 per cent., or equivalent to about 4 cents per pound on butter. It was argued that this large increase was not justified. It was asked that on sour cream the old rate of 15 cents per can be again granted, and that on sweet cream for city consumption they return to the old rate of 20 cents per 4-gallon and 30 cents per 8-gallon can, empty cans to be returned free. A number asked that cream be carried in baggage cars at the same rate as milk. The express companies, represented by F. H. Chrysler, K. C., and various officials of the companies, contended that the new rates were reasonable, and were about 80 per cent. of the rate charged for merchandise. For three hours the Board sat and heard evidence. The case was a good one, and was strongly presented. We believe the Commissioners were favorably impressed.

Among those who gave evidence before the Commissioners were J. Bingham, representing the Ottawa Dairy Co.; Geo. Hogg, rep. the Guaranteed Pure Milk Co.; N. W. Lyster, rep. the J. D. Duncan Co.; J. F. Trudel, rep. The Canada Farm Produce Co.; Adelard Fortier, Montreal; W. F. Stephen, for the Montreal Milk-shippers' Association, Huntingdon, Que.; Wm. Greig, Cairnside; D. B. Meiggs, M. P., Farnham, P. Q.; Hon. Wm. Ownes, Montreal; A. A. Wright, Creamery Co., Renfrew, Ont.; O. G. Apsey; F. Slack, rep. City Dairy Co., Toronto; W. H. Forrester, Hamilton; J. E. Armstrong, M. P., Petrolia; Hon. D. Derbyshire, Brockville, and others. The Commissioners reserved judgment until a later date. W. F. S.

The Shaver Holstein Sale.

Following is the list of animals selling for \$75 and upwards at the Holstein cattle sale of C. H. Shaver, Davisville, Ont., on March 9th:

Fairest Jewel's Lily, rising 3 years; W. T. Hood, Buttonville	\$255
Fairest Jewel, aged; R. H. Davies, Oak Ridges	110
Sherwood Edna's Favorit, 5 yrs.; J. Howard, Orangeville	215
Favorit Beauty, 2 yrs.; J. J. Wilson	180
Favorit Cornelia, 1 yr.; C. Kennedy, Edgely	135
Favorit Beauty's Bloom, 10 mos.; R. H. Davies	95
Buttercup Favorit, 3 yrs.; Frank Boyle, Richmond Hill	160
Alice Roosevelt, 7 yrs.; George Henry, Oriole	210
Maggie Roosevelt; Jan Ionson, Scarboro'	110
Kitty Westwood, 7 yrs.; W. T. Hood.....	300
Katie of Knockaloe, 3 yrs.; J. Wettlaufer, Ash	160
Nora Favorit, 1 yr.; Jonathan Calvert, Buttonville	110
Jennie June Posch, 1 yr.; C. Grimsley, Bedford Park	200

W. R. Reek, B. S. A., who has been assisting Prof. W. H. Day in his drainage campaign for the past two years, and who was put on the permanent staff of the College last year, has been appointed to the staff of the Department of Agriculture, in Toronto. It is understood that he will take up work as secretary to the Deputy Minister.

GOSSIP.

G. W. Clemons, St. George, Ont., writes: "Your readers may be interested in the results of some thirty-day official testing recently completed at Maple Hill, under the supervision of C. S. Wood, Official Tester of the Dairy School at Guelph. Evergreen March, No. 3896, C. H.-F. H. B., calved August 24th, 1902, at eight years and four months old, set up new milk records for Canada for all periods from one to thirty days; a new seven-day butter record for Canadian-bred cows displacing that of Francy 3rd, and a new thirty-day butter record for Canada, displacing the American-bred Sara Jewel Hengerveld 3rd, which has held the thirty-day record for nearly three years. The two imported cows, Sara Jewel Hengerveld 3rd, with 30.30 lbs. in seven days, and Nanuet Topsy Clothilde, with 30.23 lbs. in seven days, both lead Evergreen March for seven days, but she leads them both in her thirty-day record, which shows her stamina and staying powers. Her last calf was dropped Dec. 13th, 1910. A son of Nanuet Topsy Clothilde is junior serv-

ice bull at Maple Hill, which indicates the character of the breeding operations carried on. Evergreen March's best twenty-four hours' milk record is 110.8 lbs.; seven-days record, 720.8 lbs.; her thirty-day record is 2,988 lbs.; an average of 99.6 lbs. per day. Her best seven-days' production of butter was 29.45 lbs.; thirty-days' production, 122.26. She gave, on the first day of her test, 100.1 lbs.; on the last day, 98 lbs., going over the 100-lbs. mark thirteen days out of thirty. She was dry for ten weeks before calving, and gave in 1909-10, 18,040 lbs. of milk in ten months, her last milk-ling period. As she was also prostrated with milk fever after freshening, she was further handicapped in making a sensational record. Her oldest daughter, Evergreen March 2nd, was also tested for thirty days. Calving at 25 months, and having a bad case of retention of the afterbirth, she made 12.83 lbs. butter in seven days, and 49 lbs. butter in thirty days. This heifer is a superb individual, and is nearly as large now as her dam. Prince Posch Pietertje C., my senior stock

bull, four years old, now has one three-year-old and five two-year-olds in the Record of Merit, and I have some choice yearlings and calves to be tested. His daughter, Boutsje Posch De Boer, made 23.03 lbs. butter in seven days, and 80.85 lbs. in thirty days, being the second largest seven-day and the largest thirty-day record ever made in Canada by a senior two-year-old. Her dam, Lulu Glaser, recently made 25.66 lbs. in seven days, and was, like her daughter, bred at Maple Hill. Agnes Evergreen, sired by a son of Evergreen March, recently completed a seven-day record of 17.81 lbs. as a senior two-year-old, also being bred at Maple Hill, and sold as a yearling. As per my advertisement, I am now disposing of the valuable sire of this heifer, along with several bull calves and females from two to six years old, bred to Prince Posch Pietertje C., and Choicest Canary, whose dam is the only 30-lbs. cow in Canada, and who averaged 4.35 per cent. fat, and whose sire's dam made 26 1/2 lbs., and averaged 4.05 per cent. His grandsire was Paul De Kol Jr. (son of Sadie Vale Con-

cordia, 30.63 lbs. in seven days), who sired Homestead Jr. De Kol, the sire of Grace Fayne 2nd's Homestead, 35.55 lbs., and former champion cow. To assist Prince Posch Pietertje C. and Choicest Canary, I have recently purchased Prince Pietertje March, sired by the former bull, and from Evergreen March. The dams of these three bulls are, respectively: Boutsje Q. Pietertje De Kol, 638 lbs. milk and 28.48 lbs. butter in seven days; 25.22 lbs. milk and 110.26 lbs. butter in thirty days, at three years old. Nanuet Topsy Clothilde, 556.3 lbs. milk and 30.23 lbs. butter in seven days; 2,373 lbs. milk and 117.85 lbs. butter in thirty days, official. Evergreen March, 711.2 lbs. milk and 29.45 lbs. butter in seven days, and 2,988 lbs. milk and 122.26 lbs. butter in thirty days, official. To further emphasize this remarkable showing in sires, I may say that the average records of dam and sire's dam of Prince Posch Pietertje C., is 26.74 lbs. butter in seven days. Of Choicest Canary, is 28.26 lbs. butter in seven days, and of Prince Pietertje March, 28.96 lbs. in seven days."



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MARKETS.

Toronto.

LIVE STOCK.

At West Toronto, on Monday, March 27th, receipts of live stock numbered 93 cars, comprising 1,805 cattle, 299 hogs, 691 sheep and lambs, 34 calves, 22 horses. Quality of cattle good; trade brisk; prices firm for cattle. Exporters, \$5.70 to \$6; picked butchers', \$5.90 to \$6; loads of good, \$5.60 to \$5.85; medium, \$5.25 to \$5.50; common, \$5 to \$5.25; cows, \$3 to \$5.25; milkers, \$3.50 to \$5.50; calves, \$4 to \$8.50. Sheep, \$4.50 to \$5; yearling lambs, \$7 to \$7.40. Hogs, selects, fed and watered, \$6.90, and \$6.60 f. o. b. cars at country points.

REVIEW OF LAST WEEK'S MARKETS
The total receipts of live stock at the City and Union Stock-yards last week were as follows:

	City.	Union.	Total.
Cars	187	137	324
Cattle	2,276	2,116	4,392
Hogs	4,927	1,182	6,109
Sheep	1,128	347	1,475
Calves	344	69	413
Horses	11	168	179

The total receipts of live stock at the two yards for the corresponding week of 1910 were as follows:

	City.	Union.	Total.
Cars	142	157	299
Cattle	1,618	2,698	4,316
Hogs	3,879	782	4,661
Sheep	1,188	572	1,760
Calves	418	75	493
Horses	2	250	252

The combined receipts of live stock at the two yards show an increase of 25 carloads, 76 cattle, 1,448 hogs; but a decrease of 285 sheep and lambs, 80 calves, and 73 horses, in comparison with the corresponding week of 1910.

Receipts of live stock at both markets continue to be light, but quite equal to the demand. Trade was dull, with prices lower for exporters, and all classes of butchers, excepting prime picked lots, which remain steady to strong on account of the scarcity of that class.

Exporters.—Export steers for London, \$5.85 to \$5.95, or about 8c. per cwt. lower than in our last report. Steers for the Liverpool market sold at \$5.60 to \$5.65, or an average of \$5.61, which is 19c. per cwt. lower, on the average, than in our last letter. The top price for two loads of exporters was \$6.10.

Milkers and Springers.—There was scarcely any demand for other than choice quality milkers and springers, and prices generally ranged from \$10 to \$65, with an odd lot at \$70.

Veal Calves.—Receipts were larger, and prices ranged from \$4 to \$8 per cwt.

Sheep and Lambs.—The sheep and lamb market was firm. Ewes, \$4.50 to \$5 per cwt.; rams, \$4 to \$4.50; lambs, \$6.50 to \$7.25 per cwt. Spring lambs, \$8 each.

Hogs.—Selects, fed and watered at the market, \$7, and \$6.65 to drovers, for hogs f. o. b. cars at country points.

BREADSTUFFS.

Wheat.—No. 2 red, white or mixed, 80c. to 81c., outside. Manitoba—No. 1 northern, 97½c.; No. 2 northern, 95½c.; No. 3 northern, 93½c., outside points. Rye—No. 2, 65c. to 66c., outside. Buckwheat—48c. to 49c., outside. Peas—No. 2, 80c. to 81c., outside. Barley—For malting, 60c. to 65c.; for feed, 50c. to 55c. Oats—Canadian Western, No. 2, 37c.; No. 3, 36c., lake ports; Ontario, No. 2, 31c. to 32c.; No. 3, 30c. to 31c., outside. Corn—American new No. 3 yellow, 52½c., track, Toronto. Flour—Ontario 90-per cent. winter-wheat flour, \$3.20 to \$3.25, seaboard. Manitoba flour—Prices at Toronto: First patents, \$5.40; second patents, \$4.90; strong bakers', \$4.70.

HAY AND MILLFEED.

Bran.—Manitoba bran, \$21 per ton; shorts, \$23; Ontario bran, \$22, in bags; shorts, \$24, car lots, track, Toronto.

Hay.—Baled, car lots, track, Toronto, No. 1, \$12; No. 2, \$8.50 to \$10.50. Straw.—Baled, car lots, track, Toronto, \$7.00.

COUNTRY PRODUCE.

Butter.—Market unchanged. Creamery rolls, 26c. to 28c.; creamery solids, 23c. to 24c.; separator dairy, 22c. to 24c.; store lots, 17c. to 19c.

Eggs.—Cold-storage Canadian eggs are a thing of the past for this season. New-laid are plentiful, at 19c. to 20c. per lb.

Honey.—Market unchanged; extracted, 10c. to 11c. per lb.; combs, per dozen sections, \$2.50.

Cheese.—Market steady. Large, 18c.; twins, 18½c.

Beans.—Hand-picked, in small lots, \$1.85 per bushel.

Potatoes.—Car lots of Ontarios, on track, Toronto, 80c. to 85c.; New Brunswick Delawares, 90c. to \$1.

Poultry.—Turkeys dressed, 23c. to 27c.; yearling chickens, 18c. to 20c. per lb.; hens, 15c. to 16c. per lb.

TORONTO SEED MARKET.

The William Rennie Seed Company report the following prices, at which re-cleaned seeds are being sold to the trade: Alsike No. 1, per bushel, \$11; alsike No. 2, \$9.60; alsike No. 3, \$8.75; red clover No. 1, per bushel, \$10.50; red clover No. 2, \$9.80; red clover No. 3, \$8.40; timothy No. 1, per bushel, \$7.20; timothy No. 2, \$6.75; alfalfa No. 1, per bushel, \$13.75; alfalfa No. 2, per bushel, \$12.25.

HIDES AND SKINS.

E. T. Carter & Co., 85 East Front street, have been paying the following prices: No. 1 inspected steers and cows, 9½c.; No. 2 inspected steers and cows, 8½c.; No. 3 inspected steers, cows and bulls, 7½c.; country hides, cured, 8c. to 8½c.; green, 7½c. to 8c.; calf skins, 11c. to 13c.; sheep skins, 95c. to \$1.25; horse hides, No. 1, \$3.00; horse hair, per lb., 30c. to 32c.; tallow, No. 1, per lb., 6c. to 6½c.

FRUITS AND VEGETABLES.

Apples, No. 1 Spies, \$5.50 to \$6 per barrel, No. 2 Spies, \$4.50 to \$5; Greenings, No. 1, \$4; Greenings, No. 2, \$3.50; Ben Davis, \$3 to \$3.50 per barrel; onions, \$1.25 to \$1.50 per bag; carrots, 60c. per bag; cabbage, \$1.50 per barrel; celery, per dozen, 60c. to 75c.; Florida strawberries, 35c. to 40c. and 50c. per quart basket; mushrooms, Canadian, 50c. per lb., wholesale.

Buffalo.

Cattle.—Prime steers, \$6.40 to \$6.60; butcher grades, \$3.50 to \$6.25.

Calves.—Cull to choice, \$6 to \$9.

Sheep and Lambs.—Choice lambs, \$6.90 to \$7.15; cull to fair, \$5.25 to \$6.75; yearlings, \$5.50 to \$6; sheep, \$3 to \$5.60.

Hogs.—Yorkers, \$5.50 to \$5.60; stags, \$5 to \$5.25; pigs, \$7.60, mixed, \$7.25 to \$7.90; heavy, \$7.10 to \$7.15; roughs, \$6 to \$6.50.

British Cattle Markets.

States and Canadian steers, from 12½c. to 13½c. per lb.

Montreal.

Live Stock.—The tone of the cattle market was stronger, and prices scored a slight advance. Choice steers sold at 6½c. per lb., fine being 6½c., good 5½c. to 6c., medium 5½c. to 5½c., common 4c. to 5c. per lb. It was difficult to make sales of calves, even at a considerable decline in price. It would seem that the Government Inspectors are very strict this season concerning the quality of calves permitted to be sold upon the market. Some sales were made at \$2 to \$3 each, according to size and quality. There was a fair trade in sheep and lambs, prices being \$6 to \$6.65 per 100 lbs. for yearling lambs, and \$5 per 100 lbs. for sheep. The market for hogs was considerably stronger, and prices advanced fractionally. The demand from packers was good, and sales were made at 7½c. to 7½c. per lb. for selects, weighed off cars.

Horses.—The supply of horses coming in is very light, and the demand for them not any too active. Heavy draft horses, weighing from 1,500 to 1,700 lbs., \$300 to \$350 each; light draft horses, weighing 1,400 to 1,500 lbs., \$225 to \$300 each; light horses, 1,000 to 1,100 lbs., \$100 to \$200 each; inferior, broken-down animals, \$50 to \$100 each, and choicest carriage and saddle animals, \$350 to \$500 each.

Dressed Hogs.—Sales of fresh-killed, abattoir stock were made at 9½c. to 10c. per lb., country-dressed being 8½c. to 9½c. per lb. The market for hams and cured pork showed little change.

Potatoes.—Market steady. On the easy side rather than otherwise. Shippers asked 80c. per 90 lbs., carloads, track, Montreal, although one man reports purchasing at a lower figure. Sales of these being made, in the same position, at an advance of 5c. Grocers pay around 95c. per bag of 90 lbs.

Maple Products.—Merchants are making inquiry, and the feeling here is that quite a quantity of maple sugar and syrup will be handled this year, although no prices are yet mentioned. Last year was a poor year.

Eggs.—There has been a further weakening in the price of eggs since a week ago. Dealers claim to be purchasing at 16c. to 17c., west, and 18c. to 19c., east. Grocers have, in all probability, to pay around 20c. to 20½c., and sometimes 21c., the highest price obtainable being, apparently, 22c. per dozen. This is for straight-gathered stock.

Butter.—Fall-made creamery sold at 26c., wholesale, and as high as 27c. in a few packages at a time. This is for the choicest qualities. Very little new butter arriving, but some was sold here recently at 28c., to a special customer; this cost 27c., delivered here by express. Dairy butter rather lower in price. Tubs, boxes and rolls are included at about the same price for similar qualities, being about 20c. to 21c. for good. Lower qualities are 18c. to 19c. Some poorer stuff is being held here at 19c., but cannot be sold.

Grain.—No. 2 Canadian Western oats from 39c. per bushel, car lots, store; No. 1 feed at 38½c.; No. 2 Canadian Western at 38c.; No. 2 local white at 37c.; No. 3 a cent under, and No. 4 yet a cent under. Manitoba barley, No. 4, 49c. to 50c. per bushel, and No. 3 American yellow corn, 56c. to 56½c. per bushel.

Flour.—Ontario flour again declined. Manitoba flour steady, at \$5.60 per barrel in bags, for first patents; \$5.10 for seconds, and \$4.90 for strong bakers. Ontario patents 25c. lower, at \$4.50 per barrel; straight rollers, \$4 to \$4.25.

Millfeed.—Prices unchanged. Hay.—Choicest qualities are 50c. lower. Dealers quote No. 1 baled hay, \$10.50 to \$11, carloads, track, Montreal; No. 2 extra, \$9 to \$9.50 per ton; No. 2 \$7.50 to \$8; clover mixed, \$6.50 to \$7; pure clover, \$6 to \$6.50 per ton.

Seeds.—A fair demand is opening up from the country; prices per 100 lbs., in bag lots, Montreal, as follows: Timothy seed, \$15 to \$16.50; medium red clover, \$18 to \$20; Mammoth red clover, \$18.50 to \$20.50; alsike, \$18 to \$22.

Hides.—Calf skins have improved in quality, and prices advanced 1c. per lb., being now 11c. per lb. for No. 2, and 13c. for No. 1. Hides unchanged, at 8c., 9c. and 10c. per lb., according to quality; lamb skins, 90c. each; horse hides, \$1.75 and \$2.50 each. Tallow, 6½c. to 7c. per lb. for rendered, and 1½c. to 4c. for rough.

The Canadian Bank of Commerce

affords to farmers and others every facility for the transaction of their banking business.

Accounts may be opened by mail and moneys deposited or withdrawn in this way with equal facility.

SALES NOTES will be cashed or taken for collection.

Branches throughout Canada, including Toronto, Hamilton, Montreal, Charlottetown, New Glasgow and Truro.

Chicago.

Cattle.—Beeves, \$5.20 to \$6.15; Texas steers, \$4.50 to \$5.65; Western steers, \$4.80 to \$5.80; stockers and feeders, \$4 to \$5.80; cows and heifers, \$3.65 to \$5.90; calves, \$5.25 to \$7.25.

Hogs.—Light, \$6.80 to \$7.20; mixed, \$6.65 to \$7.10; heavy, \$6.45 to \$6.90; rough, \$6.45 to \$6.65; good to choice, heavy, \$6.65 to \$6.90; pigs, \$6.60 to \$7.10; bulk of sales, \$6.70 to \$6.90.

Sheep and Lambs.—Native, \$3.10 to \$5.35; Western, \$3.30 to \$5.50; yearlings, \$4.75 to \$5.60; lambs, native, \$5 to \$6.50; Western, \$5.25 to \$6.60.

GOSSIP.

SALE DATES CLAIMED.

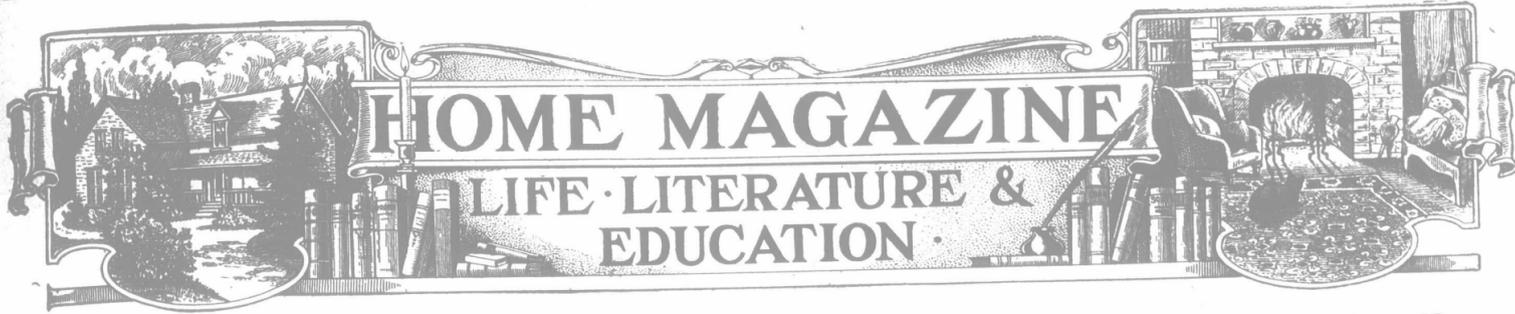
April 5th.—A. Kennedy & Son, Vernon, Ont.; Ayrshires.
April 6th.—L. H. Lipsit, Stratfordville, Ont.; Holsteins.
April 7th.—Belleville Holstein Breeders' Club; Holsteins, in Belleville, Ont.
May 24th.—Dr. D. McEachran, Ormstown, Que.; Clydesdales.

BRITISH SHOW DATES.

Royal Dublin, at Ball's Bridge, April 18-21.
Bath and West, at Cardiff, June 1-5.
Royal Agricultural Society, at Norwich, June 25-28.
Highland and Agricultural Society, at Inverness, changed to July 25-28.

The special prizes of \$500 each, given by the Canadian National Exhibition, Toronto, in the cattle classes, will this year go to the Shorthorns and Holsteins, these two classes having had the largest number of entries in the beef and dairy breeds, respectively. The prize will go to the best animal exhibited in Shorthorns or Holsteins, without regard to sex, and the value of it ensures a wide range of competition. It should prove a great incentive to cattlemen to put their best in great condition for showing.

Thomas Graham, Mardella Farm, Port Perry, Ont., writes: Our Shorthorns never wintered better. Proud Duke, by Imp. Cicely's Pride, dam Crystal Duchess (imp.), at head of the herd, has grown into a big, smooth bull, and is a splendid getter. We have lately sold to Alfred Henry, Blackstock, Ont., a thick, grand-doing heifer, and King James, a roan bull, by Duke of Richmond =68172; to Samuel Stewart, Hillier, Ont., the grand yearling bull, Mardella Stewart; to Talmage Taylor, Burkton, Ont., a beautiful bull calf, by Duke of Richmond, and two nice red heifers; to Norman Bellyou, Trenton, a straight, smooth, red heifer; to John Forman, Victoria Road, a good bull calf. This is the fourth herd-header we have sold him. To J. Buchannan, Grey Co., a good-doing cow of the Louisa family, and by Ben Lomond (imp.); to Abraham Beacock, Nestleton, a good yearling bull, of the good-milking Zora family, also a nice roan heifer; to Walter Deverell, Dalrymple, a bull calf, by Prince Arthur; to Wm. Hooper, Cartwright, a Meadow Flower bull calf; to Chas. M. Ansley, Wharnclyffe, one red bull calf. We still have some grand young bulls for sale.



Selections from Eminent Writers.

Bits About Birds.

(From John Burroughs.)

One of the good signs of the times is the interest our young people are taking in the birds, and the numerous clubs and societies that are being formed throughout the country for bird protection and bird study. In my youth, but little was heard about the birds. They were looked upon as of small account. Many of them were treated as the farmer's natural enemies. Crows and all kinds of hawks and owls were destroyed whenever chance offered. I knew a farmer who every summer caught and killed all the red-tailed hawks he could. He stood poles up in his meadows, upon the tops of which he would set steel traps. The hawks, looking for meadow mice, would alight upon them and be caught. The farmer was thus slaying some of his best friends, as these large hawks live almost entirely upon mice and other vermin. The red-tail, or hen-hawk, is very wary of a man with a gun, but he has not yet learned the danger that lurks in a steel trap on the top of a pole.

If a strict account could be kept with our crows and hawks for a year, it would be found, at the end of that time, that most of them had a balance to their credit. They do us more good than injury. A few of them, such as the fish crow, the sharp-shinned hawk, Cooper's hawk, and the duck-hawk, are destructive to song-birds and wild fowl; but the others subsist mainly upon insects and vermin.

One August, when I was a boy, I remember a great flight of sparrow-hawks—so called, I suppose, because they rarely, if ever, catch sparrows. They were seen by the dozen, hovering above and flitting about the meadows. On carefully observing them, I found they were catching grasshoppers—the large, fat ones found in the meadows in late summer. They would poise on the wing twenty or thirty feet above the ground, after the manner of the larger hawks watching for mice, then suddenly drop down and seize their prey, which they devoured on the limb of a tree or a stake in the fence. They lingered about for several days, and then drifted away.

Love the wood-rose, but leave it on its stalk, hints the poet. So I say, find a bird's nest, but touch not the eggs. It seems to profane the nest even to touch its contents with the utmost care. One June day, I found the nest of the yellow-winged sparrow—the sparrow one often hears in our fields and meadows, that has a song that suggests a grasshopper. I was sitting on the fence that bounded a hill meadow, watching the horned larks, and hoping that one of them would disclose the locality of its nest. A few yards from me was a small bush, from the top of which a yellow-winged sparrow was sending out its feeble, stridulous song. Presently a little brown bird came out of the meadow and alighted in the grass but a few yards from the singer. Instantly he flew to the spot, and I knew it was his mate. They seemed to have some conversation together there in the grass, when, in a mo-

ment or two, they separated, the male flitting to his perch on the bush and continuing his song, while the female disappeared quickly into the grass ten or more yards away. "The nest is there," I said, "and I must find it." So I walked straight to the spot where the bird had vanished, and scrutinized the ground closely. Not seeing the object of my search, I dropped my handkerchief upon the grass, and began walking cautiously about it in circles, covering more and more ground, and scanning closely every foot of the meadow-bottom. Suddenly, when I was four or five yards away from my handkerchief, a little dark-brown bird fluttered out almost from under my feet, and the pretty secret was mine.

The nest, made of dry grass and a few hairs, was sunk into the ground—into the great, brownish-gray, undistinguished surface—and held four speckled eggs. The mother bird fluttered through the grass, and tried, by feigning disablement, to lure me away from the spot. I had noticed that the male had ceased singing as soon as I began my search, and had showed much uneasiness. He now joined the female, and two more-agitated birds I had never seen. The actions of this bird are quick and nervous at all times; now they became almost frenzied. But I quickly withdrew and concealed myself behind the fence. After a brief consultation the birds withdrew, also, and it was nearly a half-hour before they returned. Then the mother bird, after much feigning and flitting nervously about, dropped into the grass several yards from the nest. I fancied her approaching it in a cautious, circuitous, indirect way.

News of the Week. Hope's Quiet Hour.

A loan of \$50,000,000 from American financiers has been concluded by China.

Eleven hundred men are already working on the Porcupine railway branch, Northern Ontario.

Eleven thousand dollars were sent from Toronto last week to aid the famine sufferers in China.

Monsignore Stagni, the new Papal Legate to Canada, was received in Basilica, Ottawa, on Friday last.

The Dominion Government is undertaking a campaign against the establishment of Trusts in Canada.

Westminster Abbey is closed to the public in preparation for the coronation, and has been for the past fortnight.

Hon. R. B. Haldane, Secretary of War for Great Britain, has been raised to the Peerage as Viscount Haldane.

The special session of Congress in Washington to decide the fate of the reciprocity provisions will meet on April 4th.

Shall All Men Know.
By this shall all men know that ye are My disciples, if ye have love one to another.—St. John xiii: 35.

Our Lord said that those who love each other shall be known by all men as His disciples. But how can men know whether there is love in a heart or not?

We are very apt to fancy that we can hide our thoughts, but that is a very foolish fancy. Thoughts may seem to be very intangible material, and yet it is out of thoughts that the solid, eternal building of our lives must be made. We are to-day what our thoughts have made—the thoughts we have chosen to give house-room for many years. If there is love in your heart, your acquaintances will know it. If there is no love, they will know that too.

Ruth, the Moabitess, came with her mother-in-law to Bethlehem at the beginning of barley harvest. She had left her own country and people, and was a poor and friendless stranger. She went out to glean in the field of Boaz, and he showed great kindness to her. When she expressed surprise at his care for the welfare of one who was a stranger, he said that her love for her mother-in-law was no secret in the town. By the end of the wheat harvest he was able to say to her: "Thou followest not young men, whether poor or rich . . . all the city of my people doth know that thou art a virtuous woman." Boaz married Ruth soon after, and, when a child was born, the neighbors said to the delighted Naomi: "Thy daughter-in-law, which loveth thee, which is better to thee than seven sons, hath borne him."

If the love in the heart of a foreigner was so soon revealed to the people of Bethlehem, how much more certain is it that all men know the secret motives which sway the outward lives of men and women who have lived in neighborly companionship with them for years. In a city, it may be possible to live near a man and yet know little or nothing about him, but it is very different in the country. We jump to conclusions, and often make mistakes in our judgment of others, but on the whole we know whether a life is inspired by love, or the ambition to be rich, popular, or famous. We know when a man would "rather be better than he seems, or seem better than he is." We know instinctively that one person can be trusted to deal fairly and honorably in business matters—or even in a game—and we feel doubtful about putting much confidence in others. Of course, everybody is inconsistent at times. One whose aim in life is to get the best of everything for himself, may occasionally rise to an unexpected height of unselfishness, and one who is usually thoughtful and unselfish may sometimes surprise everybody by acting in very inconsiderate fashion. But the fact that people are surprised when this happens, shows that they know it is inconsistent and exceptional.

Ruth did not need to tell her new neighbors that she was a virtuous woman, and that she did not follow after young men. They knew it at once. She did not tell them of her love for Naomi, it was a self-evident fact. Though she did tell Naomi that she loved her, expressing her affection in words that still live and glow with undying fire:

"Intreat me not to leave thee, or to return from following after thee: for whither thou goest I will go; and where thou lodgest I will lodge: thy people shall be my people, and thy God my God: where thou diest, will I die, and there will I be buried: the LORD do so to me, and more



"Slabsides."

The house that John Burroughs built for himself, near the Hudson.

In the afternoon I came again; also the next day; but at no time did I find the male in song on his old perch. He seemed to take the blame of the accident upon himself; he had betrayed the locality of the nest; and now I found him upon the fence or upon an apple-tree far off, where his presence or his song would not give away the precious secret.

The male bird of almost every species is careful about being much in evidence very near the nest. You will generally find him in song along the rim of a large circle of which the nest is the center. I have known poets to represent the bird singing upon its nest, but if this ever happens, it is a very rare occurrence.

Dr. Todd, of McGill University, Montreal, has gone to Africa with Dr. Wolback, of Harvard, to study the sleeping sickness.

Andrew Carnegie has made a donation to Waseda University, Tokio, Japan, whose founder was identified with the movement for international peace.

The coronation robes of King George and Queen Mary, which will be entirely of British manufacture, are to be of silk woven with thread of pure gold, and will be worth more than their weight in gold.

also, if ought but death part thee and me."

These beautiful words were addressed to a "mother-in-law," remember. What a true mother Naomi must have been to her son's sweet wife to rouse such a wealth of affection. And Ruth did well to give some expression of her love in words, as well as in actions. There is many a home made dull or even unhappy by the entire absence of words of affection. When a man tells a woman that he loves her, and she echoes the beautiful appeal of Ruth, they find the commonplace work and surroundings glorified by golden sunshine. But when the days of courtship are over, it is too often the case that any expression of affection is crowded out. Why shouldn't the halo of romance, which was once so joyous, be allowed to make married life shine with an ever-increasing brightness? Why can't a married man tell his wife that he loves her? "She knows it," he says. Well, what if she does! She knew it long before he first told her, very probably—for love is one of the things hard to hide—but his telling of it brought joy to them both, all the same. Are their hearts made of different materials now? Try it and see. Break through the ice, and you will both give and receive great happiness. But be sincere. It is useless to tell anyone that love is in your heart if it is not there. Only a hypocrite will love in word and in tongue, when he does not love in deed and in truth. Love is the great and all-important thing; and yet love that is only a sentiment, love that is not strong enough to bear fruit, is scarcely worth having. In our Lord's beautiful description of the Judgment Day, the division between the sheep and the goats is based on outward actions rather than on motives. Those who have been actively kind are placed on the right hand of the King, those who have carelessly allowed opportunities of showing kindness to Him, in His brethren, to slip past them, are placed on the left hand.

A love that is not a self-evident fact, a love that does not blossom out into action, is terribly like the love of the church in Sardis, which was only a barren name. If you can't do anything else for one you love, at least you can do the greatest thing to help him—you can pray. You can go into the audience-chamber of the King and direct streams of blessing in any direction you please.

But one who claims to be a disciple of Christ has no right to be unloving towards anybody. We are commanded to love our neighbors and our enemies. We must act towards everyone as we would towards Christ. For Christ meets us everywhere. Those who persecute others are persecuting Him (Acts ix.: 4), those who give even a cup of cold water, for love's sake, are ministering to the King, those who "pass by on the other side" when they have a chance to act the Good Samaritan, are refusing to help the King (S. Matt. xxv.: 31-46). God meets us every hour: "Earth becomes to us . . . nothing but the garden of the Lord, and every fellow-being we meet and see in it, a beautiful and invited guest."

When, for love's sake, you work patiently and quietly, though no one seems to notice or appreciate your little daily sacrifices of time and inclination, remember that each act of love is treasured by Christ. It is not forgotten nor lost. Some day you will see all these little acts of kindness again and will be surprised to find them glorious and beautiful. Then you will only be sorry that they were not more numerous. God knows and cares!—is not that enough?

Baring Gould tells the following story: "One day, S. Otto, Bishop of Bamberg, was walking in the fields with his servant. It was a time of plague and famine, and he lit on a dead body which had lain among the grass many days unnoticed. He bade his servant take up the feet, whilst he held the head, to carry it to the graveyard to bury it. But the condition of the corpse was so dreadful that the man turned away in loathing. Then the Bishop knelt down, threw the body across his shoulders, and bore it himself to a place where it could be given Christian burial."

An act of kindness, shown without any hope of return, is "lending to the Lord"—who will not forget it. A day that contains no loving thought for others is a wasted day.

The test of discipleship is the same for

all. A king or a day-laborer, a child or a learned professor, a millionaire or a poor washerwoman, will be judged alike. The question is not: "What do you know about evolution, the latest theories about Bible criticism or inspiration?"

It is, rather: "Have you been kind and forbearing, even with trying people? Have you been humble and gentle? Have you been glad when others were good, and sorry when they tripped or fell? Have you been patient and sweet-tempered when everything seemed to go wrong?" Then both God and man know that you are walking in the steps of Christ.

DORA FARNCOMB.

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. We would not be without it. I go to school every day, and I am in the Fourth Book. I like my teacher well. Her name is Miss Shain. She is going to leave at Easter. I am going to try the Entrance at mid-summer. I have read a number of books this winter. My favorite books are: "Robert Hardy's Seven Days," and "Overcoming the World."

HANNAH BRAMBLE (age 11).
Orangeville, Ont.

garden. As all the other Beavers tell about their pets, I must tell you mine. I have a kitten named "Tootsie" and a dog named "Pedro." Also have four other cats. I have a brother named Albert, younger than myself.

To Vernon Augustine,—I admire your Princess May, I feel sure, as much as any boy could, for I am very fond of horses. I better close now, or you will think it will never end.

MARY VERNON (age 13).
Wallace, Ont.

Dear Puck and Beavers,—This is my second letter to the Beaver Circle. The first one found the w.-p. b., but I hope this one misses it. My father has taken "The Farmer's Advocate" for a long time, and he thinks it is the best agricultural paper printed. The name of our farm is "Woodlin," and I think it very nice living on the farm, because there is lots of fun in the summer, and in the winter, too, because there is lots of skating. I have half a mile to go to school. We have a new post office started here a couple of years ago. We have ten horses. We have two little colts named Princess and Rose. I also have some pets too, a Scotch collie dog, and a little colt which I can lead and drive. I am going to write for the Senior Fourth Class in March. Now, I must close, hoping this will escape the w.-p. b.

BOYD HAMMOND
(Age 12, Book IV.).

Kingwood, Ont.

Dear Puck and Beavers,—I am another one for the first time writing to your Circle. I live on a farm, and go to school every day to Hyde Park. We have to go a mile and a half to school. We have about forty cattle, most of which are heifers, which we show at the fairs around. There is lots of ice around, on which we skate and slide. We have a lot of fun at school, both in winter and summer.

Hyde Park is our nearest village and post office. We get our mail when we come home from school at 4 o'clock. In the summer we go to the bush and eat our lunch, and bring back flowers.

If this appears in print, I shall be tempted to write again.

ENA SKIPPON
(Age 12, Book IV.).

Hyde Park, Ont.

Dear Puck,—I wish some of the other Beavers would send some riddles, as I am very fond of them. I think we have far more fun in winter than in summer, as it is so hot in summer. Will close with some riddles:

Where can money always be found?
Ans.—In the dictionary.

Why is a woman going south for her health like a woman driving eight chickens into a coop?
Ans.—Because she goes to recuperate.

ULVA SKIPPON (Book IV.).
Hyde Park, Ont.

Dear Puck and Beavers,—This is my first letter to the Beaver Circle, though I enjoy reading the letters. I live on a farm called "Maple Grove," about twenty-five miles from London. I have been in to London a few days at a time, but would far rather live on a farm than in a city. There is always something interesting to do on a farm, such as gathering eggs, feeding little chickens and turkeys, wild flowers to gather, and ever so many things, boat-riding and wading in the river.

In the winter, there are skating, coasting (for there are lots of hills), and quite a few more things of which I would like to tell, but I am afraid I am taking up too much room.

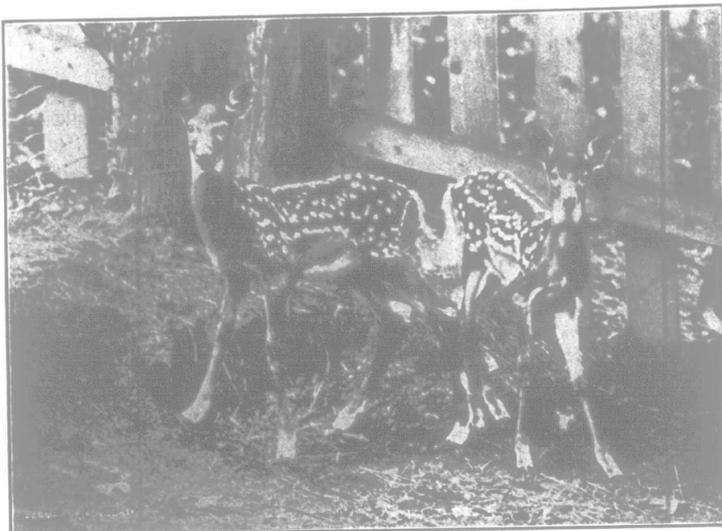
There is a river running through our farm, close to the barn, called "Aux Sauble."

In the spring we make maple syrup. Last spring my brother saw eleven black squirrels at once.

I must close now. I hope it is not too long.
D. C. L. (Book IV.).

Brinsley, Ont.

Dear Puck and Beavers,—This is the first time I have written to the Beaver Circle, though we have taken "The Farmer's Advocate" for a long time. I live on a farm with my uncle, and go to



Young Deer.

Many animals are spotted or striped when young. It is thought that at one time in the earth's history, practically all animals were so.

The Beaver Circle.

[All children in third and fourth books, also those who have left school, or are in High School, between the ages of 11 and 15, inclusive, will write for Senior Beavers. Kindly state book at school, or age, if you have left school, in each letter sent to the Beaver Circle.]

Dear Beavers,—We had intended publishing the rest of the prize essays on Waterloo to-day, but so many letters from Beavers have piled up that it seems only fair to publish some of those received earliest as soon as possible. We are sure the writers of the omitted essays will be generous enough not to mind. As it is, you know, a great many of the least interesting letters must go into the mouth of the w.-p. b. What a monster it is!



"Scout," a Scotch Collie.

Owned by George Grainger, Stayner, Ont.

Our Letter Box.

Dear Puck,—This is my second letter to the Beaver Circle, but the first went in the w.-p. b., so I thought I would write again. I like reading the letters very much.

I have a pony; his name is Bonny. He is a bay color; I like riding horse-back on him. He can run very fast, and sometimes he runs away on me, but I don't care; he goes home. But when I fall, it is a hard one, only it does not make me cry.

EVAN SUTHERLAND
(Age 11, Book III.).

Toronto, Ont.

instantly the dog, although it was very tired, took the man's arm in its mouth and pulled him to shore, where it dropped dead. That dog was very faithful to its master.
CHARLES TAYLOR.
Gladstone, Ont.

Dear Puck and Beavers,—I live on a farm two and a half miles from a place called Wallace. We also have a library in our school, and about fifty books. I must tell you I have finished reading my prize, a book, "Black Beauty." I am in the Senior Fourth Class, but I can't go to school just now. We have a patch of raspberries and strawberries in our

"The Farmer's Advocate" Fashions.



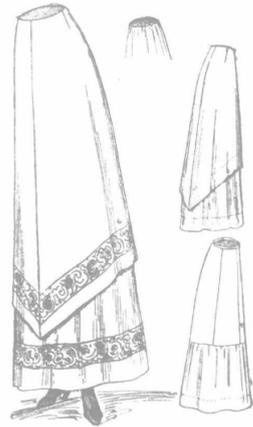
6966 Girl's Coat, 10, 12 and 14 years.



6975 Empire Coat with Body and Sleeves in One, 34 to 40 bust.



6974 Fancy Tucked Blouse, 34 to 42 bust.



6967 Skirt with Tunic having Straight Lower Edge for Misses and Small Women, 14, 16 and 18 years.

Please order by number, giving age or measurement, as required, and allowing at least ten days to receive pattern. Price, ten cents per pattern. Address: Fashion Dept., "The Farmer's Advocate," London, Ont.

school. I live five miles from Inverness village. I am fond of reading, especially history. Two months ago I was first in class, now I am second, but expect to be first in the final examination. I like my teacher very much. The snow is so deep in winter that I cannot walk to school, so I ride in a sleigh. The summer before last I had a pair of Collie dogs that would haul me in a little cart wherever I wanted to go. I have a pet cat that can open the door. She stayed at a neighbor's house for a while, and worked the door latches at night. The people were superstitious, and thought it was a ghost. My father has a pair of horses that were raised together. They are great friends. If one is without hay, the other will pass some over the manger to him.

AUBREY CANNING (Age 13, Book IV.)

Inverness, 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, and the time for its arrival is looked forward to with great pleasure.

We live about two miles from Bracebridge, on a farm situated by the Muskoka River. It is a very pleasant place to live. In the summer, the boats are seen going up or down every few minutes. Nearly everyone on the river has got a boat of some kind. Some winters there is splendid skating, but we have had very little this winter. Our school is on the corner of our place. I have been in the Fourth Book nearly two years, and expect to try for the Entrance this year. There is a big, high bank on the other side of the river, and in the winter the boys and girls have some fun sleigh-riding or sliding down it.

I am very fond of animals.

MAGGIE D. CAMPBELL (Age 10, Book IV.)

Alport, Ont.

Beaver Circle Notes.

It would be nice if Clarence Randolph, Bridgetown, N. S., would write us a letter about his seaside Province. His last letter was too short.

A great many letters received during March and the latter part of February, are still held over. The most interesting of them will appear just as soon as possible.

April Fool's Day.

There is a tradition among the Jews that the custom of making fools on April 1 arose from the fact that Noah sent out the dove on the first of the month corresponding to our April, before the water had abated. To perpetuate the memory of the great deliverance of Noah and his family, it was customary on this anniversary to punish persons who had forgotten the remarkable circumstances connected with the date, by sending them on some fool's errand, similar to that on

which the patriarch sent the luckless bird from the windows of the ark.

Manners Makyth Man.



"A trusty servant's portrait would you see,
This emblematic figure well survey;
The porker's snout—not nice in diet shows;
The padlock shut—no secrets he'll disclose;
Patient the ass—his master's wrath to bear;
Swiftness in errand—the stag's feet declare;
Loaded his left hand—apt to labor saith;
The vest—his neatness; open hand—his faith;
Girt with his sword—his shield upon his arm—
Himself and master he'll protect from harm."

There have been many swings of the pendulum since the emblematic figure of the "Trusty Servant," which heads my article to-day, and the motto of which has served as my text for my little fortnightly preachments lately, was placed upon the walls of one of the oldest seats of learning in the oldest city of the dear Old Land several centuries ago. Its coloring has been renewed, and its quaint old spelling slightly modernized; but, in spite of the many changes which the years have brought with them, those maxims, if taken to our hearts as individuals, have not lost their meaning. For are we not all called to a life of ministry—"in love serving one another"? To those who have visited the Royal City of Winchester, the origi-

nal of the sketch will be a familiar figure. We must remember how, in the old days, when reading and writing were arts confined to the learned few, many lessons had to be taught by illustrations such as that of the "Trusty Servant," and their accompanying mottoes committed to memory. Let us hope that many of those lessons, now verbally lost to us, may, nevertheless, have become so incorporated in our national life that their influence remains. True, no one nowadays, even of those who have wealth wherewith to repay the services of many domestic helpers, would dream of expecting such a compendium of virtues as are embodied in our picture; but then, neither need the "server" (we dare not use the word "servant") of our generation don the ass's ears in token of his endurance of a "wrath" which it would now be deemed a shame for his employer (not master) to manifest towards him.

In the matter of service, domestic or general, there has been a great upheaval of opinion; and, in the matter of "supply," a famine, in the land. The whole subject is a problem which individuals have to face for themselves, especially in Canada, where, in spite of the thousands of newcomers which arrive weekly upon our shores, the demand seems ever greater than the supply.

Nevertheless, out of the strain and stress of the exigencies of to-day a rich harvest may be reaped, and here comes in one of the good old mottoes of our ancestors, for the correct translation of which, I at once confess that I had to consult the quotation pages of a dictionary. It reads thus: "Palma non sine pulvere," or, "The palm is not gained without the dust of labor."

Something of her understanding of the meaning of this wise adage must have been in the mind of a very valued and much appreciated old cook of my own, who lived with me for nine years in my Hertfordshire home in England before I came to Canada, in the long ago, when, for fair, but moderate, wages, and the certainty of a good home and considerate treatment, there very rarely occurred any gaps in one's domestic arrangements. Martha's sayings were often quaint and wise, as well as delightfully humorous, and this is what I heard her say one summer day as I was passing the open window of her sunny kitchen in my country home. How the subject of heraldry, and the mottoes on shields and hatchments, which one of them must have noted or read about, should have got started at all, I cannot divine; but, in the conclusions drawn by Martha, I recognized both wit, wisdom and common sense.

John, the gardener, had evidently taken some lofty flight which had aroused her indignation. "Scutcheons," said she, "you and your 'scutcheons, no less! A big bar of yaller soap and a stout scrubbin' brush is 'scutcheon enough for me. Jane here can have the dust-pan and that dumpy old broom she set such store by; and as for you, yours might be the old wheelbarrow and the long-handled hoe which have been a-waiting for you down by the potato-patch while you've been a-jawing here the last half-hour by the clock. Clear out now, and fetch me in they potatoes! 'Scutcheons, indeed!"

Nevertheless, escutcheons and their mottoes had provided Martha with a good practical text to preach from, with the immediate result that Jane quickly disappeared from her vision, duster in hand, while John, in short order, brought in the potatoes for which Martha had been waiting.

In every walk of life there is a call for readjustment. The point of view has changed, and both maid and mistress could come to a better understanding of the changed conditions if they faced them with an open mind. Cookery is reduced to an exact science, and the understanding of the chemistry upon which depends the health and efficiency of our families lifts the service of the cook into a higher plane altogether. If the mistress of the house understands why each item of the day's work should be economically arranged, as regards time and power, the wheels run smoothly; if not, chaos reigns, whether the hand that works the domestic machine be her own or another's.

Faithfulness must be the keynote to all successful work, and it is this lesson of faithfulness to the duty which lies before us, whether as master and man, or mistress and maid, that we all alike may learn, if we will, from the emblematic picture of "The Trusty Servant."

H. A. B.

Winter, au Revoir.

I say, old fellow, here's a muss!
You've spoiled your robe of white,
Your cheeks are pasted o'er with mud,
As if you'd had a fight.

I do believe you've had a scrap,
With that old giant Sol.
He's pummelled you around all 'right,
As if you were a doll.

Your shoes are holey at the toes,
Your mantle is a sight;
No decent, self-respecting man
Would say that you are right.

I do not care to meet you till
Your spotless robe you bring,
You need not hurry though, for I,
Am off to welcome Spring.

MRS J. H. TAYLOR.

The Ingle Nook.

[Rules for correspondents 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.]

Touching "the Men."

A correspondent wants to know if we do not think that "the men" should be a little particular about cleaning their boots before coming into the house, now that the muddy spring days are here. Also, whether it is not "only fair" for said men to prepare a bit of garden ground and mend the garden fence, seeing that the family must go without both flowers and vegetables unless the wife attends to them.

Most certainly we think a man should clean his boots, and most carefully, too, before coming into the house from the muddy field or barnyard. Two minutes at most will suffice to clean the boots, while half an hour or more may be spent by the wife in scrubbing the kitchen floor. The self-respect of the whole family goes up when the house is clean, but how can it be kept so unless everyone is careful not to make muss and dirt? It is a shame to make work, through carelessness, for the busy and sometimes overworked housekeeper.

As to the garden, we should think a half-day spent in it with plow and harrow would be a well-spent half-day for the man o' the farm, even though he should have plenty of work in the fields to do. A garden means food, and medicine, and pleasing variety for the table. Besides, why should he not please the mistress of the house, if she be fond of gardening (many women have a passion for it), by working up the ground so that it will be little trouble to do the necessary hoeing and raking afterwards? To dig and delve in hard soil is too much for any woman's strength.

Housecleaning.

Housecleaning time is here again, abhorred of the men, secretly enjoyed by most of the women, notwithstanding their protests of dread. It would be quite possible to write a readable article on this subject, perhaps, but I am not going to try. Instead, I am going to crowd just as many "helpful hints" as possible, gathered from all sorts of sources, into the available space, and if I leave out things that you know about, I hope you will supply the deficiency later.

Clean one room at a time;—this is a maxim too old to need repeating, yet perhaps there are still a few folk who turn everything upside down all over the house at once, and try to "get through" in three days. The other plan is better, "one room at a time, and begin with the upstairs."

Papering:—Never put one layer of paper over another, a most unsanitary proceeding. Pull off all of the old paper that can be removed easily, then mop the rest frequently with hot water, and when soft pull and scrape until every bit has been taken off. . . . If the walls are new and have never been papered, coat them with a sizing of thin glue water, made by dissolving 1 lb. ground glue in a pail of hot water. Apply warm, and let dry before papering. If the plaster has been painted, wash the walls first with a solution made by dissolving ½ lb. washing soda in 1 gallon water, then size and paper as above. . . . If the old paper will do, and simply needs cleaning, a variety of methods may be chosen from. Often a good brushing down with clean cheesecloth mops is sufficient; still better is brushing with cheesecloth bags filled with corn meal; some use bits of stale bread, or even bread dough. In any case, brush straight downward always, not round and round. . . . If after cleaning by one of these methods spots remain, they must now be removed. Grease spots will usually disappear if rubbed gently with a piece of flannel dipped in spirits of wine. Sometimes a piece of blotting paper placed over the spot and pressed with a warm iron will do the work. Rub the place afterwards with Fuller's

earth. For other spots mix French chalk to a paste, apply, and when dry brush off. If the paper is very delicate in color, fold powdered French chalk inside a thickness of gauze, lay the pad against the grease spot, and press a hot iron over it. . . . If the paper has to be patched, be sure to make the patch perfectly square or oblong, and match it exactly.

The Woodwork:—If this has to be painted, and there are cracks or nail-holes to be filled, press putty in, smoothly and closely, or you may use a substitute, which is much less expensive, and is made as follows: Soak newspapers in a paste made by boiling 1 lb. flour in 3 qts. water, and adding a tablespoonful alum. This will harden like papier mache, but do not paint it until it is entirely dry. . . . To clean painted woodwork, rub with a flannel wet with kerosene, then rub hard with a soft clean flannel. For cleaning white woodwork, use whiting instead of soap. Dip a soft flannel cloth in clear water, squeeze nearly dry, and dip in the whiting; rub the woodwork well with this, then wash with clear warm water and dry well.

Furniture Polish:—There are many good furniture polishes to be bought, but some very good ones may be prepared

from 1 lb. quicklime mixed with water) heated to boiling point. To the boiling glue stir in linseed oil until it ceases to mix. If you happen to add too much oil, correct by putting in lime paste. Add any color not affected by lime, and dilute with water if necessary. Finally boil in the ground color one-fourth its volume of shellac and borax.

Floor Stains:—There are good floor stains and finishes on the market, and perhaps it is safest to depend upon these. Stain according to directions, let dry, then apply a good floor-finish or wax, and rub well with a weighted brush, rubbing with the grain always. For soft woods, most of the stains need diluting one-half. . . . To reduce expense, some prefer to do their own staining, so apply dye of the right shade, or a stain made by mixing tube paint with turpentine until it will sink into the wood. Always test on a bit of board first. Work in well with a cloth, let dry, then give a coat of good floor varnish, and, finally, rub well with pumice stone and oil to give a soft finish. This last method is highly recommended. If there are cracks they should be filled with a filler colored to the required tint before the floor is stained.

The following notes for floor finish have

for either woodwork, furniture or floors; in fact, high-gloss anywhere—except occasionally a polish on natural wood—is quite of the past. If one desires to remove varnish to apply stain and finish, one might try to get a "varnish remover" already prepared—they are kept in some places—then after the varnish is removed wash the wood with wood-alcohol and sandpaper (with fine paper) until smooth. Removing varnish, however, is not an easy task. Sometimes, a scrubbing with a very stiff scrubbing brush and wood-alcohol will prove sufficient. When one buys floor or furniture wax it is well to remember that paste wax, if it can be procured, is rather the best. Ink stains on wood may be removed by rubbing with finely-powdered pumice-stone and boiled linseed oil, but first try tepid water, gasoline, or furniture polish.

(To be continued.)

About Flower Exhibits.

Dear Dame Durden,—Will you kindly admit another newcomer with a few questions, which I thought you might help me with, as you are so helpful to others. I expect to show flowers at the fall fairs next fall, and would like if you could help me with the following:—

1. Best floral table design, no conditions; exhibitor can supply table. I expect to have all sorts of flowers. Please explain what you think this means; also the following:
2. Best floral basket. Does this mean to fill a basket with flowers? If so, what sort of basket, and also how would you arrange flowers?
3. Collection dahlia blooms, all varieties. Does this mean just one bouquet or more?

Hoping I have not troubled too much.
Halton Co., Ont. R. B. F.

1. I should imagine that "floral table design" means a decorated table, such as those shown every fall at the Fruit, Flower and Honey Show, Toronto. A white tablecloth is usually put on, but sometimes a polished table is used. Then there is a fine floral centerpiece, with smaller vases or candles for the corners, or vines or garlands trailed out from the centerpiece, according to the taste of the exhibitor. The greatest liberty as to design is allowed, but, as a rule, round or oval tables are employed, as they show decoration much better than square or oblong ones. If I were you I should limit the flowers used to one or at most two kinds, with plenty of greenery, as a hodge-podge of flowers never looks well, and cannot be used very well in a "color scheme." Sometimes colored chiffon is used in fluffy masses along with the flowers to very good effect, but you had better find out from the directors of the fair whether this would be permissible.

2. This evidently means that a basket is to be filled with flowers. A fancy wicker basket of quaint old-fashioned shape would be good, or a silver fruit basket; even one made of rushes or raffa if you are skillful enough to construct one yourself of such materials. For an old-fashioned basket probably a collection of flowers would be permissible, provided you used plenty of feathery green stuff, such as asparagus plumosus, maidenhair fern, or smilax, to give relief. Sprays of some light feathery flower, such as "Baby's breath," or meadow rue, would also help to give gracefulness and avoid a heavy, clumsy effect.

3. "Collection of Dahlia Blooms" might possibly mean a collection such as are shown at the Flower Shows in clear pickle bottles of the same size, one flower to each bottle.

To be positively sure about all these things, we would advise you to consult the directors of the fair.

Patent Leather—Currant Pie.

Dear Dame Durden,—My husband has taken your paper for some time. I often find the Home Dept. very helpful. Could anyone give a suggestion to prevent patent-leather pumps from cracking? I am sending you a recipe for currant pie. One egg, 1 cup ripe currants, 1 cup sugar, 1 tablespoon flour. Beat egg very light, add sugar, flour and currants that have been mashed. Bake with under crust.
MRS. H. B.
Elgin Co., Ont.

"Scientific American" says that vase-



An Interruption at Housecleaning Time.

at home at much less cost. Here is one: Put ¼ pint each of turpentine, spirits of wine and vinegar into a bottle, add ½ pint linseed oil, and shake well. Dust the furniture carefully, remove any grease spots with a flannel dipped in warm soda water, then apply a very small quantity of the polish with a soft flannel, rub well, and polish off with a soft duster. (2) This one is simpler. Mix together 1 part turpentine, 3 parts linseed oil, crude or boiled. Apply and rub well. Burn all oily rags for fear of spontaneous combustion. Weathered-oak furniture may be rubbed with a good floor wax.

Floors, To Clean:—Painted or polished floors may be cleaned by rubbing with a cloth saturated with kerosene or turpentine. Linoleum should never be washed with soap and water. Use clean warm water, or warm water mixed with skimmed milk.

Floor Paint:—Soak 2 ozs. good glue for 12 hours in cold water, and then melt it in thick milk of lime prepared

been clipped from an American magazine. They sound reasonable.

"For pine, birch, maple or oak, apply two coats of a mixture made up of equal parts linseed oil and turpentine combined, with a japan drier, the drier being absolutely necessary. Let the floor dry, then polish with two coats of wax and turpentine paste applied with a cloth, each let dry over night. Last of all, polish with a weighted brush and woollen cloth, rubbing into the grain. If well done the floor should not need treatment again for a year (this is evidently not for a kitchen), except to polish occasionally with a weighted brush. If too much wax has been used it will turn black. Dissolve this by turpentine, and if even this does not remove the black spots try oxalic acid. Never touch water to wax, and do not use oil with it. Thorough rubbing is the best renewer of a waxed surface. If the floor is to be stained before waxing use water stains, not oil stains." Varnish is not considered in good taste

Minister of Agriculture Selects The SHARPLES TUBULAR

The World's Best Cream Separator

The following letter is from the Minister of Agriculture:

Regina, Sask., Jan. 28, 1911.

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W. R. MOTHERWELL, Minister of Agriculture.

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Because it is later than, different from and superior to all others. Because it has twice the skimming force of others, skims faster and twice as clean, and thereby pays for itself time after time by saving cream that common separators cannot get. Because the Dairy Tubular neither needs nor contains disks or other contraptions. Because buying one Tubular—which wears a lifetime—beats buying several "peddler's" or other inferior machines that last but a short time. Because Tubulars are guaranteed forever by the oldest separator concern on this continent. The Minister of Agriculture chose a Tubular because it is The World's Best.

Tubular sales easily exceed most, if not all, others combined. Tubulars probably replace more common separators than any one maker of such machines sells. The manufacture of Tubulars is one of Canada's leading industries. Our local representative will be glad to show you a Tubular. If you do not know him, ask us his name. Write for catalog No. 193.

30 Yrs THE SHARPLES SEPARATOR CO. Toronto, Ont., Winnipeg, Man.



These were very large trees, and I imagine the moving of your nine-year-old mountain ash might be carried out successfully in a somewhat similar way, but much more easily. See answer from Mrs. Dawson, Parkhill, in last week's Ingle Nook, re moving trees in spring.

A Word to Some Old Nookers.

Dear Dame and Nookers,—I do not say chatters, because, it seems to me, that, although we all claim a corner in the Nook, yet there are a lot of our old friends giving up chattering. I wonder why; perhaps, like myself, they feel they have nothing important to say?

I wonder if Jack's Wife will see this? If so, I would like to say that we miss her very much, and I feel like blaming Jack very severely for taking her away from us.

Helponabit, where are you? It seems to me I have not noticed any long letters from you lately.

Greybird is quite an acquisition to our Nook; so glad of her helpful letters.

And Lancashire Lass, dear, patient sufferer, who offers apologies for not answering our letters and cards; we do not expect it. We can realize what it must be to lie helpless and not be able to write a post card without having to trouble someone to get it for us, and not only the getting, but someone must be troubled to post it for us. We won't forget you entirely, even if you do not reply, but how sweet for you to be so remembered, and how far some of them come. Truly, "The Farmer's Advocate" has a large circle of subscribers.

Now, I am going to ask if any of you can tell me the best, durable paint, for kitchen floors? I get so discouraged with mine; it wears off so quickly.

If the lady who is making the basket quilt will put four blocks into one large one, with the handles to the center, she will have a new design, and a very pretty one.

I suppose all the chatters know that to put a piece of raw potato in the lard for frying doughnuts, it will keep them from scorching.

I am sending a few recipes, if our Dame does not think them too long to publish:

Strawberry Vinegar.—Stem and wash 1 quart of berries, drying them well; put them in a stone jar, and pour over them some good, strong vinegar, allowing 1 quart to every two pounds of berries. Let stand 24 hours, and strain through a jelly bag. Add the second quart of fruit, and let stand 24 hours longer; again strain and add to the fruit. Repeat the straining and adding to the fruit three times; let stand, strain, and add sugar, allowing one pound of fine sugar to every pint of juice. Boil for half an hour, then let get cold before bottling and sealing.

Pineapple Vinegar.—Shred three ripe pineapples after they are pared and the eyes removed. Cover with pure cider vinegar, and let stand three or four days. Squeeze through a cloth and strain as long as the juice runs clear. Measure the juice, and to each quart allow two-thirds of a pound of best sugar. Boil ten minutes, and skim carefully until the scum ceases to rise to surface. Take from the fire and let cool slightly before bottling and sealing. A teaspoonful of this in water makes a delightfully refreshing drink.

Mint Jelly.—Serve this with your cold lamb in place of hot mint sauce: Pick off the fresh, tender leaves of mint, and chop fine, enough to make a cupful; add a large tablespoonful of sugar, and, with the back of the spoon, bruise the mint well and rub with the sugar; add three tablespoons of vinegar or lemon juice, and a pint of water just at the bubbling point. Cover, and let stand for an hour. Have ready a package of granulated gelatine soaked in half a cup of cold water for half an hour, and dissolved over hot water. Add to the mint and strain through cheesecloth. Pour into a mould, and set away in the refrigerator to harden. JAUNITA, Quebec.

Our Scrap Bag.

Cotton crop-cloth or seersucker is now much used for underwear and night-dresses. As it requires no ironing, and looks very pretty when all white, and trimmed with lace and insertion, the advantage is apparent.

The use of raw beef is now highly recommended for tubercular patients. Scraped fine, seasoned, and used as sandwich filling, it is very palatable.

A simple and easy cure for egg-eating hens, says a correspondent of Country Life in America, is to feed them raw chopped pork. Trap nests are a help in saving the eggs, but not in preventing the habit.

Remove protective material that was used on flower beds during the winter very gradually, replacing it if the weather suddenly becomes colder.

Try making an odd wash skirt of print, Indian head, duck, rep, chambray, etc., quite open to the bottom at the side of the front, and close it by buttons and button-holes, or dome fasteners. The advantage when ironing will be apparent.

The Garden of a Com-muter's Wife.

(By Mabel Osgood Wright.)

XII.

Planting.

March 10. The snow is falling softly and steadily, as it did on that Saturday in December when winter and the great storm came together. Earth for the most part has been snugly blanketed ever since, but during the last two weeks she has seemed restless and thrown aside the covering, showing her brown body here and there; but as yet it is pulseless and irresponsive. For even as human vitality is at its lowest ebb in the early morning, so it is with plant life in the early spring.

From the sense of sight alone, it might still be a midwinter afternoon, but the ear catches the spring keynote. True, the winter birds, pine finch, crossbills and chickadees, are calling in the spruces, but an occasional song mingles with their greetings, the exquisite carol of the fox-sparrows beginning jubilantly and dropping to a swift close, and I know that these are the first migrants feeding below in the field where the wind has laid bare the seeded grasses.

Wonderful gift of the senses, divided as well as united for our use! To the eye it is winter, to the ear and the heart it is spring.

I have not written in my Garden Boke for a fortnight—not since the night I completed my lists of seeds. I have been away, away in my commuter's city.

I did not care to go, and my Familiar Spirit and I held heated arguments over the visit. Yet I went.

I said, "Why should I go?" The Familiar replied, "Because you wish to."

"But I do not. I dislike the very idea."

"Then why consider it?" "Because I think it will do Evan good to have a vacation from travel, and because I think that I ought to go. He also thinks it will be good for me. Because some dear old friends have invited us. Because the time between seed buying and seed planting is so long that I'm out of patience and in danger of wearing holes in the seed packets by fingering them."

"All good reasons, but the main one is that you wish to go."

"I tell you that I dislike the city intensely."

"That may be, and yet you can like some of the things that it has to offer. It is not well to decry the source of supply. The money to support commuter's wives is largely made in the city."

My Familiar Spirit can be exceedingly material and disagreeable at times, so I pretended not to hear, but continued:

"Of course, there is music to be heard there just now, and some paintings I wish to see, and if one does not go to the city once in a time to really visit, not to be a hotel mongrel, one is not able to eat or shake hands in an up-to-date way with the summer people on the bluff, or know what the queer new table

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REV. J. O. MILLER, M. A., D. C. L., PRINCIPAL.

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warm from the dish water, greatly in contrast to his chilly glance.

"When I retrospected later, I discovered the spiked tool was meant to unscale the artichokes, and 'twas there I dropped the stitch. But tell it not, Familiar Spirit, until you hear my excuse. My dinner partner was the last of six who in two weeks' time had said, 'Don't you get jolly bored living in the country?' as if they had rehearsed the words and tone in chorus."

I never before formulated how crude and narrowly cockneyfied the town life is here in the United States until I went away. What English gentleman would ask a country-living woman if her life bored her?

Two weeks of this, instead of the home-table talk, and a weird entree constantly at your elbow in lieu of a dog's soft nose! And the after-talk about who won at "bridge" that afternoon, or whether it should be Lakewood for the week-end, or if the husbands could be coaxed as far as Aitkin. Think of it—instead of listening to father and Evan's book arguments, comfortably curled up in the ingle nook. Or if they were silently busy, strolling about Old London with Leigh Hunt, spending an hour of mystery in the Tower with Ainsworth, or, being in a frivolous mood, donning a moral mask, the more discreetly to follow Houssaye, a gentleman of Evan's introduction, into the company of the Duke of Buckingham and Madame Popelinere.

Shakespeare was a sage for any and every day, and our merry-making paper, Puck, chose a headline that no one will dispute:

"What fools these mortals be!"

It is narrow for me to criticise the ways of these women. They could not have my father for theirs or be married to Evan, so what can be expected of them? It's a combination of sheer good luck and stupidity that my sporting interests have gone to horses, dogs, and garden, instead of to "bridge."

But worst of all to my country-bred body was the two weeks of going late to bed, wide awake and vibrating, and of waking up dull and exhausted.

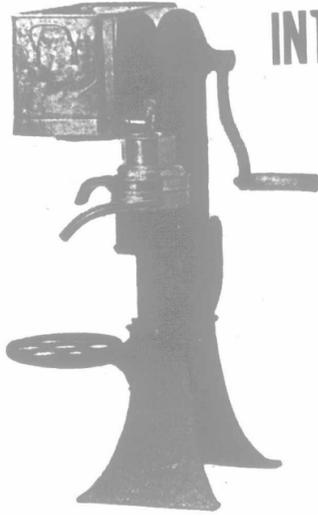
Ah! the snow clouds have parted before the last sunbeams, proving it March, and not December. One more walk amid the snow draperies that have cheered the winter, and lingering here kept away the only combination which the country dweller need dread—a black March where frost and thaw wrestle, and the result is misery and mud.

March 15. The Ides of March, of tragic memory, have brought me snowdrops, which are the first waking thought of the Garden of Dreams. I did not expect them so soon. I was not searching for them; I was standing in the sunshine by the Mother Tree, looking at the wound made by the cutting of a branch that the great storm had broken, when I spied the snowdrops peeping from under the shelter of the circular seat where Evan had planted them.

I could not bring myself to pick these, for they seemed to belong to mother, but there were more beside the path and nestled against the grass bank by the rose arbor, so I gathered some of them and massed them with green moss in a frosted jar—a spring greeting to the dinner table. Father has always held that everything best and brightest of word or thought or face ought to be gathered round this board, considering it a sacred place from which all hurry and trouble and dissension should be banished.

This afternoon I planted the flower seeds in the hotbed, and the touch of the moist warm earth was like a caress. It seems a very simple thing to do, this planting, but it is not, for the adjustment of depth and pressure to the size of seed requires intelligent handling. If too deeply covered, they will mould; if too lightly, they will be washed out by the slightest lack of judgment in sprinkling, and the cry of the dis-

Standard



INTERESTING FACTS

The new "STANDARD" book just published tells about the latest achievements in Cream Separators. It is not made up of FICTION, but of FACTS.

About Cream Separators

It describes the perfect running, perfect skimming Separator shown here and explains why a Separator that runs in a bath of oil lasts longer and runs easier and steadier than one depending on an oil can and glass lubricators.

It also explains why the "STANDARD" Separator gets more cream from the milk than can be got with any other Separator.

Yours for the Asking

WRITE US NOW and you will be sent one of these books postpaid, free of charge; also the facts of a recent contest at Port Rowan, Ont., in which the "STANDARD" demonstrated its skimming supremacy.

WRITE NOW. ADDRESS DESK 7.

The Renfrew Machinery Co., Ltd., Renfrew, Ontario

THE OLD



Which Way is Best?

THE NEW



The hard, irksome sweaty labor with a hand shearer; the tired, aching swollen wrist of the shearer; the maimed and mangled sheep from it; the uneven shearing, cutting the animal in some places and leaving an inch of wool in others; the fleece in shreds and tatters and spoiled with second cuts, OR the easy turning, fast, even shearing of a

Stewart No. 9 Ball Bearing Machine

that anyone can do; the fleece taken off smoothly and quickly in one unbroken blanket, with every fibre at its longest; with not a scratch of any kind to the sheep and with all the wool secured, enough more, at the present price of wool to bring you from 15c to 40c more from each sheep? That's what you can do with this Stewart No. 9 Machine. It requires no expert labor to use a Stewart Shearing Machine. Any of the help can do it. The machine, all complete, with ball bearings in every joint and having a ball bearing shearing head, and including four combs and four cutters, costs at your dealers, only **\$15.75**. This machine turns easier and shears faster than any other shearing machine we have ever produced. It is a big advance over anything else on the market. Get one from your dealer, or write today for new 1911 catalogue and our free copyrighted book, "Instructions on Shearing Sheep" by the leading American expert.

CHICAGO FLEXIBLE SHAFT COMPANY, 110 La Salle Ave. CHICAGO

FACTS ARE STUBBORN THINGS AND THESE ARE FACTS.



"Cyclone Fence"

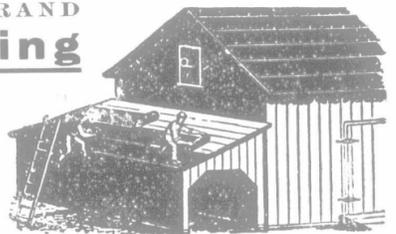
is the only endless-stay lock fence manufactured and sold in Canada. "Cyclone Fence" has the strongest, smoothest lock on the market today, bar none. "Cyclone Fence" is made with a one-piece lock. The upright wire and the locks together form an unbroken piece of wire from one end of the stay to the other. "Cyclone Fence" is made from all No. 9 large-gauge heavy galvanized wire. "Cyclone Fence" has this splendid feature, the chance of sagging or bagging is totally removed by an arrangement in our heavy machinery, which alternately places the strain of the upright wire on one side of one strand, and in the next strand the strain is placed on the opposite side. "THE CYCLONE FENCE CO." submit these facts for your inspection and endorsement. Write for our complete farm and ornamental fence catalogue, which we will cheerfully send you with a sample one-piece lock. After you have given these facts your careful consideration, we know you will use "CYCLONE FENCE" and no other.

The Cyclone Woven Wire Fence Co., Ltd.
137 Youville Sq., Montreal, Que. 1170 Dundas St., Toronto, Ont.

Do You Want the Cheapest and Most Durable Roofing?

USE DURABILITY BRAND Mica Roofing

For steep or flat roofs; waterproof; fireproof; easily laid. We pay the freight on all orders of five square and over to any railroad station in Ontario or Quebec. Send stamp for sample, and mention this paper.



Hamilton Mica Roofing Co.,
101 Rebecca St., Hamilton, Can.

EATON VALUES

INVITE QUICK BUYING

WRITE FOR OUR
CATALOGUE
TO-DAY



STRIKING
EXAMPLE
of EATON
ECONOMY

350

TAILORED EFFECT

1H-1000. A smart, becoming style at remarkably small cost is offered in the large Hat here illustrated, which can be had in any one of five colors or any desired combination of them. If your preference is for burnt straw—always a dressy and modish choice—picture the charming effect of the black chiffon trimming, white wings and black velvet flange. If navy be your choice, the straw, chiffon and wings may all be in this useful shade, or a variation introduced by choosing white wings. The same choice of selection is afforded in other colors, which are black, brown and natural white. In further detail it may be said that the Hat has a curved, slightly upturned brim, a wide garniture of softly folded chiffon inset with a fold of velvet in the centre, large wings stylishly placed at side, and a fold of black velvet. It is made of glossy, even straw braid, and measures about 18 inches from side to side and 15½ inches from front to back. EATON price 3.50

OUR SPRING AND SUMMER CATALOGUE is the medium whereby you can buy to wonderful advantage—where you can get practically everything you need—and can obtain full value for your money—and also do your shopping at prices you will be more than willing to pay. It places before you a wide range of dependable merchandise which was either made in our own factories—when all middlemen's profits were eliminated—or made expressly for us—when we received special discounts. In both cases our customers reap the benefit of these savings as they are reflected in the prices we quote to you.

**WE PAY FREIGHT ON \$25.00 ORDERS
IN ONTARIO, QUEBEC AND THE
MARITIME PROVINCES**

(NO EXCEPTIONS)

THE REASON FOR THIS is easily explained—more economy is effected by us in the handling of one large order than with several small ones. For instance, in the filling of a \$25.00 order there is less clerical work, less handling, less packing and packing material, less stationery and less cartage. But that's not all. What is really of more importance is the fact that freight charges cost just the same for 100 lbs. as they do for 25 lbs. So that it is easily understood whereby a saving is effected in the filling of a \$25.00 order without lessening the high quality that accompanies EATON values.

**WE ALSO DELIVER FREE
THE FOLLOWING HEAVY GOODS**

EVEN IF YOUR ORDER does not amount to \$25.00, we deliver free the following heavy goods at the prices quoted in our Catalogue for the different Provinces: **FURNITURE, HOUSE MANTELS, SEWING MACHINES, STOVES AND RANGES, FARM MACHINERY, WIRE FENCING, CREAM SEPARATORS, BINDER TWINE, GRAIN BAGS, WAGONS, BUGGIES, PUMPS, GASOLINE ENGINES, MOTOR BOATS AND CANOES.**

GET A COPY OF THIS BOOK = IT'S FREE

IT CONTAINS over 250 large pages, listing the season's choicest goods, all clearly illustrated and described in a manner which a child will readily understand. The introductory pages explain our Mail Order System in the simplest language. They tell you how to make out an order, how to send us your money, and how that money will be returned to you in full, plus all transportation charges, if you are not perfectly pleased with the treatment afforded you by T. EATON CO. We guarantee absolute satisfaction in every instance, or give you back your money if you are dissatisfied with our merchandise, our values, our prices or our service. TRY US.



THE **T. EATON CO** LIMITED
TORONTO CANADA



couraged, "My seeds did not come up," is the result. The "general useful" may be exemplary, and in all other respects "know a hawk from a handsaw," but he cannot tend seeds in a hotbed. In his anxiety lest they be thirsty or chilled, he waters too much, and hesitates to ventilate properly on pleasant days. The result is that the seedlings either spindle or suddenly disappear altogether, through the ravages of mould. In short, hotbed

responsibility is not to be transferred. I must wear gloves in my gardening work, else I may have knobs on my joints at forty. I allowed myself the luxury of touching the soil today, for my fingers are like the antennae of an insect, and receive many a thrill of pleasure that would be insulated by gloves. Then, too, I seem to breathe partly through my fingertips. I think it better to start all flower

seeds in the hotbed, except half a dozen kinds that are grown en masse, like sweet peas, nasturtiums, mignonette, nicotiana, bluets, convolvulus, or the untransplantable sweet sultans and annual poppies. It is so much easier to keep track of your colors and adjust the plants themselves in the beds than to thin out seedlings. Then, too, with our climate of drouths and cloud-bursts, the growth of the more delicate seeds is precarious. If one lacks a hotbed

altogether, much can be done in terra-cotta trays on the window ledge. In fact, I've sown my Margaret carnation seeds in this way, for the hotbed does not give them the cool air they need, and they are already up and thrifty. Under my eye, Bertie has also sown some tender vegetable seeds this afternoon—egg-plants, tomatoes, peppers, cauliflower—besides devoting a frame each to early lettuce, radishes and cucumbers. He has a straight

The Belleville Breeders' Holstein Club

IN THEIR

FIRST ANNUAL CONSIGNMENT SALE
TO BE HELD IN THE CITY OF BELLEVILLE, ONT., ON

Friday, April 7th, 1911

WILL sell to the public, the greatest number of officially tested cows and heifers, and their progeny, ever offered at public auction in Canada, including descendants from DeKol Plus, May Echo, Francy 3rd, Sir Admiral Ormsby, Count Echo DeKol, Velstra's Triumph, Dolly Inka DeKol, Pontiac Hermes, and the Canadian record cow in yearly work, 1910. All will go without reserve to the highest bidders.

Contributors: A. D. Foster, S. J. Foster, Ed. Mallory, F. R.

Mallory, G. A. Brethen, Geo. Anderson, J. A. Caskey.

A forfeit of \$50 will be imposed on any contributor returning an animal to his stables.



75 Selected Holsteins from seven of the best dairy herds in the Belleville District means something to the public, especially when

each contributor is striving to get the best average price.

This is the great Holstein event of this year.

F. R. Mallory, Frankford, Ontario

FOR A CATALOGUE.

AUCTION SALE
OF 60 HIGH-CLASS

Registered Holsteins



Thursday,
April
6th,
1911,

At 12 o'clock sharp

At FOREST RIDGE STOCK FARM,
STRAFFORDVILLE,
ONT.

GERALDINE NETHERLAND DORALICE 3rd.
Record: 16,500 lbs. milk 1 year; 665 lbs. butter 1 year;
19.67 lbs. butter 7 days. This cow is included in the sale.

This sale comprises our entire stock of 15 A.R.O. cows, fresh or in calf; 13 head untested cows and heifers, fresh or in calf. The balance yearlings and calves. Catalogue containing A.R.O. records, extended pedigrees and cuts furnished on application to the proprietor. There will be a special train leave Ingersoll at 9.15 a.m., connecting with early morning trains at Tillsonburg.

Auctioneers: Colonel Perry, Columbus, Ohio.
R. H. Lindsay, Aylmer.
I. Merritt Moore, Springfield.
G. Ferguson, Tillsonburg.

L.H. Lipsit, Prop.
Stratfordville, Ont.

POSTPONED DISPERSION SALE
OF

REGISTERED AYRSHIRES

FORTY HEAD—all good ones. 20 females in milk, or about to freshen; 10 females, 12 to 24 months old; 10 head under one year. Will be held at Hillview Stock Farm, VERNON, ONT., on

WEDNESDAY, APRIL 5th, 1911, Commencing at 1 o'clock.

In our offering are some of the best Canadian-bred Ayrshires in Canada. The matrons are large, stylish cows, of ideal type and color, with good teats, well-shaped udders and heavy milk-producers, the result of 25 years' careful breeding and selection. Glenhurst Mains 29903, sired by Drogan Mains, guaranteed (Imp.) 26337, heads the herd.

TERMS: Eight months' credit will be given parties furnishing approved joint notes; 1 per cent. per annum off for cash. Busses will meet morning trains at Winchester on the C. P. R. on day of sale. The sale will be held under cover if inclement weather prevails, as all the stock must be sold. For catalogues, apply to

THOS. IRVING, Auctioneer,
Winchester, Ont.

A. KENNEDY & SONS, Props., Vernon, Ont.

eye and a sense of proportion that promise well for the neatness of the vegetable garden.

March 20. The snow has retreated from the open places, but still whitens the north side of the fences and shady places in the wild garden. The Christmas ferns, polypody, and mosses, missing the frosty moisture, are looking quite shabby. The cheerful phoebe bird is here, and the redwing; and the crocuses that I planted in October are unfolding, the golden yellow taking the lead. Early this morning a prelude of the spring chorus floated up from the evergreens, drawing me to the new window seat. I know that morning and evening will often find me there in comfortable disarray, listening and gazing through the vista of the trees.

The violets in the frame have done bravely all winter, but now their stems are growing short and the deep purple color is paling. To-day Evan had his first outdoor buttonhole flower, for snowdrops are too frail for wearing. It was a tiny cluster of Daphne mezereum, nesting in its evergreen leaves—the earliest shrub to blossom, holding the same place in the garden that the trailing arbutus does among woodland flowers.

March 25. We have a new dog—number six. We did not buy him, but were made his guardians in a way impossible to refuse. He is a most unique animal, a real old dog Tray in looks, not years. His name is The Orphan, and he looks it. His coming was in this wise:

(To be continued.)

GOSSIP.

A hanger for the Chatham, N. B., Exhibition, gives the date of that show for 1911 as Sept. 11th to 16th.

IMPORTANT HOLSTEIN SALE.

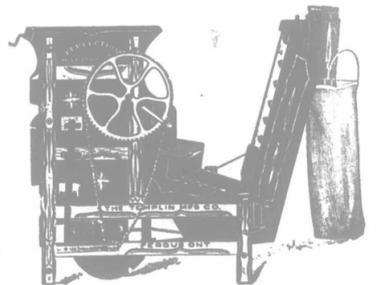
Sixty head of high-class registered Holstein cattle, the property of L. H. Lipsit, Stratfordville, Elgin County, Ont., as stated in the advertisement in this paper, will be sold by auction at the farm close to the C. P. R. station, April 6th. The catalogue and portraits of animals in the same, indicate that they are of high-class merit in type and conformation, while the records of performance at the pail of the cows and heifers in the sale, and of their dams, and the dams of their sires, show that they are bred in the best of lines for profitable production. Every cow that has freshened since January 1st, with one exception, has been tested, and test will be continued until day of sale. Some of the largest producers will freshen before the sale date, and some large records are expected. All records announced are official unless otherwise stated. There are a number of richly-bred young bulls in the sale, sons of deep-milking cows, with fine records. Such an offering of superior dairy stock is rarely made in Canada, and, with the prospects for the dairy industry, these cattle should find ready buyers. Round-trip tickets for 1½ fare will be available on account of the holidays, and the terms of the sale are easy. Parties interested should look up the advertisement and write for the catalogue, which gives full information.

TRADE TOPICS.

A 100-acre farm, near Sarnia, in Lambton County, Ont., 1½ miles from railway station, ¼ mile from school; brick house; barn; stable; rock well, excellent soil, drainage and road, 14 acres wheat, 50 acres plowed, is advertised in this paper for immediate sale, by G. G. Moncrieff, Petrolia, Ont. Price, \$5,000.

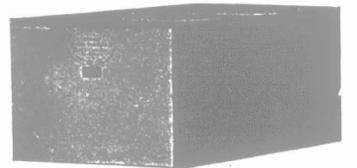
Attention is called to the advertisement in this paper of Ridley College, St. Catharines, Ont., a Canadian school with wholesome environment, for the education of boys preparing for Agricultural College or University. Ridley College has gained an enviable reputation for high-class work in the field in which it is engaged. Readers interested will do well to look up the advertisement and write the Principal for terms and other particulars.

PERFECTION Seed and Grain Separator Patented 1901



The best mill ever built. Every farmer who uses one says so. Will do work no old-style mill ever attempted, and do it right. Turns twice as easy as any other, as it has two balanced shoes. The curtain screens and galvanized deflectors, used only in the Perfection, make a perfect separation of wheat from oats. Cleans clovers of all kinds, and pays for itself every season. Will clean flax also. The PERFECTION always wins when compared with others. Further facts explained in our free circular "C." Write for it or see nearest agent.

The Templin Mfg. Co., Ferguson, Ontario
G.T.R. O.P.R.



Instal Your Own Waterworks

A STEEL TANK IN YOUR ATTIC with water pumped to it will give you a complete waterworks system for your house. A similar tank in your barn, with our steel stable trough installed, will solve the problem of watering your stock, insuring a constant supply of pure, clear water at the right temperature, right where it is needed.

Write for our catalogue of steel tanks and troughs. We build any kind of a steel tank or box to order. Agents wanted. Steel tanks do not rust. They are built to last.

STEEL TANK CO., TWEED, ONT.

One Month's Free Trial Syracuse 'EASY' Washer

Washes clothes better than any other machine made, and with one-third the work. It pumps air and suds through the fibre of the clothes.

Washes anything from carpets to lace curtains. Galvanized rust-proof steel tub. Lasts a lifetime. Furnished on rollers with or without gas heater.

Try it 30 Days at Our Risk.

If you are not delighted with it return it at our expense within 30 days. Write at once for free booklet of laundry recipes and trial order form. Agents wanted. THE EASY WASHER CO., 51 and 55 Bruce Street, Toronto.

FOR SALE IMP. CLYDESDALE STALLION Banquet [9644] (13292)

The imported brown five-year-old stallion, Banquet, is a son of the famous Silver Cup, three times first at the Highland and twice first at the Royal. On the maternal side he is bred through the dam of Darley (222); his second dam, the famous Keir Peggy 4th, being uterine sister of that horse; her dam being Keir Peggy, Darley's dam.

Banquet is a big, handsome, quality horse, a sire of rare merit, and an exceedingly sure foal-getter; absolutely sound and smooth in every way, and one of the handiest Clydesdale horses living.

Having no immediate use for him, I offer him for sale at a figure that will appeal to intending purchasers who want a tried sire at a moderate price.

B. Rothwell, Hillsdale Farm, Ottawa P.O., Ont.

I offer for quick sale and at low prices two imported

Clydesdale Stallions

3 years old; also a Canadian-bred Clyde, and an imported 9-year-old Percheron stud—a sure foal getter. If you want a stud, just come down and you will get a bargain.

O. Sorby, Guelph, Ontario

UNKO 2.11½ TROTTER. Winning race record.

\$25.00 to insure. Owned by: WM. PIERCE, FALCONBRIDGE, ONTARIO

For Sale: Imported Shire Mare Eight years old. Pair registered Shire mares rising three years old. M. Sexsmith, Ridgeway, Ont.

DUNROBIN STOCK FARM

Barred Rock Poultry Yards



We handle only one class of fowl, and have the largest exclusive Barred Rock pens in Ontario. After searching Canada over, we have at last secured the 200-egg hen.

The Barred Rocks are the farmer's friend.

Now offering settings from selected laying strains at \$1.75 per setting, or \$6.00 per hundred. This offer will not appear again. Our next advertisement will announce our day-old chicks at our usual high prices. Eggs will cost you less than chicks. Address:

R. E. Gunn, Prop., Beaverton, Ontario.

POULTRY AND EGGS

Condensed advertisements will be inserted under this heading at two cents per word each insertion. Each initial counts for one word, and figures for two words. Names and addresses are counted. Cash must always accompany the order for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisement inserted for less than 30 cents.

A. & D. McTAVISH, Chesley, Ontario, have eggs for hatching from choice pens of Rose-comb Rhode Island Reds and White Wyandottes. Eggs: \$1.50 per fifteen. Hatch guaranteed.

ANCONAS, White Leghorns, Fertile Eggs. New circular free. Use my germ killer. Twenty-five cents, postpaid. Saves little chicks. Edmund C. Apps, Box 224, Vice-President International Ancona Club, Brantford, Ontario.

BARRED ROCKS, Black Minorcas, Houdans and Brown Leghorns. Prizewinners and grand layers. Eggs: \$1.00, \$2.00 and \$3.00. Free circular. C. Day, Highgate, Ontario.

BLACK Minorcas, Barred Rocks and Houdans. Winners at large shows. Satisfaction guaranteed. Order eggs early. C. Day, Highgate, Ontario.

BRONZE TURKEY EGGS FOR HATCHING—From my Winter Fair winners of thirty-two first prizes since this show started (eleven years). \$5 for nine. W. J. Bell, Angus, Ont.

BUFF ORPINGTONS—Pure-bred cockerels, pullets and eggs for sale; reasonable prices. James McGregor, Caledonia, Ontario.

BARRED ROCKS OF QUALITY—Regular winners for 8 years at this show winning Ottawa. Past 4 seasons at this show winning 2 cups, 3 firsts on males, and many regular and special prizes. Utility eggs, \$1.50 per 15; \$6 per 100. Exhibition matings; special prices. J. A. Lambertus, Eganville, Ontario.

BARRED ROCK EGGS—Won 8th cockerel, 2nd pullet, Ontario, Guelph, 1910. First and 2nd cockerels, best 3 cockerels, silver cup for best cockerel, Ottawa, 1911. Birds I show I breed. Write for prices. John Gormley, Pickering, Ontario.

BUFF ORPINGTONS—150 pure-bred cockerels and pullets, bred from exhibition stock; splendid breeders; prices reasonable; eggs in season; satisfaction guaranteed. Hugh A. Scott, Caledonia, Ontario.

BARRED ROCKS—Large size, combined with heavy winter-laying qualities; Bradley Bros. strain, direct, none better at any price. Fertile eggs: 15, \$1.00; 60, \$3.00; 100, \$4.50. R. J. Gibb, Galt, Ontario.

BARRED ROCKS EXCLUSIVELY—Chicks, 20c. each; eggs, \$1.50 per 15, or \$6.00 per 100. These are from large, vigorous, well-developed, pure-bred stock. Persons desiring chicks should write immediately. Mrs. J. S. Patterson, Amulree, Ontario.

BIG MONEY in Anconas, S.-C. White Leghorns. Free circular, 95% fertile eggs; any quantity. Baby chicks. Write quick. E. C. Apps, Box 224, Vice-President International Ancona Club, Brantford, Ontario.

BARRED AND WHITE ROCK EGGS—\$1.00 per 15; \$4 per 100. S. L. Jayne, Grafton, Ontario.

BRED FROM CANADA'S BEST—Rose and Single Comb Rhode I. Reds, Barred Rocks and Single Comb White Leghorns. Eggs, \$1.00 per 15. Send 4 cents in stamps for new Standard of Perfection on Rhode Island Reds. W. J. Munn, 225 Waterloo Ave., Guelph, Ont.

BABY CHICKS—Single Comb Black Minorcas, Rose-comb Brown Leghorns, and Barred Rocks, \$2.00 for 25; \$11.00 for 50; \$20.00 for 100. These chicks will be from pure-bred stock. J. H. Rutherford, Box 62, Caledonia East, Ont.

BUFF ORPINGTONS—Good laying strain. These pens, containing prizewinning females, headed by first and second winning cockerels, and set of last year's winners. Large, vigorous birds. Satisfaction guaranteed. Eggs, \$2.00 per 15; \$10.00 for 45. Edgar Staples, Bright, Ont.

BARRED ROCK EGGS—Choice utility stock. Heavy winter layers. One dollar per fifteen. Satisfaction guaranteed. Arthur Hayward, Eastwood, Ontario.

BARRED ROCK COCKERELS—Eggs for hatching from pure-bred birds. Write me. Leslie Kerns, Freeman, Ontario.

BUFF WYANDOTTES—Large, vigorous, pure Golden Buff birds; excellent layers and prizewinners. Eggs, \$3.00 per 15. W. Fyfe, Port Arthur.

B. P. ROCK EGGS—One of the best laying strains in Canada. One dollar per setting. Mrs. J. R. Henry, Waterdown, Ont.

BARRED ROCK EGGS—Choice stock, one dollar for thirteen. Satisfaction guaranteed. Nelson Smith, Jerseyville, Ontario.

BARRED ROCK EGGS—From well-bred, blocky, heavy-laying, prizewinning birds. \$3 for fifteen; \$2 for forty; \$4 per hundred. Chas. Hilliker, Burgessville, Ontario.

CLARK'S BUFF ORPINGTONS—25 beautiful cockerels, bred from New York and Ontario winners, at \$2.00 and \$3.00. Good laying strain, good color and type. A few females, \$1.50, \$2.00. Eggs for hatching from National winning stock. Free illustrated mating list. J. W. Clark, Cainesville, Ontario.

EGGS FOR SALE from birds that have won over five hundred first prizes at nine shows; Barred and White Rocks, White Columbian and Silver-laced Wyandottes, Rose and Single Comb R. I. Reds, Buff Orpingtons, Blue Andalusians, Black Javas, Houdans, Anconas, Black and Spangled Hamburgs, Silver Gray Dorkings, Light Brahmas, Buff Cochins, White and Brown Leghorns, Golden Sebright, Buff and Black Cochins Bantams. Only one pen of each breed, \$2.00 per 15. Eggs half price after June 1st. F. W. Krouse, Guelph, Ontario.

EGGS FOR SETTING—From choice White Wyandottes. None better. Dollar per fifteen. Emerson Tufts, Welland.

EGGS FOR HATCHING—From prizewinning stock. Barred Rocks, S.-C. White and Brown Leghorns, S.-C. Black Minorcas, S.-G. Dorkings, at two dollars per fifteen; six dollars hundred. D. Ross, Jr., Watford, R. R. No. 5, Ontario.

EGGS FOR HATCHING—From good laying strain R.-C. Rhode Island Reds, one dollar per fifteen. L. Parkinson, Guelph, R. R. No. 1.

EGGS FOR HATCHING—Order now. Single Comb Brown and White Leghorns. Special offer for one week. Arthur Master, Highgate, Ontario.

EGGS, guaranteed for hatching, from No. 1 pen, \$1.50 per fifteen; No. 2 pen, \$1.00 per fifteen, of the following breeds: S.-C. W. Leghorns, R.-C. Brown Leghorns, White Wyandottes, Silver-laced Wyandottes, Rhode Island Reds, Buff Orpingtons, Barred Plymouth Rocks, W. H. Furber, Dunganon Poultry-yards, Cobourg, Ontario.

EGGS for hatching, of several varieties, \$1.00 per 15. Send for mating list. Robert Houser, Canboro, Ontario.

EXCLUSIVE breeder of pure Barred Plymouth Rocks, Pringle strain. Heavy winter layers, \$1.00 per setting. Write for circular. Riverside Poultry-yards. Jas. E. Metcalfe, Hanover, Ontario.

EGGS FOR HATCHING—Rose-comb Brown Leghorns, \$1.50 per 15; \$2.75 per 30. Rouen Duck eggs, \$2.00 per 15. Guaranteed Bronze Turkey eggs, \$3.50 per 9. Guaranteed fertile. J. H. Rutherford, Box 62, Caledonia East, Ontario.

EGGS FOR HATCHING—Rhode Island Reds, Wyandottes, Dark Brahmas, Rocks, Leghorns. 15 eggs, \$1.00; 100 eggs, \$4.00. Rouen and Mammoth Pekin duck eggs, 13, \$1.00. Satisfaction guaranteed. Wade & Son, Saralia, Ontario.

FOR SALE—A few nice Rose-comb Brown Leghorns. Four Golden-laced Wyandotte cockerels from prizewinning stock. Prices right. Eggs in season. Peter Daley & Son, Box 26, Seaford, Ontario.

FIFTEEN big brown eggs, from big prize-winning White Rocks, two dollars. A. Graham, Parkhill, Ontario.

GOLDEN WYANDOTTES—World's most beautiful fowl. Large, hardy and great layers. Choice cockerels, \$1.50 up. Glenoro Stock Farm, Rodney, Ontario.

GOLDEN Wyandottes, Golden Sebright Bantams. Recorded egg-laying strains. See my winnings at Canadian National Exhibition, Hamilton and Toronto shows. Two dollars per guaranteed setting. J. A. Marck, James N., Hamilton.

INDIAN RUNNERS AND WHITE WYANDOTTES—Eggs, dollar per setting. W. D. Monkman, Bond Head, Ontario.

LOCHABAR POULTRY-YARDS offers eggs from selected breeding birds, Barred P. Rocks and Houdans, \$1.50 per 13. Pekin and Rouen duck eggs, \$1.50 per 9. All eggs delivered free of charge in Ontario. D. A. Graham, Wanstead, Ontario.

ONE setting, \$2; three settings, \$5, from Warden's Perfection Single-comb Black Minorcas. A. B. Warden, Box 1, Spry, Ont.

PRIZE BARRED ROCKS, with egg record. Eggs, one to three dollars for fifteen; six dollars hundred. Pekin duck eggs, one and two dollars for twelve. Jas. Coker, Jerseyville, Ontario.

ROSE-COMB BROWN LEGHORN EGGS, \$1.25 per 15. W. M. Sproule, Westbrook, Ontario.

ROSE-COMB RHODE ISLAND REDS—Heavy laying imported stock. Eggs for setting, one dollar for fifteen. Fred Colwell, Cooksville, Ontario.

ROSE-COMB RHODE ISLAND REDS—A choice pen, selected for their color, size and utility. Winners wherever shown. Headed by a cock which has never been beaten in the show room. Eggs: \$1.50 per setting. Also S.-C. White Leghorns; large, snow-white, heavy-laying strain. Eggs: \$1.00 per 15. O. Hutton, Brampton, Ontario.

ROSE-COMB WHITE LEGHORNS, Boston and Ontario winners. Eggs, one fifty per fifteen, six per hundred up. Stock, White Indians—Greatest market fowl living; birds direct from New York winners. Eggs, one fifty per fifteen. Irvin K. Martin, Galt, Ontario.

S.-C. W. LEGHORNS—I bred according to the American Standard, but to all the egg basket, not the exhibition coop. During past months of December, January and February, flock laid 398 dozen. Eggs, \$1.00 per setting, from selected matings. Jas. H. Stewart, Elliott, Ontario.

SINGLE-COMB Brown and White Leghorns; prizewinning and great-laying strain. Special offer for one week: Our \$1.00 eggs, at two settings, \$1.50; our \$2.00 eggs, at two settings, \$3.00. Satisfaction guaranteed. Arthur Master, Highgate, Ontario.

SINGLE-COMB BROWN LEGHORN EGGS—\$1.25 per 15. David A. Ashworth, Maple Grove, Ontario.

SINGLE-COMB WHITE LEGHORNS—Trap-nest records, 278, 248, 227, \$1 setting. W. G. Cowan, Wemyss, Ontario.

THE GREATEST LAYING STRAIN of Barred Rocks in Ontario. Eggs: \$1.00 per fifteen; \$5.00 per hundred. Al. Donaghy, Colborne, Ontario.

UTILITY WHITE WYANDOTTES—Eggs for hatching. For further particulars write Chas. F. Hooper, Box 157, Exeter, Ontario.

WHITE ROCK Cockerels, three dollars. Eggs from imported Black, Buff Orpingtons, two dollars; from White Rocks, headed by first-prize cock, Toronto, three dollars, fifteen eggs. Fred A. Andrews, London, Canada.

WHITE ORPINGTON EGGS—From prize-winning birds. Heavy winter layers. \$3.00 per setting of 15. H. Ferns, 715 William St., London, Ontario.

WHITE WYANDOTTES—Bred to lay, and are year 'round layers, with size and beauty. Farm raised. 90 per cent. fertile eggs: 15, \$1.00; 50, \$3.00; 100, \$5.00. R. J. Gibb, Galt, Ontario.

WYANDOTTES—Golden, Silver, Laced, and White cockerels, at \$2.00, \$2.50, \$3.00; big, strong birds. Eggs: Golden, \$2.00; White, \$1.50; Buff and Black Orpingtons, \$2.00. Harry T. Lush, 182 Dublin St., Peterboro.

WRITE C. DAY, Highgate, Ontario, for free circular on eggs for hatching. Canada's best-laying and prize-taking strain.

50 BUFF LEGHORN EGGS, \$3.50. Circular free. J. E. Griffin, Dunnville, Ontario.

Pleasant Valley Farms EGGS FOR HATCHING.

White Wyandottes, \$1.25 per 15; \$5.00 per 100. Special matings, \$3.00 per 15. Also S.-C. W. Leghorns, pen headed by first-prize C. N. E. cockerels, \$1.50 per 15.

Geo. Amos & Sons, Moffat, Ont.

P. E. ISLAND SEED OATS

The best in the world. Farmers sowing our selected, separated seed oats will make more by extra yield than will pay for seed twice over. All seed prepared by special Power Brush Clipper Separator. Only the large, plump, vital grain, put up in new three-bushel bags, sufficient for one acre, offered. White—Banner, Ligowo, Sensation, Big Four, Jewel, Waverly, Swedish S.-lect, Danish, Gothland and Black Beauty (Black). Refer by permission, Agricultural Department, Charlottetown, and (or) Maritime Dominion Seed Inspectors.

Joseph Read & Co., Ltd. Summerside, P.E.I.



Best Roofing For Any Building

Sea Green and Purple Roofing Slate is never affected by climatic changes—it cannot warp, crack splinter, rust or decay. It is the only roofing that never needs paint or repair; that will outlast the building upon which it is laid.

Free Booklet Upon Request Our booklet "Roofs" contains many valuable hints on roofing that every home owner and builder should know about. Simply tell us the name of your nearest roofer and your copy will be mailed free.

The American Sea Green Slate Co. "Roofs That Never Wear Out" 103 Clark Street Granville, N.Y.

S. G. HANSON'S STANDARD WHITE LEGHORNS

The breeding hens for the season 1911 are part of the flock of 402 pullets which in January, February and March established a record for flocks of that size, by laying 23,532 eggs. The cockerels heading the breeding pens are bred from trap-nested hens, with individual records in their pullet year of 200 eggs and over. Birds from these matings must give exceptionally good results. Book your orders for hatching eggs well in advance, if you want early-laying pullets.

EGGS FOR HATCHING

March and April—\$3.00 per 15; \$15.00 per 100. May—\$2.50 per 15; \$12.50 per 100. June—\$2.00 per 15; \$10.00 per 100. Prices of day-old chicks on application.

S. G. Hanson, Hillcrest Poultry Farm, Box 147, Duncan, B. C.

110 ACRES

Sixty of this is choice clay loam, the balance is tamarack swamp, and is thickly wooded; also has running stream through it. Any man who will work up this wood himself can pay for the farm out of it. The sixty acres is nicely rolling, has a splendid frame house and barn, also pigpen and henhouse, and large drive shed; never-falling well; half acre orchard; 6 acres fall wheat in; 7 acres aslisk; plenty needed for hay and pasture; fall work done; nothing to do but take possession; 1/2 mile to school and church, 3 miles to village, 6 miles to splendid market town, which is 40 miles from Toronto. This farm is in an extra choice farming section, and is offered at this low price because the owner is 80 years of age and wishes to have done with the care of a farm. Price, \$4,000; \$1,000 down, balance at 5%. Full information by writing us.

We have a number of other farms, ranging in size from 60 to 300 acres, but as we are out we cannot for the present offer to send lists, but if anyone will write us, stating size and something of the kind of farm wanted, we will be pleased to send descriptions of anything that we have that is at all like they are looking for. Address: PHILIP & BEATON, Whitevale, Ontario.

Extra Value Premiums

Have you secured one of our handsome 40-Piece Austrian China Tea Sets for sending in only four new yearly subscriptions to "The Farmer's Advocate and Home Magazine" at \$1.50 each? If you have not, send in the required number of new names, as soon as possible, as we have only a few sets of this excellent premium left.

You may also secure a Set of Staghorn Carvers for sending in only three new subscribers at \$1.50 each.

Write for sample copies.

The William Weld Co., Limited London, Ontario.

Corn That Will Grow EARLY.

Hand sorted. An early variety and large yielder of fodder and grain. Write for prices.

W. B. ROBERTS, SPARTA, ONT.

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

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

ARMSTRONG, B.C.—The Garden District of the Okanagan Valley; an established, self-supporting and unboomed district, with mild winters; permanent markets and unlimited pure water supply; no irrigation; no syndicate land holdings; fruit-growing, dairying, mixed farming, poultry and market gardening. Booklet sent on application to Secretary Board of Trade, Armstrong, B.C.

EXCEPTIONAL OPPORTUNITY—One hundred acres, Brant County, for one thousand dollars cash and easy payments on balance. Beautiful location. Write Brion Lapierre, 361 Franklin Street, Buffalo, New York.

FOR SALE—Choice O.A.C. No. 21 strain seed Barley, 90 cts. per bushel. Improved Regenerated Banner Oats, seed imported from Scotland last season, 75 cts. per bushel. Bags, 25 cts. extra for grain. Potatoes—Carmen No. 1 and Gold Coin, selected stock. Two best table and shipping varieties. Bags free; \$1.25 per bag. J. H. Wooley, Burford.

FOR SALE—Iron, Pipe, Pulleys, Belting, Rails, Chain, Wire Fencing, Iron Posts, etc.; all sizes very cheap. Send for list, stating what you need. Agents wanted; good commission. The Imperial Waste & Metal Co., Queen St., Montreal.

FOR SALE—Regenerated Abundance Seed Oats. Great yielder; stiff straw; from imported seed; 60 cents per bushel. Wild Goose wheat, \$1.00 per bushel. Geo. Robinson, Claude, Ontario.

FARMS FOR SALE—Three-quarter section virgin land within three miles of Engelfeld, Sask., and near Watson, on Canadian Northern. Soil well adapted for mixed farming. Will sell for cash or exchange for Toronto or Ontario property. R. L. Robertson, Box 444, Toronto.

FARM TO RENT—Township of St. Vincent, near Meaford, 200 acres under cultivation 300 acres range for cattle. Farmhouse, good outbuildings. Well watered. Rent, \$400 per annum. J. W. G. Whitney & Son, 25 Toronto Street, Toronto.

GOVERNMENT STANDARD SEEDS FOR SALE—O. A. C. No. 21 Barley, 90c.; Golden Vine Peas, \$1.00; Banner, White Siberian, Silver Mine, Scottish Chief Oats, 50c.; Red Clover, \$8.50; Alfalfa, \$13.00; bags extra. Ask for samples. Caledonia Milling Co., Ltd., Caledonia.

GARTON'S Registered Abundance Canadian-grown Seed Oats for Sale—Yielded 70 bushels per acre. F.O.B. Thamesville, in 10 bushel lots or over, 50 cents per bushel; bags, 25 cents. John McCutcheon, Thamesville, Ont.

IT IS OUR BUSINESS to introduce you to parties looking for farms. We have on our list some of the best farms in Ontario. If you want to buy or sell, it would pay you to consult us. Wooley & Farewell, 177 King St. E., Hamilton, Ontario.

MEN WANTED—Age 18-35, for firemen, \$100 monthly, and brakemen, \$80, on all Canadian railroads. Experience unnecessary; no strike. Positions guaranteed competent men. Promotion. Railroad Employing Headquarters—over 400 men sent to positions monthly. State age; send stamp. Railway Association, Dept. 545, 227 Monroe Street, Brooklyn, N.Y.

O.A.C. NO. 21 SEED BARLEY FOR SALE—Grown from selected seed. Fine sample, \$1 per bushel; bags extra. Samples on application. J. M. McCallum, Shakespeare, Ontario.

O. A. C. NO. 21 BARLEY—Our supply is going fast, but we still have some left at old price. Best cotton bags 30c. Jno. Elder, Hensall, Ontario.

POTATOES—Empire State; heaviest yielder, best quality. Registered seed, 3 years' selection, \$1.50 bag. A. Hutchinson, Mount Forest, Ontario.

SITUATION WANTED BY SCOTCHMAN—As manager stock farm; nine years' experience in Scotland and other countries. Strictly temperate; age 26. Wm. Bell, 56 Dufferin St., Stratford.

SCOTCHMAN, married, experienced in all farm work, wishes situation. Mr. Dugald McGregor, care J. Prowse, Box 1, Ingersoll, Ontario.

SEED GRAIN FOR SALE—Mensury Barley, per bushel, 75c.; Bumper's King Oats, per bushel, 50c.; Scottish Chief Oats, per bushel, 50c. Bags extra. Apply: J. W. MacDonald, Bridgen, Ontario.

SEED OATS—Selected Banner seed oats, 50 cents per bushel. Samples on application. Chester Nicholson, Mt. Forest, Ontario.

STRAWBERRY PLANTS—Stocky and well-rooted. All tested varieties. Catalogue and price-list free. S. H. Rittenhouse, Jordan Harbor, Ontario.

SCOTCH young woman wishes situation. Working housekeeper. Good cook on farm. Miss Lizzie McGregor, care J. Prowse, Box 1, Ingersoll, Ontario.

WANTED—Man to fit, show and travel Hackney stallion, season 1911. Must be sober. State age, experience, wages. Apply to "Farmer's Advocate," London, Ont.

WANTED—A situation by competent farm hand; good stockman; experienced in delivering milk. Apply: H. H., "Farmer's Advocate," London.

WANTED—At Prospect Dairy Farm, another good man, strong, willing, no bad habits; good milker; kind to stock at all times. Good wages paid to a good man. In first letter state age, experience, and wages wanted for year. R. & A. H. Baird, Chesterfield, Ont.

WANTED—A good man with help to rent or work on shares a good farm. Apply personally to John Telford, Southwold Station.

WANTED—By April 15th, working housekeeper for farmhouse work. Small family of adults. Good wages. Apply: M. C., "Farmer's Advocate," London, Ontario.

WANTED—By the year, experienced farm hand. \$25.00 per month with board if satisfactory. A steady job to the right man. Commence April 1st. Address: M. L. A., Lock Box 22, Lifford.

WANTED—100-acre farm in County of York; clay loam, good buildings and good supply of water. Write: Alex. Kerr, Port Sydney, Ontario, Muskoka.

THE DELHI TANNERY WANTED—2,000 hides to tan for robes, coats, etc. All kinds of hides, skins and furs dressed soft and pliable. Deerskin for buck, or with the hair on. Send them to me and have them dressed right. B. F. Bell, Delhi, Ont.

THE BAILIFF'S LIST

FOGARTY & CO., BAILIFF'S AND FINANCIAL AGENTS, 103 Victoria St., Toronto, offer the following seized goods, bankrupt stocks, unredeemed watches and jewellery, silverware of all kinds, guns, rifles and musical instruments. Everything must be cleared at half price or less to make room for new lines.

125 only, ladies' and gents' solid gold-filled watches; cases made by the American Watch Case Co., open and hunting; high-class movements; some stamped 17 jewels; worth \$17, will accept \$5.75, with chain or fob, to clear.

Razors, all kinds—100 Wade & Butcher's regular \$2 to clear at 50c. each; Boker's "Diamond" or "Clean Cut," worth \$3, to go at 90c. each; all new.

150 gents' open and hunting case gold-plated watches, fully jewelled movements; your choice \$3.25, with chain or fob. Also a few ladies', in hunting cases only, to clear, \$3 each with chain; in perfect order and new.

Ladies' solid gold-filled lockets, any shape. Roman or plain finish, \$1.50 each.

100 wedding rings, solid gold, all sizes and styles, worth \$3 each, will accept \$3.50. Signets, worth \$4, for \$2; solid gold.

50 boys' gunmetal and nickel watches, high-class movements, worth \$3.50, to clear at \$1.25 each, with chain or fob.

11 long-range field and marine glasses, "Colmont," made in Paris, France; Army and Navy, Day and Night, U. S. Signal Service, regular \$17, our price, with solid leather case and strap, \$8.

10 autoharps, 23 strings, five bars, perfect order, \$3.50 each.

25 silver tea sets, satin or plain finish, comprising four pieces—teapot, sugar bowl, cream pitcher and spoonholder—last two pieces inlaid with gold; will accept \$10.50, including large silver tray, worth double.

Carving sets—Sheffield steel, silver mounted, three pieces, staghorn and white bone handles, half price, \$1.50 each, in handsome silk-lined case.

100 bundles—Thirty pieces of silver, consisting of six silver knives, six silver forks, six silver dessertspoons and twelve silver teaspoons, worth \$8, will accept \$3.25; never used.

"Rogers'" silver butter knife or sugar shells, each 35c. to clear.

Two only, 12-gauge double-barrel shotguns, new and in perfect order, \$8.50 each.

Any of the above goods will be sent by mail or express upon receipt of money order. All goods guaranteed as represented, and everything new and in perfect order. Mail orders given prompt attention.

Fogarty & Co.,
103 Victoria St.,
Toronto.

FARM, \$4,200

For Immediate Sale

93 acres. About 1 mile to Inwood or Oil Springs, M. C. R., Lambton County. House. Barn, stone foundation. Pig house. Hen house. Milk house. Rock well. Windmill. Orchard. Excellent soil. 3 acres hay. Field of fall wheat.

FARM, \$5,000

For Immediate Sale

180 acres, 2 miles from School, 1 1/2 miles to Man- tonville, M. C. R., Lambton County, near Narra. Rock house. 1000 bushels rock well. Excellent soil, drainage and 22 acres about 3/4 acres plowed.

G. G. Moncrieff, Petrolia.

"BANNER" Cold Blast LANTERN

Welcomes hard usage Double-seamed well, cannot leak

Burns 15 hours longer than any other Automatic lift-lock, won't jam fingers

Guaranteed Windproof Perfect combustion

Costs No More Than Inferior Lanterns

If your dealer doesn't stock "Banners," write:

Ontario Lantern & Lamp Co., Limited
HAMILTON, ONTARIO.

Do Both with this Machine

Anyone can Clip with this machine

Clip Horses
Before the spring work begins, clip off the long winter coat of hair. Your horses will sweat less, they will dry off quickly at night and get better rest. They will get more good from their feed, feel better, look better, and do better work.

Clip Cows
Clip the flanks and udders every three or four weeks. It is easy then to clean the parts before milking. Insures clean and sanitary conditions. One large dairy company recently purchased 100 Stewart machines for its stables.

Stewart Ball Bearing Clipping Machine
It turns easy, clips fast and will last a lifetime. This Stewart Ball Bearing Clipping Machine has all gears cut from steel, file hard and enclosed and protected from dust and dirt. They run constantly in oil. Clips both horses and cows without change. There is 6 feet of new style, easy running flexible shaft on this machine and the famous Stewart single tension nut clipping knife. Price of machine complete, \$9.75 at your dealers, is only \$7.50

Get one from your dealer. If he does not have it, write us direct.

Send today for new 1911 catalogue

CHICAGO FLEXIBLE SHAFT CO.
110 LaSalle Ave., Chicago

Smith—Exeter! Where is Exeter?
Morgan—Exeter is the town in Huron Co. where the Air-cooled engines are made.

Smith—Are they any good?
Morgan—I have used one for over two years. Have done my work with it night and morning every day, and it has not cost a cent for repairs.

Smith—Who makes the engine?
Morgan—

The Connor Machine Co.
Limited
Exeter, Ontario.

GOSSIP.

AYRSHIRE SALE POSTPONED.
The dispersion sale of the excellent Ayrshire herd of A. Kennedy & Son, of Vernon, Ont., which was advertised to take place March 22nd, was postponed, owing to a very bad snowstorm, which seriously blocked the railway and country roads, and the sale is advertised in this issue, to be held on Wednesday, April 5th, when, regardless of weather conditions, the disposal will be proceeded with. The herd is of excellent quality, pure-bred dairy type, and the cows carry large, well-shaped udders, and have good-sized, well-placed teats, while the younger animals are the get of first-class sires, bred from heavy-milking dams. Teams will meet morning trains at Winchester, C. P. R., day of sale.

CANADIAN HORSE SHOW DATES.
Canadian National, Toronto—April 25-29.
Vancouver, B. C.—April 25-29.
Ottawa—May 2-6.
Montreal—May 9-13.
Cobourg—August 15-18.

DOES A WASHING JUST LIKE PLAY!

Six Minutes to Wash a Tubful!

Ladies! just see how easy I do a big washing with my 1900 Gravity Washer. I start the tub a-whirling. Then the gravity device under the tub begins to help and the rest is just like play. Washes a tubful in six minutes! How's that for quick and easy work? The 1900 Washer Co. sent me this marvelous machine on trial. They didn't ask for notes or cash in advance. And they let me pay for it a little each week out of the money I saved! They treat everybody the same way.



You can have one shipped FREE

on thirty days' trial, the same as I got mine. The company will let you pay for it on the same easy terms they offered me. The Washer will actually pay for itself in a very short time. Mine did! I wouldn't take \$100 cash for my 1900 Gravity Washer if I couldn't get another just like it. It does beautiful work—handles anything from heavy blankets to daintiest laces. Every housewife who is tired of being a drudge and a slave to the washtub should write to

F. A. E. Bach, Manager, The 1900 Washer Co., 387 Yonge Street, Toronto, Ontario, for their beautiful Washer Book and generous offer of a Washer on free trial—Mrs. R. H. Frederick. The above offer is not good in Toronto, Winnipeg, or Montreal and suburbs. Special arrangements made for these districts. 2191

QUESTIONS AND ANSWERS. Veterinary.

BOTS, ETC.

1. Old mare got thin. We gave her linseed oil and turpentine, and injected some into the rectum. We killed her, and a post-mortem revealed bots in the stomach and worms in her intestines. Why did the drench fail to remove them?

2. Where can I get a correspondence course in veterinary science? M. H.

Ans.—1. There is no drug known that will remove bots, and it is not necessary to remove them, as they do no harm, and will pass off in due time without treatment. The worms in the intestines, if in sufficient numbers, do harm, and oil and turpentine, if given after several hours' fast, tend to cause their expulsion, but in many cases it is necessary to repeat the dose. I do not think the worms were responsible for the mare's condition, but rather an irregularity of the teeth, causing inability to masticate. If you had had her teeth dressed by a veterinarian it is probable she would have done better.

2. I do not know, and certainly would not advise the course, as it cannot possibly be valuable to a man. Skill and knowledge in veterinary science can be obtained only by a regular course of study and practice. V.

Miscellaneous.

REGISTERING SHEEP.

Where can I get pedigrees for my Shropshire sheep? E. S. W.

Ans.—Address "The Accountant," National Live-stock Records, Ottawa.

MUNICIPAL ASSESSMENT LAW.

Where can I obtain a copy of the Municipal Assessment Law of Ontario, also of Quebec?

Ans.—The Municipal Assessment Law of Ontario may be obtained in pamphlet form from the King's Printer, Parliament Buildings, Toronto, on payment of 25 cents. No doubt the Quebec Assessment Law can be obtained from the King's Printer, or from the Provincial Secretary's Department, Quebec, P. Q.

HORSE WITH COUGH—HAY RACK—DRAIN OUTLET—END OR SIDE DRIVE?—HAY LOADER.

1. Have a gelding nine years old which two years ago had bad attack of influenza, and since he has a cough of a dry, hacking nature. He is in good heart. Local vet. gave him a course of powders, with no improvement. Please state where the seat of trouble is, and treatment.

2. I would appreciate diagram of hay-rack with low sides, and sill so arranged as to admit of short turning.

3. Is it lawful to run underdrain outlet into road ditch?

4. For bank barn 100x50 feet, which is the more convenient and economical, an end drive, or two side entrances? Practically all side drives in this section.

5. Where 60 or 70 acres hay is harvested yearly, is the loader a paying proposition? FORWARD-MARCH.

Ans.—1. You do not give sufficient information to enable us to say positively what the trouble is. Try him with a ball, given once daily, composed of powdered opium, 1 1/2 drams; solid extract of belladonna, 2 drams; camphor, 1 dram; digitalis, 20 grains. Add sufficient oil of tar to make plastic; roll in tissue paper, and administer, or dissolve in warm water and give as a drench.

2. Many farmers in the vicinity of London have a set of low truck wheels which they use on the wagon when hauling hay or grain. Some who do not have the whole four wheels low, have a pair to put on the front axle. They are usually low enough to turn under the bed-pieces of rack, and are very convenient indeed.

3. The road ditch is for the benefit of the farms alongside, as well as for that of the road. Where no change is made in the natural course of the water, underdrains should empty into the road ditch, if possible.

4. It is probably a matter of opinion whether end drives or side drives are preferred. Our own preference would be for side drives.

5. Many good farmers consider a hay-loader a profitable implement even where less than the half of 60 or 70 acres of hay is grown.

Rupture Cured Without Operation

No Hospital or Doctors' Bills; No Loss of Time from Work, and Not a Single Penny to Pay If You Don't Get Better.

No longer any need to drag through life in the clutches of rupture.

No operation, no big expense to stand in your way. And not a single cent's worth of risk.

Think of that!—you who have spent dollar after dollar without finding a thing that has done any good. You who have been afraid that some day you'd have to risk the dangers of operation—you who dread the surgeon's knife, because you know it results in permanent weakness or death about as often as in recovery.

In the last 24 years more ruptured people have been cured without operation than by all the operations ever performed.

Cured without being in bed a single day—without losing a single hour from work.

Cured by the wonder-working Cluthe Truss (Cluthe Mechanical Massager)—something so remarkably beneficial that in 99 cases out of every 100 relief is immediate, and in most cases cure begins at once. For this is far more than a truss—far more than merely a device for holding the rupture in place.

TRY IT AT OUR RISK.

We have so much faith in the Cluthe Truss that we are willing to let you prove, by trying it at our risk, just what it will do for you.

If it fails to hold your rupture securely in place, when working and at all other times—if it doesn't do you a world of good—then it won't cost you a single cent. All guaranteed in writing.

CURE TAKES PLACE WHILE YOU WORK.

A Cluthe Truss—right from the first day—will put an end to all danger of your rupture coming out.

And, in addition—while you go on working—remember—it soon overcomes the weakness which is the real cause of rupture—Does it by massaging the weak ruptured parts—All entirely automatically.

And this stimulating massage strengthens just as exercise strengthens a weak arm—in most cases soon makes the ruptured parts so strong that no sign of the rupture is left. That is how the Cluthe Truss has cured some of the worst cases of rupture on record—cured many of them after everything else, including operation, had proved utterly useless.

FREE BOOK TELLS ALL ABOUT IT.

So that you can judge for yourself, we want to send you—free—our cloth-bound book of advice.

It sums up all we have learned in 40 years of day-after-day experience. It deals with rupture in all its forms and stages; explains the dangers of operations; puts you on guard against throwing money away.

And it tells all about the Cluthe Truss—how little it costs—how it ends all expense—how it is waterproof—how it has no springs, no band, belt or elastic around your waist, no leg-straps, nothing to pinch, chafe, squeeze or bind. And how you can try a Cluthe Truss entirely at OUR RISK.

Book sent in plain, sealed envelope. Write for it to-day—don't put it off—don't try to make up your mind one way or the other about the Cluthe Truss until you see, as told in this book, how thousands as badly ruptured as you have been restored to full strength and usefulness.

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Send me your Free Book on the Cure of Rupture.

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FARMERS! GARDENERS! YOU NEED THIS BOOK

IT TELLS ALL ABOUT THE SEEDS THAT BRING THE DOLLARS

MAILED FREE WRITE TO-DAY



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Give Your Children A Bank Book

And start them on the road to success. A \$1.00 deposit in their name will encourage thrift, and lead them to become economical.

We especially solicit small accounts, on which we pay 3 1/2% interest. After \$100 has been saved, it can be invested in our debentures at 4%.

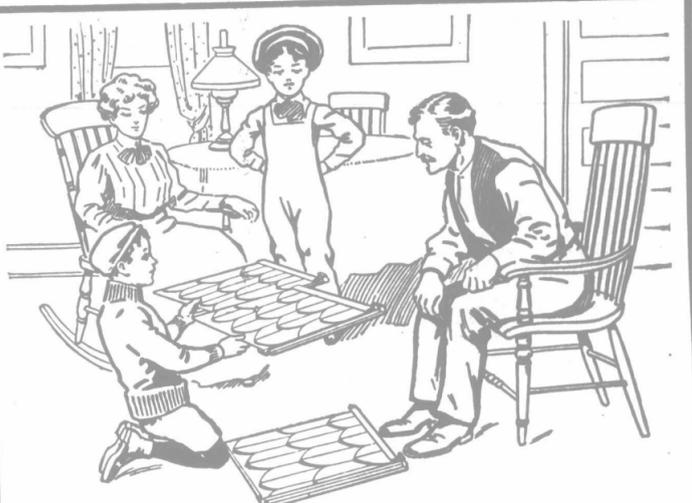
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insures absolute safety for any sum deposited with us.

Let us serve you.

Agricultural Savings & Loan Co., 109 Dundas St., London, Ont.

O. A. C. NO 21 SEED BARLEY and Short-horn bulls.—Look up our ad. in Want and For Sale column if you want a supply of the best barley ever grown in Ontario. It is as cheap at \$1 per bush as other varieties at nothing. We have still four Short-horn bulls left, fit for service; one a grand two-year-old, with both weight and quality, and an extra dark red calf 10 months old. Jno. Elder & Son, Hensall, Ont.



Consult your wife about the new barn.

It's your duty, Mr. Reader. She has helped you make a new barn possible. Get her opinion of "Galt" Steel Shingles. She has probably read about them and her opinion is worth something to you. Find out for yourself what "Galt" Shingles are made of—how they are made—how they lock—how they make a storm, fire-and-lightning-proof and permanent roof—how they save you money compared with any other building material you can use. Or if your present barn needs a new roof make it a first class barn by putting a "Galt" Roof on it. For old and new barns, wood shingles are out-of-date, use

"Galt" Steel Shingles.

Tear out this advertisement write your name and address on the line at the bottom and enclose it in an envelope. We'll know you want a free copy of our book "Roofing Economy" and will send it by return mail.

Name Address

THE GALT ART METAL CO., Limited, GALT, ONT.

Watch for the advertisements with The Kids from Galt.

R-K LIGHTING SYSTEM FOR YOUR HOME Will make your home attractive and inviting at a small cost. Beautiful fixtures giving a pure white brilliant light superior to gas or electricity at one half the cost. Can be installed anywhere in the home, store, church, etc. Easy to operate—thousands in daily use. Write our nearest office for Booklet "C" RICE-KNIGHT LTD., Toronto or Winnipeg

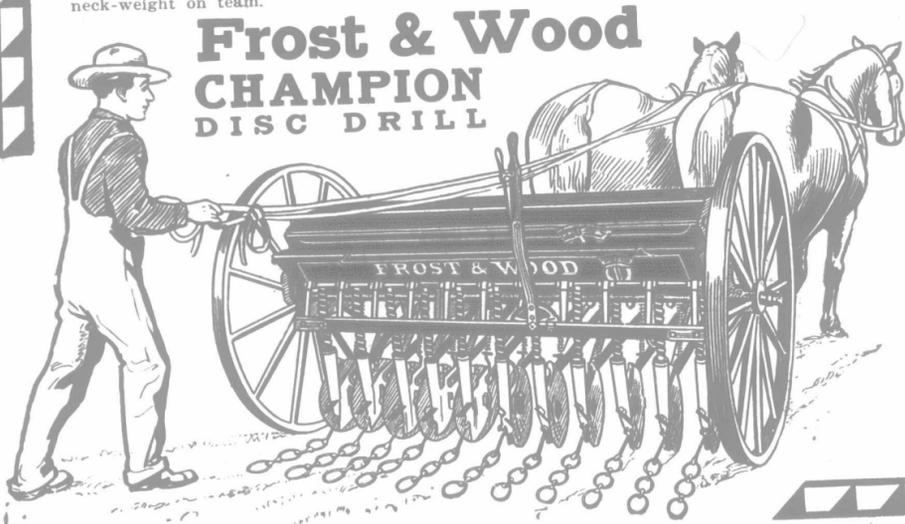
MAKE YOUR OWN WILL Costs only 35 cents—you can draw up your own will and we guarantee it as legal and unbreakable as if a lawyer did it and charged you \$5. We send full directions and sample will filled out so you will make no mistakes. Don't delay. Mailed in plain envelope. Send 35 cents to Best Will Form Co. 1290 Woodland Ave. Toronto

The disc drill that can't stall

Built with more strength than it will probably ever need. Continuous steel axle from wheel to wheel, with frame and seed-box solidly attached. Seed-box down low and easy to fill. Tested indexes tell just how much you are sowing. Champion does not compel you to fit the shift-lever precisely into such-and-such a notch. Vary the seed-feed to suit yourself—do it in a second. Champion disc hubs are really dustproof, and are fitted with ball-bearings same as a good automobile. Direct down-pressure on EVERY disc-hub avoids side-strain. No neck-weight on team.

ANY disc drill economizes seed, time and labor as compared with other ways of seeding. But a FROST & WOOD CHAMPION excels all in accurate sowing, money-saving and the certainty of bigger crop-production. It sows right under hardest conditions.

Macdonald Agricultural College praises its CHAMPION DRILL. So do the Experimental Farms throughout Canada Profit by their experience



Frost & Wood
CHAMPION
DISC DRILL

Catalogue

F 66

Tells

Write to
FROST & WOOD
CO.,
Ltd.

Smith's Falls
Canada 66

QUESTIONS AND ANSWERS. Miscellaneous.

BUCKWHEAT FOR MANURE.

1. Is it advisable to sow buckwheat on fallow where there is not enough manure?

2. If so, how much per acre?

3. When is right time to plow under and when to sow it? A. H.

Ans.—Better sow peas at the rate of 2½ or 3 bushels per acre, as early in May as convenient. Prof. Zavitz's experiments fully substantiate the logical assumption that peas are more valuable than buckwheat as a green manure for wheat, giving in an average of four years' experiments 22.1 per cent. greater yields than the plowing under of buckwheat.

ADVICE TO NEW ONTARIO SETTLER.

I am intending to take up land near Cochrane (New Ontario) this spring, and would be very thankful for your advice regarding making a successful start. I shall have about \$400.00 to work with. What preparation would freshly-cleared land require for grain, hay and vegetables; also preparation of sod? What plow would be best for that soil? In short, a general outline of procedure as governed by your experience would be very welcome. E. G. W.

Ans.—If it is the intention of E. G. W. to engage extensively in farming, his capital, I am afraid, is rather small for this country; still, I have known others to come in with less and work successfully. No doubt if he has a team, and necessary farming implements, he could make a very good start.

Re preparation of land: After land has been cleared of bush, all stumps removed and burned, the next thing required is a good strong single plow to break and turn up the small roots of spruce, whitewood, etc.; also a strong spring-tooth harrow.

At first plowing difficulty may be met in breaking the larger roots, but an axe, preferably the double-bitted variety, should be always kept on hand to cut roots. After plowing is done land should be well harrowed both ways, so as to remove all small roots. There are no stones in land here; small outcroppings of solid rock occur in some localities. In plowing, I would advise that furrow be deep and narrow, as the clay is covered with a layer of black muck, and it is always better to secure a good first crop to work up clay and mix, as much as possible with the muck. The same preparation is necessary for hay and grain. Of course for vegetables more would be required; for instance, cross-plowing.

I have in many instances seen hay grown in large quantities on newly-cleared land, without any cultivation whatever; just merely burned and cleaned up. This, of course, may not do for second crop. I would advise intending settlers coming in to bring along a good team, supply of feed for same, plow, harrow, etc., for a start. Implements of lighter build, such as mowers, binders, etc., can scarcely be used for the first year, unless the farmer expends considerable time in clearing up land thoroughly.

Splendid crops of hay, grain and vegetables have been grown in this vicinity last season; of course in rather small quantities, as is usual in all new bush countries during first season, still sufficient to convince any person seeing same that crops can be grown successfully and in abundance in Northern Ontario.

Nearly all of the lots in concessions 1 to 7 in the Township of Glackmeyer are now located. Some of these, however, may be cancelled this spring, owing to locates not going on in time required.

Clute Township, adjoining, is being rapidly located. Representatives of some 56 intending settlers were here recently obtaining information from S. J. Dempsey, Crown Lands Agent, Cochrane. I expect that quite a large number of settlers will come in this spring and coming summer. I would suggest that E. G. W. come up north after snow goes off and take a look around the land before bringing in stock, etc. Mr. Dempsey, C.L.A., who is always in town, will gladly give him all information.

A. J. McDONALD,
New Ontario. Crown Timber Agent.



"ELECTRO BALM"

CURES ECZEMA,

Also Piles, Burns, Scalds, Chapped Hands and Face.

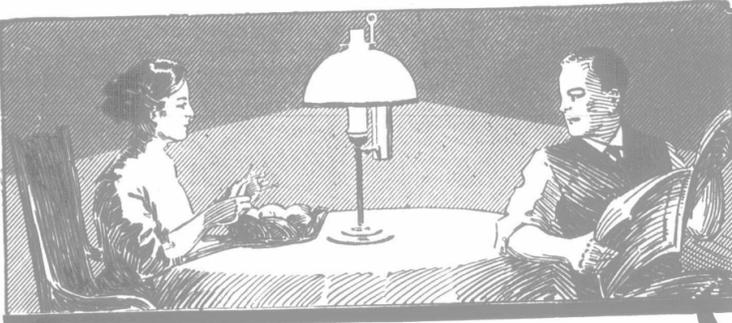
Gentlemen use it after shaving. This Balm is handled by the best firms, and is highly recommended by those who have used it.

Write for Free Sample

ENCLOSE 2c. STAMP FOR POSTAGE

50c. a Box at all dealers or upon receipt of price from

THE ELECTRIC BEAN CHEMICAL CO.,
Ltd., OTTAWA.



"Let's Not Buy Another Thing Till We Put the Fences Right"

THE far-sighted farmer will say that when temptations arise to let the ready money go for some luxury. The luxury is an *expense*; the good fence is an *investment—a producer*. A farmer is losing money fast until he has his farm fenced off into a sufficient number of fields to permit of the proper rotation of crops, and the most advantageous pasturing of stock.

The fields of a farm are like the rooms in a hotel—the more rooms or fields, the more revenue.

AMERICAN FENCE Made of Hard, Stiff Wire of Honest Quality

Is an investment that brings the most returns for the money paid out. It is made of a quality of wire drawn expressly for woven-wire-fence purposes by the largest manufacturers of wire in the world. Galvanized by latest improved processes, the best that the skill and experience of years has taught. Built on the elastic hinged joint (patented) principle, which effectually protects the stay or upright wires from breaking under hard usage.

The Canadian Steel & Wire Co., Limited
HAMILTON, ONT. WINNIPEG, MAN.

NOTE.—Dealers everywhere. See the one in your town and have him show you the different designs and give prices. Also get from him booklet entitled, "HOW TO BUILD A CHEAP CONCRETE FENCE POST," furnished free for the asking.



Subscribe for The Farmer's Advocate

A FLOOD OF LIGHT FROM KEROSENE COAL OIL
THE ALADDIN MANTLE LAMP operates with Coal Oil (Kerosene), a light far more brilliant than gas or electricity. It is simple, durable, portable, odorless and safe. Satisfaction guaranteed.
AGENTS MAKE BIG MONEY by showing the lamp, the light makes the sale. It revolutionizes rural lighting; needed in every home. The SUNBEAM burners fit all standard lamps. Ask for Agency proposition or how you can obtain a lamp FREE as introduced by.
The MANTLE LAMP CO. of America, 500 West Winnipeg and Dept. B

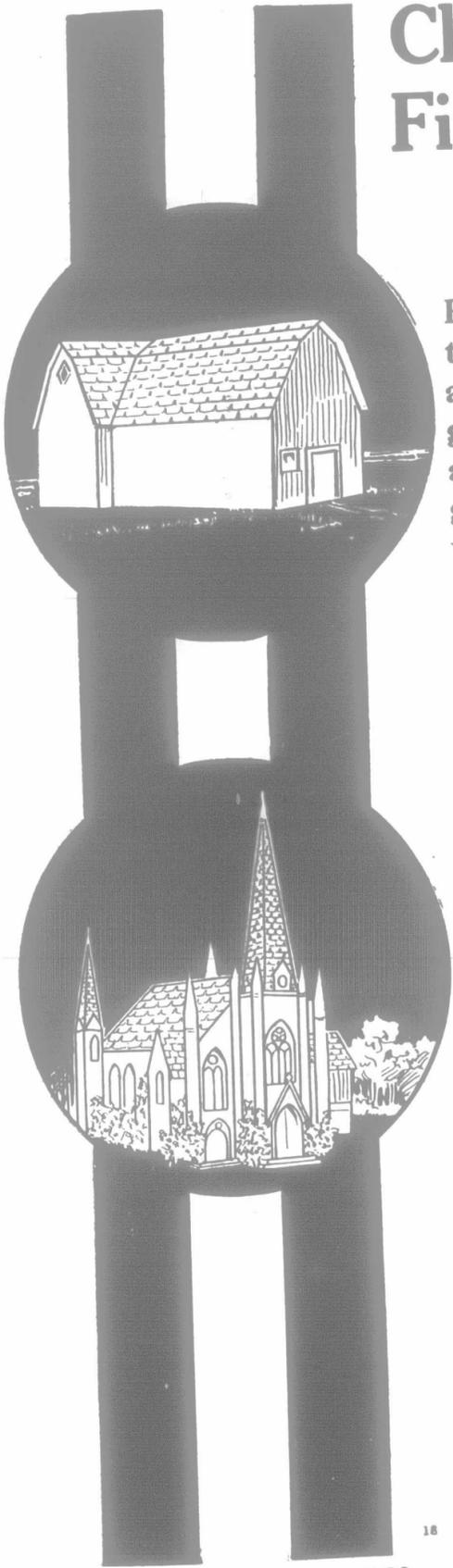
AGENTS \$3 a Day
NEW PATENTED LOCKTITCH AWL

Sows Shoes, Harness, Buggy Tops, Canvas, Grain Bags, Anything. Sells at sight. Astonishing low price to agents. Big profits. To show it means a sale. We want a few good, live hustlers in each county. Splendid opportunity to make big money. No experience needed. Write quick—now—for terms. A postal will do. Send no money.
A. MATHEWS, 69-11 Wayne Street, DAYTON, OHIO

Cheap Enough For A Barn— Fine Enough For A Cathedral

“The Roof That’s Good”

For any permanent structure, whatever its cost or use, the modern metal shingle is the **ONLY** roofing worth any man’s consideration. For it, and it alone, has every good quality a roof should have, and it, and it alone of all roofings, lacks every bad quality. But there are degrees of goodness in metal shingles. You must choose wisely. You will not go wrong if you roof with



Preston Shingles are made from heavy and imperishable metal, thickly and smoothly galvanized with a coating that contains 98 per cent. of pure zinc. Thus they easily pass the rigid bending and acid tests of the British Government. That insures them against rust, and their buyer against roof-troubles. No other metal shingle is made so well, and none will last longer. Ask us what this test is.

Fire Defying

Preston Safe-Lock Shingles make a roof that is absolutely proof against fire—a roof that the wind cannot rack a little bit—a roof that moisture cannot get

through at all. For these are the shingles, and these alone, which positively **LOCK ON EVERY EDGE** with a grip that is so strong and tight it almost makes nailing needless. Next to the galvanizing—which is the most vital thing about a metal shingle—the lock is a point you should most carefully look into before you invest. Let us send you a “Preston Junior”—a little shingle imitating closely the construction of **OUR REGULAR OUTPUT**. Study it, and you will admire the patented Safe-Lock that only we can use. Ask for it.

Never Leaks

This Is The Roof That Meets Every Need

Preston Safe-Lock Shingles are easily laid. No special skill or unusual tools are necessary. Fewer nails are needed than other metal shingles demand—the safe-lock cannot spring nor the shingles warp or twist. Every nailhead is covered. Therefore these roofs never leak—because rust simply cannot get at the nails. Preston Safe-Lock Shingles are sold with the warranty that—if properly put on, according to simple directions—**LIGHTNING CANNOT HARM THE ROOF WITHIN TEN YEARS**. These roofs are easily good for fifty years’ reliable roof-service. Thus they are the cheapest good roofs money

can buy. Wood shingles actually cost—in cost-per-year—many times our price. “Ready” roofings are a wretched make-shift, and their cost per year is downright extravagant. Don’t waste your money on a roof that can’t last. You should send for, and read, before you roof anew, a truth-telling **FREE Costs Little** book that many have read to their profit and satisfaction. It tells about EVERY kind of roofing. It goes into the subject fully and in plain words. You would be willing to pay for it after you’ve read it—but you are welcome to it for nothing. To-day would be a good day to write and ask for it. Use a postcard if you wish. Address—

Ralph
Manager

Metal Shingle & Siding Co., Limited
Queen Street Factory, Preston, Canada

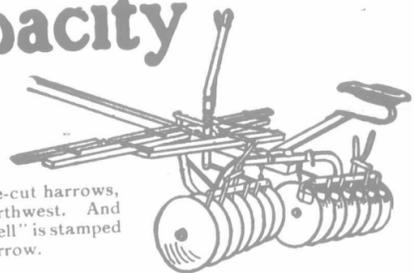
Branch Office and Factory: Montreal, Quebec.

The “Bissell” has wonderful capacity

Test the “Bissell” In-Throw Harrow on your land, and you’ll see what a harrow designed by a specialist will do. Our Mr. T. E. Bissell has been personally connected with the manufacture of disc harrows for nearly a quarter of a century, and is recognized as an authority on disc harrow construc-

tion. The “Bissell” In-Throw stays right down to its work no matter how tough the land. It doesn’t rock or sway. The plates stir the soil thoroughly. The gangs stay tight. There is no neck weight, therefore the horses do more work. It has wonderful capacity—wins every field competi-

tion. The construction is simple, durable and trouble-proof. Send to Dept. W for booklet describing both our In-Throw and Out-Throw Harrows, and our 16-plate wide-cut harrows, which are so popular in the Northwest. And remember that the name “Bissell” is stamped on every genuine “Bissell” harrow.



T. E. BISSELL CO., LTD., ELORA, ONT.

When Writing Advertisers, Please Mention Farmer’s Advocate

YOU NEED THIS CROP BUILDER!

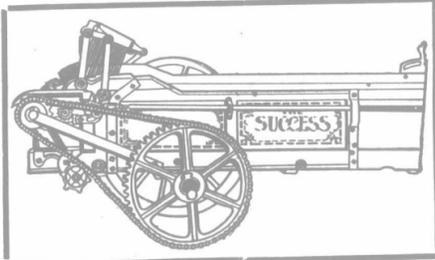
You can increase your crop-yield many per cent. with a **SUCCESS Manure Spreader**—the machine that's modern. For with it you can spread the manure evenly, instead of much-here-and-little-there. You increase the value of your farm

manure fully five dollars a ton when you spread it with a **Success**. For then it is **pulverized**—and delivered to the soil in the form plant life can quickest and most easily utilize—to your profit and the land's permanent betterment.

Strongest Built

Easiest Running

Distributes EVENLY



Works Right Always Won't Clog It Pulverizes

Study the Success Construction

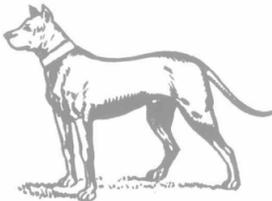
Get the book we want to send you. It shows how and why the **Success Pulverizing Rake** (placed right over **Beater Axle**) must positively pulverize every shred of manure. No other machine does this so thoroughly and makes the distribution so even.

Easiest on Team and Man

Thirty years of manure-spreader building has made the **Success** the simplest to operate; the staunchest in construction; and the smoothest and steadiest running machine built. It runs easier and does its work better. This we can prove to you beyond question.

GET ACQUAINTED WITH THE GREAT DAIN LINE

Besides the **Success Roller-Bearing Manure Spreader**, we make **Vertical Lift Mowers**, **Side-Delivery Rakes**, **Hay Loaders**, **Hay Presses** and **Ensilage Cutters**. Each is ahead of all its kind. Ask for details about any of these you are interested in. Write to us today—NOW.



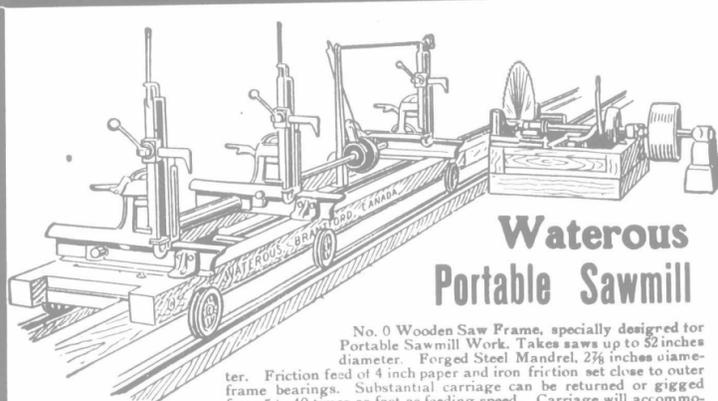
Note the Sturdy Direct Drive

Right-hand direct chain drive, with heavy, almost unbreakable steel-pinned chain, makes this the lightest-draft manure spreader known. Worm gear that drives the apron is enclosed and runs in an oil bath—another wear-lessening and draft reducing feature.

The Success Keeps Going

Powerful axles (bigger than other machines); roller-bearing apron; extra-strength frame of unspliced **Rock Maple**; and a dozen other exclusive merits assure you the **Success** will stand up to its work under all conditions. Allow us to send you all the facts—they will profit you.

MFG. CO. LTD. 90 DAIN AVE. E., WELLAND, ONT.



Waterous Portable Sawmill

No. 0 Wooden Saw Frame, specially designed for Portable Sawmill Work. Takes saws up to 32 inches diameter. Forged Steel Mandrel, 2 7/8 inches diameter. Friction feed of 4 inch paper and iron friction set close to outer frame bearings. Substantial carriage can be returned or giggered from 5 to 10 times as fast as feeding speed. Carriage will accommodate good size logs. Stand extra wide, of heavy red pine stringers, 6 inches long; rope feed 17 feet 6 inches long. Frame extra wide, of heavy red pine stringers, 6 inches long. Knees and rack cast in one piece. Knees have 3-inch independent taper movement, and are fitted with our patent upper and lower steel hook. Peel Dogs, operated by overhead, single-acting ratchet networks, having large ratchet wheel. Split steel setting and holding Pawls, designed to eliminate lost motion and permit a set of 1-16 inch. Steel-set shaft 1 1/2-16 inches diameter and 16 feet long. Carries pinions which operate knees, and is fitted with heavy cast iron hand wheel for hand setting. Track 54 feet long. This is one of the finest portable sawmills made. It will pay you to send for our free catalogue, which describes it, as well as many others, in detail. Drop us a card to-day.

THE WATEROUS ENGINE WORKS CO., LTD.,
BRANTFORD, ONT.



CALVES WITHOUT MILK

Write for Free Booklet

"How to Raise Calves Cheaply and Successfully Without Milk"

Contains full information and complete feeding directions for using

Blatchford's Calf Meal—The Perfect Milk Substitute

Three or four calves can be raised on it at the cost of one where milk is fed. No mill feed. The only calf meal manufactured in an exclusive Calf Meal Factory. Established at Leicester, England, in 1800.

STEELE, BRIGGS SEED CO., LTD., TORONTO, ONT.

GOSSIP.

Two imported Clydesdale stallions, four and six years old, good colors, and the best of breeding, are advertised for sale by Wm. Meharey, Russell, Ont., near Ottawa.

Robert Nichol & Sons, Hagersville, Ont., on Hamilton-Port Dover branch of G.T.R., advertises for sale a number of young Shorthorn bulls; also 40 cows and heifers to choose from, of superior breeding, mostly by imported sires.

G. M. Forsyth, Claremont, Ont., a station on the C.P.R., 28 miles east of Toronto, advertises for sale three young Shorthorn bulls, 8 to 16 months old; the latter a big, smooth one, said to weigh nearly 1,400 lbs., and all sired by Imp. Dorothy's King, and out of good dams. Half a dozen heifers, from 12 to 24 months old, splendidly bred, some of them show heifers, are also offered.

Golden Key [9997] (14694), the Clydesdale stallion whose portrait appears on another page of this issue, is a bay horse, foaled in July, 1906, imported and owned by T. J. Berry, of Hensall, Ont., who has made numerous importations of high-class Clydesdale and Shire horses which have given good satisfaction to buyers, and have proven sure and successful sires of high-selling progeny. Golden Key is a much better horse than is shown in the picture, which was taken last year, soon after importation, when he was in thin condition. He weighs now over a ton, has a good head and neck, deep shoulders, wide chest and deep ribs; has the best of feet and bone, 14 inches in front and 15 behind, and has good, close action. Mr. Berry paid \$2,000 for Golden Key in the Old Country in August, 1909. Before this his owner, John Kerr, of Wigton, had been offered a premium of £100 to travel him in a district. As a two-year-old he won first prize in a great class of over sixty at Carlisle, which is evidence of his superior quality. His breeding is of the best, his sire being Lord Lonsdale, who has never been without a premium since he was three years old. Lord Lonsdale is a full brother to Lothian Again, by Lord Lothian, by Top Gallant, who was by Darnley (222). The dam of Golden Key was also a granddaughter of Darnley. Golden Key stood in his own stable last season at \$15 per mare, and had all he could attend to. In Mr. Berry's fine stables at Hensall, on the London to Wingham branch of the G.T.R., are many high-class horses and mares.

QUESTIONS AND ANSWERS. Miscellaneous.

ADDRESS OF CLYDESDALE SECRETARY.

Kindly publish the address of the Secretary of the Clydesdale Horse Association of Canada. W. R. B.

Ans.—J. W. Sangster, 12-14 Wellington Street East, Toronto, Ont.

ORCHARD HANDLED ON SHARES

Kindly advise, through your paper, what share the owner receives where he leases his orchard for one season to a party who does the spraying, picks the apples, and puts them in barrels ready to be hauled to station? The orchard is in fine shape; was well manured last spring, and again this spring. M. H.

Ans.—There is no general rule of which we are aware. If the orchard is a good one of valuable varieties, and is expected to yield a full crop this year, the owner might reasonably expect a net return of thirty to forty, or even fifty dollars an acre. For some orchards, this would be altogether too much; for others, not enough. For an average of several years, taking bearing and off seasons as they come, thirty dollars is fair annual rental for most orchards. See results of our demonstration-orchard work in the Christmas numbers of "The Farmer's Advocate," 1910 and 1911. An owner who is not prepared to spray and cultivate his orchard properly, might better take a moderately-low rental than to leave it neglected. We would not recommend a share arrangement. For one thing, there is too much room for dissatisfaction.

"SAVE-THE-HORSE" SPAVIN CURE



THE urgency of speedy success means all in all to every owner of an unsound horse to use a remedy that will not fail. Investigate, abandon vicious and uncertain methods and turn to "Save-The-Horse." "Save-The-Horse" is sold with a signed, legally binding contract, which positively protects purchaser. For 15 years it has been the foundation on which nearly every man based his confidence in making his first purchase, and it has never been violated.

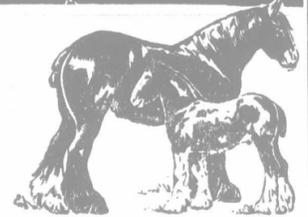
R. F. D. No. 2, Marshalltown, Ia., Dec. 10, 1910. Troy Chemical Co., Binghamton, N. Y.: My contract No. was 63738. I used your remedy on a mule that was kicked on the hock, the whole joint enlarged. It was the size of a child's head. He would not put his foot on the ground. His hip was shrunken to skin and bone. One of the state veterinarians and others said he would not be worth a son. I gave a pig and 50c for him and used the bottle of "Save-The-Horse" as directed, and now he is sound. It is wonderful stuff. W. S. HAYNES.

\$5.00 a Bottle With Signed CONTRACT.

This is a binding CONTRACT and protects purchaser absolutely in treating and curing any case of Bone and Bog Spavin, Thoroughpin, Ring-bone (except low), Curb, Splint, Capped Hock, Wind-puff, Sheath, Injured Tendons and all Lameness. No scar or loss of hair. Horse works as usual. Send for copy of contract booklet on all lameness and letters from prominent business men, bankers, farmers and horse owners the world over on every kind of case. At all druggists and dealers, or express mail.

Troy Chemical Co., 148 Van Horn St. Toronto, Ont., and Binghamton, N. Y.

INSURE YOUR HORSES



A small premium will secure a policy in our Company, by which you will be fully insured against any loss resulting from the death of your mare or its foal or both. Policies issued covering all risks on animals, also transit insurance, at all times, in all cases. Prospectus free on demand.

General Animals Insurance Co. of Canada,

Dept. D, Quebec Bank Building Montreal.

OTTAWA BRANCH:
No. 106 York Street, Ottawa

Dr. Stewart's Pure Condition Powders

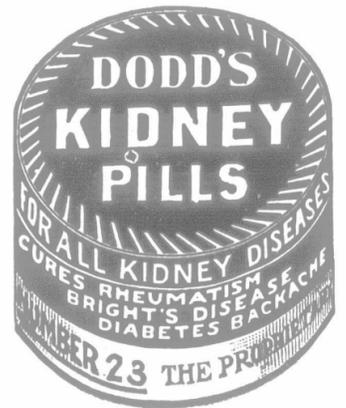
For horses, cattle, hogs and poultry—not a stock food, but a scientific blending of roots, herbs and barks; makes good solid flesh naturally, not artificially. Makes pure blood and cleanses the system. Try it for coughs, scratches, distemper and worms. Two cans guaranteed to put your horse in first-class condition. One large can, 50c., prepaid, at most dealers, or

Palmer Medical Co., Windsor, Ont.
Veterinary booklet sent free on application.

Ethel, aged 3, had been to visit her cousins, two fun-loving and romping boys. She had climbed upon her father's knee, and was telling him of her visit. "Papa, every night John and George say their prayers, they ask God to make them good boys," said she.

"That is nice," said papa.

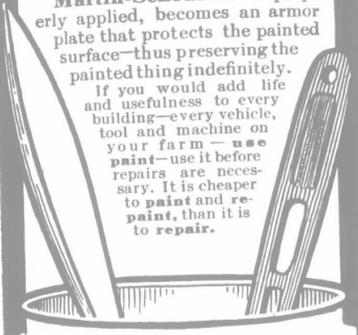
Then, thinking soberly for a few minutes, she said, "He ain't done it yet."



It's Cheaper to Repaint than to Repair

It has been demonstrated that paint saves expense—in fact that it eliminates many repair bills.

Martin-Senour Paint properly applied, becomes an armor plate that protects the painted surface—thus preserving the painted thing indefinitely. If you would add life and usefulness to every building—every vehicle, tool and machine on your farm—use **paint**—use it before repairs are necessary. It is cheaper to paint and re-paint, than it is to repair.



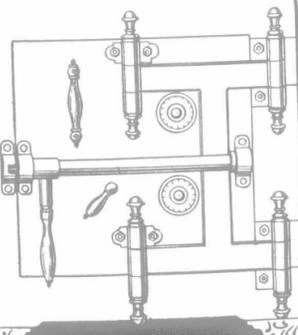
MARTIN-SENOUR Red School House Paint

For the barns, roofs, fences and out-buildings — for the wind-mill tower and tank — keeps off the damaging hand of "Father Time." It is a bright red that stays red — withstanding the effect of sun, rain, snow, or fog, and will satisfy the farmer who cares. Paint your out-buildings with this permanent red and trim in white, and see how the neighbors will admire your taste. You will like the way it wears. Write us for booklet "How Paint Helps the Farmer Get More Profit" Don't wait until tomorrow.

THE MARTIN-SENOUR CO., Limited
Montreal

Don't keep your savings at home. You cannot tell what may happen to it.

Money deposited with this Company is absolutely safe, and it earns 3½ per cent. interest, compounded semi-annually.



The Ontario Loan and Debenture Co.

A. M. SMART, MGR.
DUNDAS ST. & MARKET LANE

LONDON, ONT.

BOYS FOR FARM HELP The managers of Dr. Barnardo's Homes invite applications from farmers, or others, for the boys who are arriving periodically from England to be placed in this country. The young immigrants are mostly between 11 and 13 years of age; all will have passed through a period of training in Dr. Barnardo's English Institutions, and will have been carefully selected with a view to their moral and physical suitability for Canadian life. Particulars as to the terms and conditions upon which the boys are placed may be obtained upon application to Mr. Alfred B. Owen, Agent Dr. Barnardo's Homes, 50-52 Peter St., Toronto.

PLEASE MENTION THE ADVOCATE.

QUESTIONS AND ANSWERS. Miscellaneous.

HEAVES.

I see so many "ads." of remedies for the cure of heaves. Do you think they (chronic cases) can be cured? Will an animal affected heave worse in hot weather than cold? If they cannot be cured, can they be relieved?

NEW SUBSCRIBER.

Ans.—Heaves cannot be cured, but the symptoms can be alleviated by feeding small quantities of bulky food (clean wheat straw preferred), and grain in proportion to work performed. Water before feeding. Dampen all food given with lime water, and, if possible, avoid driving soon after a heavy meal. The symptoms of heaves are usually more marked in warm weather, especially when the animal is subjected to heavy work or exercise. In dull, heavy, damp weather the symptoms are still more marked, whether the animal be at rest or work. The state of the stomach also has a marked effect; a loaded stomach aggravates the symptoms. Except in advanced cases, the symptoms shown by a heavy horse may be said to be erratic. They are sometimes worse than at other times without well-marked cause.

LIME-SULPHUR.

1. What is the difference, if any, between lime-sulphur solution, commercial lime-sulphur, and concentrated lime-sulphur, and which is the best?
2. Will lime-sulphur spray keep from one year till the next, and still keep its normal strength? Does it need agitation when arsenate of lead is added?
3. Is it necessary to have a hydrometer to test lime-sulphur that is sold by manufacturers?
4. Will black oats smut the same as white? If so, give treatment.

A BEGINNER.

Ans.—It is all lime-sulphur. See article in "The Farmer's Advocate" of March 9th, page 404-405.

2. The concentrated lime-sulphur solution (either commercial or homemade) is supposed to keep indefinitely, if properly made and kept covered. If it crystallizes, as it may do if made with excess of lime, or if not kept covered, some of the strength is lost by sulphur being removed from solution. Agitation is necessary to mix the lead arsenate paste with the lime-sulphur.

3. An hydrometer is desirable, but not absolutely necessary, if manufacturers' directions are followed carefully.

4. Black oats, as a class, are not immune from smut. Some varieties of oats are more subject than others.

Veterinary.

SUPPURATIVE MAMMITS.

In January, cow got the end of her teat cut. I put a calf on her, but in a few days I discovered that it was not taking milk from the sore teat, and that there was a lump in that quarter. I took the calf off and milked the sore teat with a tube, but the lump became larger. I bathed with hot water and rubbed well. In a couple of weeks the quarter swelled very badly and the substance I could draw from teat was like matter. I got liniment from my veterinarian, and got Pratt's Bag Ointment, but neither did any good. I milked the matter out regularly, and the quarter became smaller, until three lumps remained. One of these broke and discharged matter. J. S.

Ans.—If you had continued to milk the sore teat, the trouble might have been prevented. The calf did not nurse from this teat, inflammation followed by supuration was the result. Allow the other three quarters to go dry, but draw the matter from the sore quarter three or four times daily, so long as you can get any. If the other lumps become soft, lance, and then flush the cavities out well three times daily with one part carbolic acid to thirty parts warm water. Flush all pus cavities this way, but do not inject the teat. Give her six drams hyposulphite of soda three times daily. We cannot say for certain, but it is probable the quarter will become active at next calving. V.



A fence of this kind only 16 to 23c. per running foot. Shipped in rolls. Anyone can put it on the posts without special tools. We were the originators of this fence. Have sold hundreds of miles for enclosing parks, lawns, gardens, cemeteries, churches, station grounds, etc., etc. Supplied in any lengths desired, and painted either white or green. Also, Farm Fences and Gates, Netting, Baskets, Mats, Fence Tools, etc., etc. Ask for our 1911 catalog, the most complete fence catalog ever published.

THE PAGE WIRE FENCE CO., LTD., Walkerville, Ont.
Montreal, 505-517 Notre Dame St. W. St. John, 37 Dock St.
Branches—Toronto, Cor. King and Atlantic Ave. The largest fence and gate manufacturers in Canada. 506

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They will save you, and make you, money. If you want more and better meat and milk, ask your dealer, or write us.

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AVOID IMITATIONS OF OUR
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BY SEEING THAT THIS EXACT MARK IS ON EACH BLADE. SOLE AGENTS FOR CANADA:
JAMES HUTTON & CO., MONTREAL.

WILLOWDALE STOCK FARM HAS NOW FOR SALE
a choice lot of young stock of each of the following breeds:
Clydesdales, Shorthorns, Chester Swine, Shropshire Sheep
Some extra good young bulls, descendants of Joy of Morning and Broad Scotch.
Write for prices and catalogue to: J. H. M. PARKER, Prop., LENNOXVILLE, QUE.

PERCHERON STALLIONS

We still have on hand a few very choice two and three year old Percheron stallions of the big, drafty, heavy-boned type that will make ton horses when finished. Greys and blacks in color, and by the best French sires. All buyers looking for a good Percheron stallion, at a reasonable price, will do well to get our price, as we are in a position to sell below competition. We also have a splendid Hackney stallion, by Garton Duke, that we will sell well worth the money. We invite correspondence of intending purchasers.

R. HAMILTON & SON, SIMCOE, ONTARIO

7 Imported Clydesdale Stallions 7 2, 3, 4 and 5 years of age. We are showing a choice selection, with type, quality, breeding and character unexcelled. Our prices are right, and our terms are made to suit. Phone connection. Crawford & McLachlan, Widder P. O., Ont. THEDFORD STATION.

IMP. CLYDE STALLIONS AND FILLIES
Imported Clyde stallions and fillies always on hand, specially selected for their size, type character, quality, faultless action and fashionable breeding. Prices right. Terms to suit. GEORGE G. STEWART, Howick, Que.

Imported Clydesdales My saw importation of Clydesdale stallions for 1910 have arrived. They were selected to comply with the Canadian standard, combining size, style, quality and faultless underpinning with Scotland's richest blood. They will be offered for a quick sale the grand four-year-old **SHOW STALLION, LORD BANCHORY, IMP.** (8441) (14478). He is one of the very best Clyde stallions in Canada. Could take in part payment a few Scotch Shorthorns or good work horses. J. A. WATT, SALEM, ONT.; ELORA STATION, G. T. R. AND C. P. R.

Clydesdales and Hackneys FOR SALE

We have more prizewinning Clydesdale fillies for sale than any other firm. We have them any age or color you want. Also Hackney and Clydesdale stallions.

Hodgkinson & Tisdale
Simcoe Lodge, Beaverton, Ont.

Long-distance 'phone. G. T. R. C. N. R.

Clydesdale Stallions; Fillies Hackney Stallions

We have been importing Clydesdales and Hackneys for 5 years, and in that time have won at the leading shows in Canada and the United States the grand total of 40 championships against all comers on both sides of the line, besides dozens of firsts, seconds and thirds. We never had a better lot on hand than just now. They were winners in

Scotland, winners at New York, and winners at Guelph and Ottawa. They are the best types of the breed, with size, character, quality, action and breeding, and we sell them as reasonably as inferior ones can be bought, and give terms to suit. Clydesdale stallions and fillies and Hackney stallions.

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Our barns are situated at Bedford Park, 3 miles north of Toronto. Take Yonge Street car. Address all correspondence, Bedford Park P. O., Ont. Send telegraph messages to Toronto, Ont. Telephone North 4483, Toronto.

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BEDFORD PARK, ONT.

JUST 35 MILES EAST OF TORONTO TO Smith & Richardson's, Columbus, Ont.

There you are always welcome, and can always see first-class **CLYDESDALE STALLIONS AND MARES** of all ages, and moderate prices.

MYRTLE, C. P. R. Long-distance 'phone. BROOKLIN, G. T. R.

IMPORTANT TO INTENDING BUYERS

MR. JOHN SEMPLE, of the firm of **Semple Bros., Spring Hill Stud Farm, Milverton, Ont.**, and **Luverne, Rock Co., Minn., U. S. A.**, importer of high-class **Clydesdales, Shires and Percheron Horses**, sails for Europe on Jan. 6th for his second shipment since August, 1910. This shipment will never have been equalled for their high-class breeding and individual merit. Intending buyers should see this shipment before purchasing elsewhere. By doing so they will save hundreds of dollars. Please note their arrival.

CLYDESDALES—Imported and Canadian-bred
Our several importations per year place us in a particularly favorable position to meet all demands for the best and most fashionably bred representatives of the breed. We are never undersold, and give favorable terms.
ROBT. NESS & SON, HOWICK, QUE.

A FEW CLYDESDALE SELECTS LEFT. I have one 6-year-old Clydesdale stallion that is hard to beat for size, quality and breeding; 6 others, rising 3 years, that are big, drafty, character colts, and bred the best; 3 Percherons rising 3. There is no better selection in Canada, nor no better prices for a buyer.
T. D. ELLIOTT, BOLTON, ONT.

Mount Victoria Stock Farm, Clydes and Hackneys.
We are just now offering exceptional values in Clydesdale and Hackney stallions and fillies, of all ages; prizewinners and champions, highest-class types of the breed, to make room for our new importation.
T. B. MACAULAY, Prop., Hudson Heights, Que.
ED. WATSON, Manager.

Auction Sale of Fifteen Imported Clydesdale Fillies
AT ORMSBY GRANGE STOCK FARM, ORMSTOWN, P. Q., on the 2nd day of Ormsby's Great Spring Show, 18th May. They are by Baron's Best, Lord Derwent, Pride of the Lothians, Sir Geoffrey and Silver Cup.
D. McEACHRAN.

NEW IMPORTATION ARRIVED
Our 1910 importation of **Clydesdale Stallions and Fillies** are now at our stables. We can show some of the best individuals and best breeding sires imported. Our prices are right, and terms to suit.
JOHN A. BOAG & SON, Queensville, Ont
Phone connection.

QUESTIONS AND ANSWERS.

Miscellaneous.

INADEQUATE CAPACITY OF BOILER.

1. What would be the power of a steam engine of the following dimensions:—Boiler, 3 feet long, 12 inches wide, with a round top about 10 inches high, boiled with a coal fire; pressure 30 lbs.; two cylinders, each 3-inch bore slide valve; 3-inch stroke?

2. Would the boiler be large enough for that size cylinder? R. H.

Ans.—1 and 2. This boiler would not produce steam enough for the engines, and so there would be very little, if any, power at all. WM. H. DAY.

LITTLE PIGS CAUGHT COLD.

I had a litter of pigs which did well till they were three weeks old, and then began to sneeze and breathe heavily, and run at the nose. They seem to nurse well, but are losing flesh, and I have lost two pigs. SUBSCRIBER.

Ans.—The little pigs are probably suffering from nasal catarrh, as a result of having caught cold. There are severe outbreaks of this trouble, which are known as malignant catarrh. Preventive treatment is usually all that is necessary. Avoid overcrowding of pens, especially during cold weather, exposure, and allowing the pens to become dusty and dirty. Give dry, comfortable quarters, and if pigs have begun to eat, feed warm slops for a few days. Where medicine is thought necessary, a laxative of castor oil is recommended.

MIXED GRAIN FOR SOILING AND PASTURE.

I am sowing this spring a mixture of grains, part to be used for pasture and part cut when well grown and fed to cattle and sheep.

1. Can you recommend anything better than oats and vetches for this locality, or would oats, Amber sugar cane and red clover suit here, where the springs are usually cold and late?

2. What quantities of oats and vetches per acre is best?

3. Would you advise using red clover with them?

4. Which would likely give the better growth, stable manure or fertilizers on fairly good fall-plowed sod?

5. What quantities of fertilizers or manure, or both, should I use to force a heavy growth of above mixtures? C. P.

Ans.—1. We would recommend Ligowo oats, Swedish Chevalier barley and vetches for your locality as a green crop to be fed to cattle. Oats, Early Amber sugar cane and red clover has not been tried on P. E. I. that we know of, but should prove a good annual pasture mixture.

2. Two bushels oats and three pecks vetches.

3. Yes.

4. Stable manure.

5. Ten tons good stable manure (well rotted), worked in with disk or cut-away harrow before seeding. Fertilizers should be tried on small areas first, to determine their value on your soil. You are likely to find quite different results on your different fields. J. A. CLARK, Superintendent, P. E. I. Experimental Farm.

Veterinary.

RHEUMATISM.

Pregnant mare became stiff in hind legs three weeks ago, and gradually became worse, until she could scarcely move. She perspires occasionally, and appears to suffer acutely. My veterinarian has been treating her for rheumatism, but she has not improved. T. B.

Ans.—No doubt your veterinarian is correct in his diagnosis and treatment. Rheumatic diseases in horses are very tedious to treat. I would advise you to continue as your veterinarian directs, as the treatment of a pregnant mare for any acute disease should be conducted only under the direction and personal supervision of a veterinarian, who can prescribe much more safely than one who has not seen the case. A

Bone Spavin

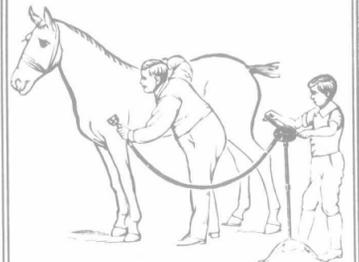
No matter how old the blemish, how lame the horse, or how many doctors have tried and failed, use

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

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IMP. CLYDESDALE STALLIONS

Four and six years old. Both dark brown. Sound and right, with best of breeding.

Wm. Meharey, Russell, Ontario.

FOR SALE: 6 Imp. Clydesdale Stallions whose breeding is unexcelled; up to a ton in weight. They will be priced right.

Jno. J. Miller, Surrontale, Gowrie, Ont.

IMP. CLYDESDALE STALLION for sale, cheap. A right good one; five years old. Bred right in the scarlet. Splendid action, good disposition; sure foal getter; gets splendid stock. In good condition. A bargain for someone if sold at once. Phone or write: **J. A. Sandham, Tillsonburg, Ont.**

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For forty-six years renowned as the best of the breed. Six large importations since February 1, 1910 (the last arrived October 12th), insure fine selection, as each animal was individually selected for size, bone quality and excellence. If you want choice stallions or mares, write for catalogue, illustrated from life.

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that make a horse wheeze, Roar, have Thick Wind, or Choke-down, can be removed with

ABSORBINE

or any Bunch or Swelling. No blister, no hair gone, and horse kept at work. \$2.00 per bottle, delivered. Book 3 E free. Mr. Robt. Jones, Sr., Mar-mora, Ont., writes, April 8, 1907: "I had a valuable horse with a big leg, and used one bottle of ABSORBINE, and it cured him completely."

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Agents are Coining Money

Selling this Combination Tool. Sells at night. Farmers, farmers' sons and others having time at their disposal this winter should write to-day for our Agents' offer.

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RINGING IN EARS DEAFNESS INSTANTLY RELIEVED BY THE OLD DR. MARSHALL'S CATARRH SNUFF

25¢ AT ALL DRUG STORES OR SENT PRE-PAID BY C. H. KEITH, CLEVELAND, OHIO

MESSRS. HICKMAN & SCRUBY

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Exporters of Pedigree Live Stock of all Descriptions. From now on we shall be shipping large numbers of horses of all breeds, and buyers should write us for particulars before buying elsewhere. If you want imported stock and have not yet dealt with us, we advise you to order half your requirements from us, and obtain the other half any way you choose; we feel confident of the result, we shall do all your business in the future. Illustrated catalogues on application.

Percheron, Belgian, Shire and Hackney Stallions and Mares.

As fine a lot as there is in America; 3 to 4 years old; with lots of quality and good individuals; weighing or maturing 1,900 to 2,200 lbs. Prices on Imported stallions, \$1,000 to \$1,200; American-bred stallions, \$600 to \$900. Importations to arrive February 18 and March 1.

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Clydesdales FOR SALE—Imp. and Canadian-bred stallions and mares, ranging in age from foals upwards. Seven imp. mares in foal. Keir Democrat (imp.) (2187) (7018) at head of stud. Also a number of work horses. Long-distance phone. R. B. Pinkerton, Essex, Ont.

Clydesdales AND TAMWORTH SWINE For sale: Reg. Clydesdale stallion, 3 years, bred from best blood in Scotland; also a few Tamworths, both sexes, bred from the best blood in England. Write, or call on: Chas. Currie, Morriston, Ont.

QUESTIONS AND ANSWERS.
Miscellaneous.

CONCRETE VS. STONE WALL.

Kindly inform me whether it would be better to put a concrete wall or a stone wall under a barn. Which would be the cheaper and better for stock? Have a mile and a half to draw stone, at 25 cents a load.

Ans.—Concrete would, under the circumstances, be cheaper than stone, we think, and it makes an even stronger wall, and by making an air space in it, would give one that would be drier and warmer.

FRUIT TREES.

1. Would it hurt young trees to keep tar paper on them the year around?
2. How do the nurserymen grow their young trees, and how and when do they graft them?
3. Where do you get those free books that tell all about orchards and fruit-growing?

Ans.—1. Tar paper might hurt young trees, and it would be wise to take it off in spring. Besides, it furnishes a harbor for cocoons of noxious insects.

2. Nursery apple stock is grown from seed, and grafting is done near the ground on the small tree trunk, or more commonly a scion is joined to a piece of root six or more inches in length, and this is afterwards planted. The stone-fruit trees are budded on natural stocks.

3. Apply to the Department of Agriculture, Toronto, and to the Department of Agriculture, Ottawa, stating your wants, and the literature will be sent to you.

MATERIAL FOR CEMENT TANKS.

Kindly let me know how much cement to build a water tank 20x10x6 feet; how much cement to build two water tanks 5x5x5 feet. Kindly state thickness of walls and floor, or bottoms, etc.; also amount of material to use.

A SUBSCRIBER.

Ans.—It may be assumed, in the absence of any statement to the contrary, that these tanks are to be underground. The larger of the two should have walls six inches thick, and the bottom should have a thickness of four inches. There ought to be bars of iron across the center, ends bent and imbedded in walls, to resist pressure of earth. Such a tank of concrete, mixed 1 to 5, would require 24 cords of gravel and 14 barrels of cement. The smaller tank, built of the same strength of mixture, with 5-inch walls and 4-inch floor, would need 1/2 cord of gravel and about 3 barrels of cement.

BLACK-LEG—COWS NOT COMING IN HEAT.

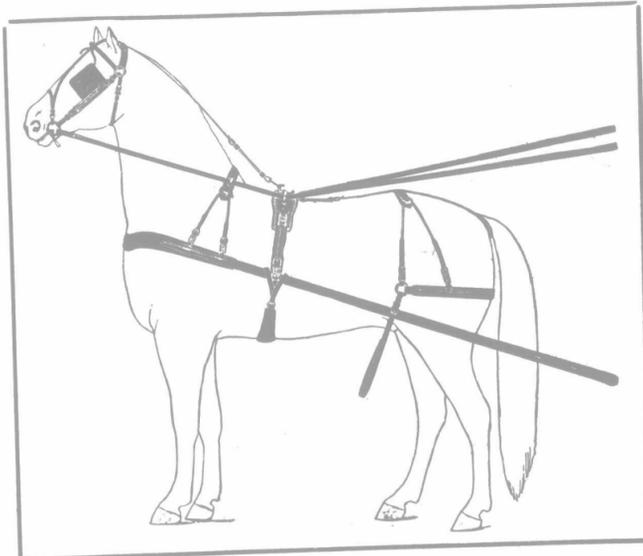
1. I lost a heifer that was in good condition, from what I believe to be black-leg, as she appeared to be well the previous evening, and next morning she was dead, without a struggle, and on skinning her I noticed black spots on hind quarter. We lost a three-year-old heifer a year ago similarly affected. Is there any danger of contagion, and what is cause of it?
2. What is the best thing to bring a cow in heat? I saw something about it some time ago in your paper. Would yeast be of any account? J. R. K.

Ans.—1. Black-leg, also known as symptomatic anthrax, quarter evil, etc., is distinctly a cattle disease. It is not infectious, so far as being transmitted from animal to animal, but is caused by a germ which resides in the soil, and which invades the system through wounds of the skin or mucous membrane. It attacks principally animals of from six months to two years of age, though younger and older cattle are also liable to the disease. Nothing can be done to cure black-leg. The disease can be prevented by vaccination. The vaccine can be procured from Dr. Rutherford, Veterinary Director-General, Ottawa, with necessary instrument and directions.

2. The yeast treatment is used only when the cow is in season, to effect impregnation. Our veterinary editor has found that the administration of two drams nux vomica three times a day to a cow has often apparently had the desired effect, by stimulating the nervous system. Letting the bull run with the herd in the summer months, it is thought, is likely to have the same effect in some cases.

A HIGH-GRADE HARNESS

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Something New, Different and Neat.

Notice that the round supports in the Breast-Collar and Breeching slide in the loops. Send for further description, and get our catalogue of Vehicles and Harness, FREE. Have arranged a special low price that we should sell 1,000 sets within the next two months.

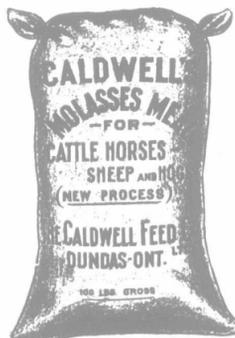
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For Horses, Cattle, Sheep and Hogs



Contains from 80 to 84 per cent. pure cane molasses (not a particle of sugar-beet by-product enters into its composition). A digestive feeding meal, convenient to handle, economical to use, and gratifying in its results. Nothing to equal it for finishing stock. Ask your dealer, or write:

The Caldwell Feed Company, Dundas, Ontario

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UNION STOCK YARDS, TORONTO, CANADA

The Great Wholesale and Retail Horse Commission Market.

Auction Sales of Horses, Carriages and Harness every Monday and Wednesday. Horses and Harness always on hand for private sale. The only horse exchange with railway loading chutes, both G. T. R. and C. P. R., at stable doors. Horses for Northwest trade a specialty.

J. HERBERT SMITH, Manager



Clydesdale Stallions and Mares

Our new importation has just arrived at our stables here. All the animals are in good condition, of big size and quality. Come and inspect them.

Dalgety Bros., London, Ont.

SCOTLAND'S BEST IN CLYDESDALES

I believe I can show intending purchasers of Clydesdale stallions or fillies a bigger selection, better breeding, bigger horses, more character, more quality, more right-down high-class individuality, and will sell them for more reasonable prices, and give better terms, than any other man in Canada. Let me hear from you if you want a topper.

T. H. HASSARD, MARKHAM, ONT.



BECAME SO WEAK AT TIMES COULD NOT WORK.

Mrs. George Hiles, Grimby, Ont., writes:—"Just a few lines to let you know what Milburn's Heart and Nerve Pills have done for me. I suffered greatly with my nerves and became so nervous and weak at times I could not work. A friend of mine advised me to try a box of your pills, which I did, and soon found great relief. They are the best medicine I have ever taken for the heart and nerves. I recommend them to any one suffering from heart or nerve trouble.

Milburn's Heart and Nerve Pills make the weak heart strong and the shaky nerves firm by imparting a strengthening and restorative influence to every organ and tissue of the body and curing palpitation of the heart, dizziness, sleeplessness, anaemia, twitching of the muscles, general debility, lack of vitality, etc.

Price 50 cents per box, or 3 for \$1.25, at all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

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Aberdeen-Angus The "TWEEDHILL" herd has been before the public for 25 years, and means quality and individual excellence. Young bulls, 12 to 15 months, and females all ages for sale. Write James Sharp, Rockside, Ont. Cheltenham Sta., C.P.R. & G.T.R.

ABERDEEN - ANGUS

Will sell both sexes; fair prices. Come and see them before buying. WALTER HALL, Drumbo station, Washington, Ont.

Shorthorns, Cotswolds, Berkshires.

In Shorthorns: 40 females, comprising 9 calves, 6 yearlings, 6 two-year-olds, and the balance cows from 3 years up. In Cotswolds, a few breeding ewes. No Berkshires to offer at present.

CHAS. E. BONNYCASTLE, Station and P. O., Campbellford, Ont.

GLENGOW SHORTHORNS

Have on hand four young bulls from 10 to 13 months old; also a number of choice heifers. For particulars write:

Wm. Smith, Columbus, Ont.

Maple Grange Shorthorns

Royal Bruce, imp., a Bruce Mayflower, is the sire of all my young things. Nonpareils, Claretts, Myrles and Lavinas. Heifers up to 2 years of age, of showing type. Several young bulls, thick, even and mellow.

R. J. DOYLE, Owen Sound, Ont.

JOHN GARDHOUSE & SONS

Still have for sale a right good lot of young Shorthorns; a few No. 1 Shire stallions and fillies just imported in August; also a choice lot of ram lambs. Weston Station, G. T. R. and C. P. R. Long-distance phone.

HIGHFIELD, ONTARIO.

OAK LANE FARM

Clydesdales, Shorthorns and Cotswolds

Heifers and cows with calf or calves at foot, also one two-year-old Clyde stallion—a neat one.

GOODFELLOW BROS., MACVILLE P. O. ONT. Bolton Station, C. P. R.; Caledon East, G. T. R. Local and Long-distance telephone.

4 Shorthorn Bulls

FOR SALE. 3 red and one roan; age from 12 to 16 months; sired by Imp. Lord Gordon (99434) = 70135 =, bred by A. Watson, Elgin, Scotland. J. & W. RUSSELL, Richmond Hill, Ontario.

Shorthorns, Clydesdales, Oxford Downs

A number of red and roan bulls, 6 to 16 months, by Blossom's Joy = 73741 =; some with imp. dams.

Heifers 1 and 2 years. Clydesdales of both sexes. Oxford Down ewes. All at reasonable prices. Phone connection. McFarlane & Ford, Dutton, Ont.

Clover Dell Shorthorns—For Sale: Young stock of both sexes. Milking strains a specialty. Moderate prices. L. A. WAKELY, Bolton, Ont. Bolton Junction, C. P. R., ½ mile of farm.



QUESTIONS AND ANSWERS. Miscellaneous.

PERMANENT PASTURE.

Want to seed down a field to a permanent pasture in the spring. Would you kindly let me know what seeds you think would be best to sow, and also amount per acre? Would rather not sow anything that would be too hard to kill.

S. B.

Ans.—The mixture recommended by Prof. C. A. Zavitz, Experimentalist at the Ontario Agricultural College, where it has been tried for years in the experimental department, is: Orchard grass, 4 lbs.; meadow fescue, 4 lbs.; tall oat grass, 3 lbs.; timothy, 2 lbs.; alsike clover, 2 lbs.; white clover, 1 lb.; trefoil, 1 lb., making a total of 24 lbs. seed per acre.

PEAS ON SOD—STABLE ARRANGEMENT.

1. Advise as to growing peas on a piece of sod containing six acres, sloping to the north. If plowing sod in the spring, would you advise sowing to peas? If so, what time to plow and sow?

2. I have a barn 50x30 feet, the barn floor being in the center. The barn is on level ground, and I wish to leave the barn floor on the ground so as not to have a high draw into it. Will put walls and stables on each side. Kindly advise as to the best way to do it; horses on one side and cows on the other.

S. J. T.

Ans.—1. Spring-plowed sod is the very best possible condition of ground for the growing of peas. Plow as soon as ground is really fit, and sow after the other spring grain has all been sown. If pea weevil is prevalent, sowing might well be delayed for two weeks more.

2. There is no need to tell how to build walls. In regard to arrangement of stables, there is room for but one row of horses on one side of the barn floor, and one row of cow stalls on the other. Have both horses and cattle stand with their heads to the drive floor, and, by having close boarding up to loft in front of each, and doors to let down for introducing feed, quite convenient and warm stables may be secured.

CEMENT FLOOR OVER STABLE—WATER TANK.

1. How much gravel and cement would it take to floor a horse stable 100 feet long by 50 feet wide? Would four inches be thick enough? What would be the best way to lay it? We have the steel rails for joists, five inches high, with flange on bottom. Would coarse or fine gravel be best? Do they use coarse sand for the top coat? What weight would these joists carry, weighing 79 lbs. to yard, and being three feet apart, there being first a 13-ft. span, then a 24-ft. span, and a 13-ft. span, would the 24-ft. span require truss rods?

2. How could a water-tank be built so as to catch the rainwater off barn, and to have it so that the water could be distributed by gravity throughout the stable? Would cement do to build it with? How could it be kept from freezing?

SUBSCRIBER.

Ans.—1. About 14 cords of gravel and 90 barrels of cement would be required to put cement floor four inches thick over stable described, if mixed 1 to 5. Four inches would be quite thick enough. Ordinary mixed gravel would be best for the full thickness. The space between the rails would have to be filled with a false floor of boards before beginning to lay concrete. After a thickness of one inch has been laid, woven wire fencing, or similar reinforcement, should be laid down crossways to the joists, and the full thickness laid on and well rammed. The 24-ft. span would require truss rods. Each of these steel-rail joists, where the span is 13 feet, are supposed to be capable of carrying a weight of 5,000 lbs., equally distributed along the width of span.

2. A round, wooden tank, the lower end of which is high enough to clear a man's head, might be set in a convenient place overhead in stable, and would probably give no trouble by freezing. A cement tank could also be built in some such position as well.



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Clover & Grass Seeds

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Elm Park Aberdeen-Angus The young bulls we have for sale are sired by: Magificent, Imp., 2856, champion of Canada, 1910; Prince of Benton, Imp., 828, champion Toronto and Winnipeg, 1903; Lord Val, 2nd 868, champion Calgary, Halifax, Sherbrooke Dominion Exhibitions. Jas. Bowman, Elm Park, Guelph, Ont. Phone 708.

SHORTHORNS AND CLYDESDALES

THE FOLLOWING CHOICELY-BRED YOUNG BULLS ARE FOR SALE:

Name	Color	Age	Sire	Dam
1 Village Favorite	Red	Sept. 6, 1909	Prince Favorite (imp.)	Village Bride
2 Ramsden Recruit	Red	Nov. 9, 1909	Bullrush (imp.)	Martha 6th
3 Royal Bud	Red roan	Jan. 4, 1910	Royal Winner (imp.)	Silver Rose 2nd
4 Royal Emblem	Red	Jan. 26, 1910	Royal Winner (imp.)	Ury's Star 4th
5 Royalty	Red	Apr. 22, 1910	Royal Winner (imp.)	Claret 34th

Heifers and cows of various ages and choicest breeding. A choicely-bred Clyde stallion, rising two years, from imported sire and dam. Burlington Jet. Sta., G. T. R. Long-distance phone.

W. G. Pettit & Sons, Freeman, Ont.



Maple Leaf Shorthorns and Hampshire Hogs

Offering for sale Shorthorn bulls and heifers and young Hampshire pigs.

PORTER BROS., APPLEBY P. O., BURLINGTON STA. Phone.

Scotch Shorthorn Females for Sale I am offering, at very reasonable prices, females from one year to five years of age. The youngsters are by my grand old stock bull, Scottish Hero (imp.) = 55042 = (90065), and the older ones have calves at foot by him, or are well gone in calf to him. Their breeding is unexcelled, and there are show animals amongst them. A. EDWARD MEYER, Box 378, GUELPH, ONT.

Springhurst Shorthorns and Clydesdales

I am now offering a number of heifers from 10 months to 3 years of age. Anyone looking for show material should see this lot. They are strictly high-class, and bred on show lines. Also several Clydesdale fillies, imp. sires and dams, from foals 2 years of age off. Harry Smith, Hay, Ont. Exeter Sta.

ECZEMA CURE A BEAUTY WASH

Although D. D. D. Prescription has been recognized for years as the one remedy for Eczema, Psoriasis, and all other forms of skin diseases, it is now known that there is no other wash, even those used by the beauty specialists, that can compare with this mild liquid for cleansing the skin of pimples, blackheads, rash, and all similar skin affections.

For this reason alone, a bottle of D. D. D. should be kept on hand in every household. A free trial bottle will show you the merits of this great remedy as a complexion wash.

D. D. D. seems to remove the cause, whatever the trouble may be, cleansing the skin, and leaving it as soft, as smooth and clear as that of a healthy child.

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(For sale by all Druggists.)

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The first remedy to cure Lump Jaw was
Fleming's Lump Jaw Cure
and it remains today the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vest-Pocket Veterinary Adviser. Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy.
FLEMING BROS., Chemists, 75 Church St., Toronto, Ontario

10 Scotch Shorthorn Bulls 10
FROM 10 TO 14 MONTHS OLD

The Princess Royal, Secret, Bessie, Village Maid families are represented in lot. First-class herd headers and farmers' bulls for getting market-topping steers. Prices very reasonable.

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Claremont Station, C. P. R., three miles.

Woodholme Shorthorns are of the richest modern in type and quality. For sale: One- and two-year-old heifers, several young bulls, thick-fleshed, low-down and mellow.
G. M. FORSYTH, Claremont, Ont.
100 yards from station. Phone connection.

MAPLE LODGE STOCK FARM
1854 Very desirable young 1911
SHORTHORN BULLS FOR SALE.
Have best milking strains. LEICESTER SHEEP of highest quality. Lucan Crossing, G. T. Ry. Telegraph, Ailsa Craig. Telephone.
A. W. SMITH, Maple Lodge, Ont.

HIGH-CLASS SHORTHORNS
I have on hand young bulls and heifers of high-class show type, pure Scotch and Scotch-topped, sired by that sire of champions, Mildred's Royal. If you want a show bull or heifer, write me.
GEO. GIER, Grand Valley P. O. and station, also Waldemar station.

SPRING VALLEY SHORTHORNS If you want a good Shorthorn bull, we have them, Canadian-bred and imported. Females all ages. Also a few good YORKSHIRES—boars and sows. Prices right.
Phone connection, **Kyle Bros., Ayr, Ont.**

FLETCHER'S SHORTHORNS
Imported Shorthorn bull for sale. Just turned 4 years old. Benachie (imp.) = 69954—bred by A. T. Gordon; sire Scottish Farmer, grandson of Scottish Archer; dam Beatrice 22nd, which produced Bandmaster, the first-prize Royal winner.
GEO. D. FLETCHER, BINKHAM, ONT.
Erin Sta., C. P. R.

Shorthorns Present offering: 12 bulls from 5 to 20 months old; 40 cows and heifers to choose from. Nearly all from imported bulls. At prices to suit everyone. Come and see them, or write: **Robert Nichol & Sons, Hagersville, Ont.**

4 Shorthorn Bulls FOR SALE, of with size and quality. Several females, all bred from heavy-milking dams.
Thomas Graham, Port Perry, Ontario.

CEDARDALE SHORTHORNS—Imported and home-bred. Imp. Lord Fyvie heads the herd. For sale are choice young bulls, and a few 1 and 2 yr. old heifers of superior breeding and type. Dr. T. S. Sproutie, M. P., Markdale, Ont.

Scotch Shorthorns FOR SALE—Three choice young Scotch bulls fit for service; two roans and one red. Bred from imp. stock, also females of all ages. Bell phone.
A. C. Pettit, Freeman P. O., Ontario.

QUESTIONS AND ANSWERS.
Miscellaneous.

SILO CAPACITY.

How many acres of White Cap Yellow Dent corn, planted in hills 40 inches apart, would it take to fill a silo ten feet by thirty feet?

A CONSTANT READER.

Ans.—From two to three and a half acres, depending on the weight of the crop.

WORKING LAND ON SHARES.

Would you kindly tell me in regard to working land on shares. What share would be right for grain fields, the proprietor having the land plowed?

SUBSCRIBER.

Ans.—In this matter of renting on shares, there is no general rule by which to act. Local usage may usually be reckoned on as being about fair. It will be very evident to everyone that no answer governing all cases could be given. For instance, if the expected yield of grain, say of oats, were 60 bushels per acre, and the renter got one-half, a proportion that would seem to be about right in the case given in the question, he would have at 35 cents per bushel, \$10.50 for his labor, expense and risk. But suppose that no more than 40 bushels per acre could be looked for, his share would amount to \$7 only, and there would be not so very much difference in the work or expense involved. The man on the spot can answer such a question better than anyone else.

GARGET.

1. I bought a cow last spring shortly after calving. One quarter of her bag was hard and very much inflamed. I bathed it well with hot water, but the milk was not good. I kept it milked out till fall, but it did not get right. Have heard since that one of her teats was hurt two years before, and the milk was not good for a time. She is due to calve in April. Can I do anything to help it for another season? Will it be permanently injured?

2. Do you advise milking a cow before calving if her udder is very hard?

J. S. C.

Ans.—1. The trouble with the cow's udder was garget. Whether that quarter will be of any use this season is doubtful, but it would be wise to milk it, if possible. If milk can be drawn from it, even though not good, the treatment recommended for garget should be tried. That consists in giving a dose of 1½ lbs. Epsom salts, followed up with a teaspoonful of saltpetre in a pint of water as a drench daily, or in feed for a week. Rub the quarter twice daily with goose grease and spirits of turpentine, after bathing with hot water and vinegar.

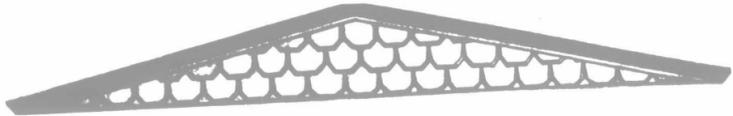
2. It is very seldom advisable to milk a cow before calving. We do not advise it.

PROBABLY CROP-BOUND.

Some of my hens are working their necks as if they tried to swallow and could not. They do this when they eat, and the rest of the time they stand around dumpy. We feed them hot mash at night, with some grain, and barley and wheat, with roots, in the morning and noon.

A SUBSCRIBER.

Ans.—I am under the impression that these chickens have had quite a craving for green food. Probably the birds have been allowed to eat old grass until their crops are full. The symptoms are those usually associated with birds that are crop-bound. The only thing to do is to give the birds, say a teaspoonful or a dessertspoonful of castor oil or raw linseed oil, and knead the crop well, so that the oil will get mixed with the old grass, or whatever is causing the obstruction. Ordinarily, they will come all right with this treatment. In some cases, an operation will be necessary; that is, if the bird is extremely valuable. If you wish to operate, cut open the crop on the upper side, and, by means of a silver spoon or clean wooden ladel, remove the contents of the crop, then sew the membranes of the crop together, being careful not to sew the outer skin with the inner skin; after this, feed a little soft mash. Filling the crop full of warm water and kneading well, and then inverting the bird until the contents can be removed, often works very well.
W. R. GRAHAM.



How "Eastlake" Steel Shingles will save you money



Talk No. 4

SAFETY

By The Philosopher of Metal Town

Just ask yourself the question, Mr. Farmer, "Is my barn roof lightning-proof—is it fireproof?"

It's not a cheerful sight to see your barn—full to overflowing with the season's crop—wiped out by lightning or a spark from the threshing engine.

All because of faulty roofing.

A fireproof roof is the only sure protection for your crops, your implements and livestock.

"Eastlake" Steel Shingles are absolutely lightning-proof, fireproof and stormproof—the best and safest roofing for all buildings.

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They cost less than a wooden roof equipped with lightning rods.

This is the one roofing for you, Mr. Farmer.

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We also manufacture Corrugated Iron, House and Barn Siding, Metallic Ceilings, Eavetrough, Conductor Pipe, Ventilators, Etc.

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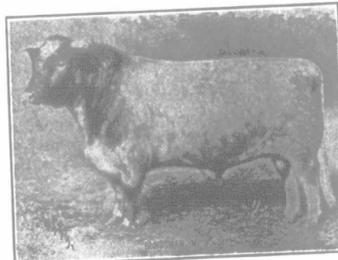
SCOTCH SHORTHORNS

100 HEAD IN HERD.

Headed by the imported bulls, Bandsman and Village Duke. For sale: 7 choice bulls of serviceable age; 3 are from imported sire and dam; 2 are thick, heavy-boned yearlings, suitable for farmers' use to sire growthy, easy-feeding steers; 1 Nonpareil and 1 Missie, both by Bandsman, are especially suitable for herd headers; 25 young cows and heifers in calf; among these are some good ones for foundation purposes.

Farm ½ Mile from Burlington Jct. Sta. Long-distance phone.

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have to offer at the present moment an exceptionally good lot of young bulls, which combine all the requisites necessary for the making of superior stock sires, viz.: Quality, Size, Conformation and Breeding. If interested, come and make your selection early. Catalogue on application.

John Clancy, Manager, Cargill, Ontario.



Robert Miller, Stouffville, Ont. Can supply young bulls and heifers of the very choicest breeding, and of a very high class, at prices that you can afford to pay. The young bulls are by one of the greatest sons of Whitehall Sultan. They are good colors, and will make show bulls. I also have two good imported bulls at moderate prices and of choice breeding, and some cows and heifers in calf to Superb Sultan; the calves should be worth all the cows will cost. Some beautiful young imported Welsh Ponies still to spare. It will pay you to write, stating what you want. Glad to answer inquiries or show my stock at any time. Business established 74 years.

Irvine Side Shorthorns 2 extra good young bulls ready for service; both from an imp. bull, and one of them from an imp. cow. Also 1 good two-year-old registered Clydesdale mare from imp. sire, and out of imp. mare.

ELORA STATION, G. T. R. & C. P. R.
J. WATT & SON, SALEM, ONTARIO.
Elmhurst Scotch Shorthorns and Large English Berkshires
FOR SALE: Two young bulls, red and roan, fashionably bred with quality. Young sows bred for April litters.
H. M. VANDERLIP, Calnsville, Ont. Langford Station.
B. H. Radial in sight of farm, Bell phone.



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The long service and the comfort it gives makes it the Slicker of Quality Sold Everywhere

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Brampton Jerseys

Bulls fit for service are getting scarce. Just a few left. Yearling heifers in calf are in great demand; 6 for sale; 6 now being bred. Brampton Stockwell the sire. A few good cows and some calves for sale. Production and quality.

B. H. Bull & Son, Brampton, Ont.

CHERRYBANK AYRSHIRES!

Imported and Canadian bred, with R. O. P. official records, headed by the renowned champion, Imp. Netherhall Milkman. Richly-bred females and young bulls for sale.
P. D. McArthur, North Georgetown, Que.

CRAIGALEA AYRSHIRES!

Our record: Every cow and heifer entered in Record-of-Performance, and retained in herd until test was completed, has qualified. Heifers and young bulls for sale of show-ring form. H. C. HAMIL, BOX GROVE P. O., ONT. Markham, G. T. R.; Locust Hill, C. P. R. Bell phone connection from Markham.

BUSINESS-BRED AYRSHIRES

My herd of Ayrshires have for generations been bred for milk production. They are nearly all in the R. O. P. My present offering is several young bulls most richly bred. James Begg, R. R. No. 1, St. Thomas, Ont. Bell phone.

Ayrshires

Bull calves, from 4 months to 9 months, from imported sire and Record of Performance dams. Records 50 to 63 pounds per day.
N. Dymont, R. R. No. 2, Hamilton, Ont.

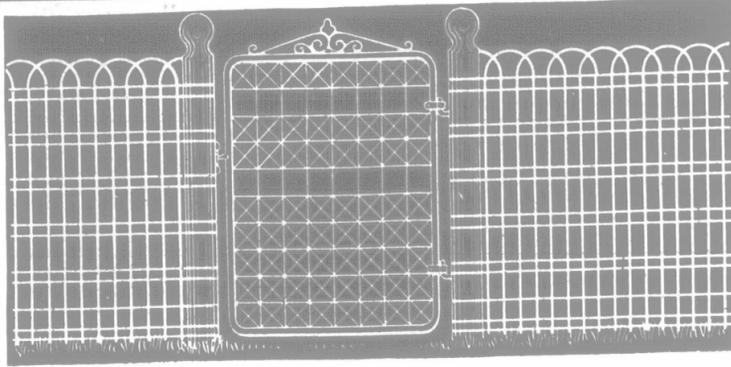
HILLCREST AYRSHIRES.

Bred for production and large teats. Record of Performance work a specialty. Fifty head to select from. Prices right.
FRANK HARRIS, Mount Elgin, Ont.

HILLVIEW AYRSHIRES.

Imp. Hobland Hero at head of herd. Imp. and Canadian-bred females. Young bulls true to type and bred in the purple for sale, also a few heifers.
R. M. Howden, St. Louis Station, Que.

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An Attractive Fence for your lawn—neat, durable

The Peerless Lawn Fence and Ornamental Gates will add to the attractiveness of any property. They're good enough for any city lawn and strong and durable enough for the farm.

PEERLESS ORNAMENTAL FENCE AND GATES

Peerless Ornamental Fence is solidly made of spring steel wire—carefully galvanized and painted, so that it is thoroughly protected from rust.

Peerless Gates are built to last. The frame is made of tube steel, electrically

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We also make poultry and farm fence that is known throughout the country for its durability and long service. Let us send you our booklet about it.

We want agents wherever we are not now represented. Write for particulars.

The Banwell Hoxie Wire Fence Co., Ltd.

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Burnside Ayrshires

America's champion herd; over 100 head to select from; practically all imported and bred from imp. sire and dam; 20 with O. R. O. P. records; 25 daughters of R. O. P. dams. We won the late dairy test at Ottawa over all breeds. We can supply car lots.
R. R. NESS, HOWICK, QUE.

Ayrshires and Yorkshires

Our Ayrshire herd is in fine form. We can fill orders for a number of bulls fit for service, of good dairy breeding, or imported stock for 1911. Females any age. Young calves either sex. Young boars fit for service. Young pigs ready to ship. Write for prices and particulars. Long-distance phone.
ALEX. HUME & CO., Menie P. O., Ont.

SPRINGBANK AYRSHIRES

The world's leading herd of Record-of-Performance Ayrshires. Contains more champion milk- and butter-producers than any other herd. Also big cattle, big udders and big teats a specialty. A few bull calves, true to color and type, from R. O. P. dams, for sale at reasonable prices. A. S. TURNER & SON, Ryckman's Corners, Ont. Three miles south of Hamilton. Visitors welcome. Trains met by appointment.

STONEHOUSE Ayrshires

The champion Canadian herd for 1910 at the leading shows. 32 head imp. 56 head to select from. R. O. P. official records, the best and richest bred types of the breed. Anything for sale. Young bulls, females all ages.
HECTOR GORDON, HOWICK, QUE.

Stockwood Ayrshires

Imported and Canadian-bred. High producers and high testers. Females of all ages for sale, also several young bulls, from 8 to 13 months old. Imp. sires and out of imp. dams. Right good ones and bred from winners.
D. M. Watt, St. Louis Station, Quebec.

QUESTIONS AND ANSWERS. Veterinary.

ABSCESS.

Yearling calf has a lump that contains fluid under the jaw, and is not doing well. It is getting weak. I have lost calves other years from the same trouble. What causes this? Would food grown on low land cause it?
E. D.

Ans.—I cannot tell why this condition is common in your cattle. I don't think the low land is responsible. The abscess should be lanced, and then flushed out three times daily until healed, with a five-per-cent. solution of carbolic acid in water. Feed well, and give two drams hypsulphite of soda three times daily.
V.

ITCHY LEGS.

Several of our horses have very itchy legs, and are continually biting and rubbing them. They looked rough when taken off grass last fall, and they have not improved. I am feeding ground oats and timothy hay.
W. J. T.

Ans.—Horses do not thrive well while suffering from itchiness of the legs. Purge each with 7 to 10 drams aloes, according to size, and add to each dose 2 drams ginger. When purgation ceases, give each 1½ ounces Fowler's Solution of Arsenic twice daily for a week. Dress the legs twice daily with a warm solution of corrosive sublimate 40 grains to a quart of water. In addition to hay and oats, give a feed of bran, with a cupful of linseed meal, twice weekly, and give a few raw roots once daily.
V.

PROGRESSIVE CHRONIC PARALYSIS.

A year ago I bought a three-year-old colt. He wobbled when moving. Seemed as though there was a pivot in his back. I worked him last year, but in the fall he began to fail, and now his fore legs seem about as bad as his hind, and he has great difficulty in rising.
A. R. McN.

Ans.—This is a form of progressive paralysis, sometimes called locomotor ataxia, but it differs from this disease in man. It is due to a diseased condition of the spinal cord. This disease is of such long standing, a cure, or even partial recovery, is doubtful. All that can be done is to keep him as quiet as possible. Give him a laxative of 1 pint raw linseed oil; give laxative food, and give 2 drams nux vomica and 1 dram iodide of potassium three times daily. If his appetite fails, reduce the dose of potassium to 40 grains, and, if necessary, to 30.
V.

Miscellaneous.

CALF-FEEDING—HENHOUSE—TURKEY-RAISING.

1. Give a good method of feeding calves (for rearing, not for veal calves). I don't want to feed the whole milk. What prepared food would give the calves the best growth?

2. Give size, cost of material, etc., of a henhouse large enough for 40 or 50 hens.

3. Where can I get good information on turkey-raising?
S. L. C.

Ans.—1. Feed whole milk for the first week, the second week change gradually by mixing until nothing but skim milk is given. For the next two weeks, scald or simmer a small handful of ground flaxseed for each meal of each calf, mixing thoroughly with the warm milk. By this time the calf will probably be ready to eat oats, either whole or crushed. Give as much as the calf will clean up, and also some nice clover hay. As the appetite for grain and hay increases, the flaxseed may or may not be discontinued. General hints are, be sure the milk is at proper temperature, not hot, but lukewarm, the pails clean, and enough, but not too much, given. Overfeeding with milk is the cause of much of the calf-raiser's troubles.

2. Look at description of henhouse in our issue of March 18th, and modify to suit conditions.

3. You can order from this office, "Turkeys, Their Care and Management," price 75 cents, postpaid. A thoroughly reliable work. Watch coming issues of "The Farmer's Advocate" for articles on the subject.

A WIFE'S MESSAGE

Cured Her Husband of Drinking.

Write Her Today and She Will Gladly Tell You How She Did It.

For over 20 years her husband was a hard drinker. He had tried in every way to stop but she cured him by a simple home remedy which anyone can give even secretly. She wants everyone who has drunkenness in their home to know of this, and if they are sincere in their desire to cure this disease and will write to her she will tell them just what the remedy is. She is sincere in this offer. She has sent this valuable information to thousands and will gladly send it to you if you will but write her today. As she has nothing to sell, do not send her any money. Simply write your name and full address plainly in the coupon below and send it to her.



MRS. MARGARET ANDERSON,
104 Home Avenue, Hillburn, N. Y.
Please tell me about the remedy you used to cure your husband, as I am personally interested in one who drinks.

Name.....
Address.....

STAMMERS

The methods employed at the Arnott Institute are the only logical methods for the cure of stammering. They treat the CAUSE, not merely the habit, and insure NATURAL Speech. If you have the slightest impediment in your speech don't hesitate to write us. Cured pupils everywhere. Pamphlet, particulars and references sent on request.

The Arnott Institute, - Berlin, Ont., Can.

"Better hurry up that battleship for delivery," suggested the shipyard manager.

"Is there going to be war?" asked the superintendent.

"No, but it's only etiquette to deliver the boat before war goes out of style altogether."

Contracted a Heavy Cold.

It Became a Lung Splitting Cough.

Mr. J. H. Richards, 1852 Second Ave. East, Vancouver, B.C., writes: "Allow me to write a few lines in praise of your Dr. Wood's Norway Pine Syrup. Last fall I contracted a heavy cold which left me with a hacking cough and every time I would get a little more cold this hacking cough would become a lung splitting one. It kept on getting worse and I kept on spending money buying different cough remedies until a friend asked me if I had ever tried Dr. Wood's Norway Pine Syrup. I told him I was willing to try anything I thought would cure, and on the same day bought two bottles. Before half the first one was used my cough began to get much easier, and by the time I had used a bottle and a half my cough was gone. I am keeping the other half bottle in case it should come again, but I am sure I have a positive cure. Let me recommend Dr. Wood's Norway Pine Syrup to all who suffer from a cough or throat irritation of any kind."

So great has been the success of this wonderful remedy, it is only natural that numerous persons have tried to imitate it.

Don't be imposed upon by taking anything but "Dr. Wood's."

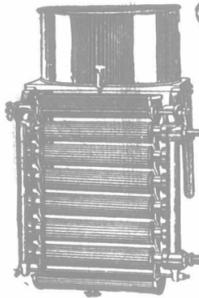
Put up in a yellow wrapper; three pine trees the trade mark; price 25 cents.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

GOSSIP.

LAKEVIEW HOLSTEINS.

Increase in numbers, official records, and quality of the highest standard, mark the steady and persistent improvement in the great Lakeview herd of official-record Holsteins, the property of E. F. Osler, of Bronte, Ont., during the past year. This now famous herd, which, in the near future, is destined to be one of the best in America, is 75 strong, among which are such great cows as Roserattler, with a seven-day record of 24 lbs., her daughter, Lakeview Rattler, who, at two years of age, made 15.49 lbs. butter, and gave 421 lbs. milk in seven days, and in fourteen days gave 30.2 lbs. butter, and 799.45 lbs. milk, and 14,405 lbs. milk in one year. She has just freshened again and will be retested. Lady De Kol Waldorf has a seven-day record of 25.82 lbs. butter and 622.8 lbs. milk. Cecil Wayne, with a seven-day record of 21.22 lbs. butter and 476 lbs. milk. Queen Inka De Kol, under two years of age, made 14 1/2 lbs. in seven days. De Kol Mantill 3rd, at two years and two months, made 16 lbs. in seven days. These are representative of a large number of others in the herd that are in the official record. Still at the head of the herd is that most richly-bred bull, Count Hengerveld Payne De Kol, sired by Pietertje Hengerveld's Count De Kol, the sire of De Kol Creamella, who holds the world's milk record of 119 lbs. in one day, and 780 lbs. in seven days. He is also the sire of five daughters with seven-day butter records that average over 30 lbs., and ten others with records that average over 25 lbs., and thirty others that average over 20 lbs., besides three granddaughters with records averaging over 28 lbs. His own dam, Pietertje Hengerveld, has a seven-day record of 21.85 lbs. Coupled with this great record as a sire is the fact that he is a brother to Hengerveld De Kol, the grandsire of Pontiac Clothilde De Kol 2nd, the world's present seven-day butter champion, with a record of 37.21 lbs. The dam of Count Hengerveld Payne De Kol is Grace Payne 2nd's Homestead, the late dethroned world's champion, whose seven-day butter record is 35.55 lbs., and a butter-fat test of 4.37 per cent. As a six-year-old, she made her world's record, and a butter-fat test of 5.42 per cent. Thus, at the head of this herd, is a bull who is a brother to the late world's champion, and is closely related to the world's present champion. Standing in a row in the splendid stable are fourteen yearling daughters of this bull, a most remarkable lot for excellence of type and uniformity. As assistant in service, Mr. Osler has purchased the no less royally-bred young bull, Dutchland Colantha Sir Mona, a son of Colantha Johanna Lad, whose dam, Colantha 4th's Johanna, holds the world's official thirty-day record of 2,873.6 lbs. milk and 138.54 lbs. butter; her yearly record is 27,432.5 lbs. milk and 1,247.82 lbs. butter, and her seven-day butter record is 35.22. Her dam, Colantha 4th, holds a seven-day butter record of 24.49 lbs. The dam of Colantha 4th's Johanna Lad is Mona Pauline De Kol, with a seven-day record of 488.7 lbs. milk and 26.93 lbs. butter, and a butter-fat test of 4.45 per cent. Her daughter, Baroness Mona Pauline, has a record of 27 lbs., and her dam, Mona Arab, 17 1/2 lbs. The daughters of the old stock bull, out of official-record dams, bred to this young bull, is the line of intensive breeding as conducted on this noted farm, and surely is the line of breeding that produces champions. There is one young bull left, nearly fit for service. He is nine months old, sired by the old bull, and out of a 13,000-lbs.-of-milk-a-year dam. Mr. Osler, in order to make room for pure-breds, is offering for sale eight head of high-grades, two of whom are two years of age, four are yearlings, and two are calves. The two-year-olds are daughters of the old stock bull; one of them has freshened, and the other is about due. They are an extra nice lot, and are offered at very reasonable prices. The one in milk looks like making something extra good. This farm, which, by the way, is probably the best-equipped stock and dairy farm in Canada, is three miles from Bronte Station, on the Toronto-Hamilton branch of the G. T. R.



The Secret of Pure Sweet Milk

You dairy-farmers can't afford to ship impure, germ-laden milk into the towns and cities. Our medical authorities are urging the Government to penalize offending dairymen very severely—don't you run any risks. If you pass all your milk through the Root Cooler-Aerator immediately it leaves the cow, you can guarantee it pure and sweet and get a bigger price for it per gallon. The

Root MILK SANITARY Cooler-Aerator

will keep the milk sweet for 48 hours because it kills the animal heat quickly and cools the milk to the same temperature as cold running water. admitted at the bottom, flows to the second tube and so on until it reaches the top tube. Thus the cylinder is kept perfectly cold all the time, and as they are deeply corrugated the milk flows down them slowly, reaching the re-taining pan thoroughly cooled and aerated. Cylinders are made of heavy copper, heavily coated with pure tin and guaranteed to stand heavy water pressure. Perfectly simple to operate—no complicated parts—a child can easily clean the whole machine in 5 minutes. Made in various sizes—will cool from 40 to 75 gallons an hour. Write us today for catalogue and price—every dairymen should have a Root Cooler—it's a big money-maker. Address:

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Alloway Lodge Southdowns

The Southdown is the best mutton sheep in America to-day, the championships at the winter fairs prove it. Southdown wool is finer than that of any other mutton breed. I get 4 cents a pound above market price. A Southdown ram makes the greatest improvement on a flock of good ewes. Ask anyone who has used one. Write me for prices; they will please you. Phone. Railway Stn., London.

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STOP! LOOK!! READ!!! FAIRVIEW SHROPSHIRE!!!!
Are now increasing rapidly in number. Shearlings and lambs. Choice. Getting ready for the anticipated brisk trade. Write for circular and prices to:

J. & D. J. CAMPBELL, Fairview Farm, Woodville, Ontario.

Oxford Down Sheep, Shorthorn Cattle, Yorkshire Hogs—Present offering: Lambs of either sex. For prices, etc., write to **John Cousins & Sons, Buena Vista Farm, Harriston, Ont.**

Hilton Stock Farm Holsteins and Tamworths. Present offering: 6 yearling heifers and several younger ones. All very choice. Of Tamworths, pigs of all ages and both sexes; pairs not akin. **R. O. MORROW & SON, Hilton, Ont.** Brighton Tel. & Stn.

Valley Home Berkshires Very prolific strain. For sale: A choice lot of young sows just bred; also an exceptionally good lot of young pigs of both sexes, one to three months old. Address: **J. B. PEARSON, AGENT, A. S. Rogers, Proprietor, MEADOWVALE, ONTARIO**

Pine Grove Berkshires. Boars fit for service. Sows three, four and five months old. Milton, C. P. R. **W. W. Brownridge, Ashgrove, Ontario.**

DUROC - JERSEY SWINE 30 choice young sows, bred and ready to breed. Young boars fit for service. Also a choice Jersey bull calf. Bell phone in house. **Mac Campbell & Sons, Northwood, Ont.**

White Hampshire Hogs—Largest herd in Canada. We bred the hogs that won both championships at Toronto and London for two years. Still have a few choice sows ready for service. Can furnish pairs or more not related. **HASTINGS BROS., Crosshill, Ont.**

Monkland Yorkshires I am making a special offering of 50 young bred sows. They will average 200 pounds in weight, and are from 6 to 7 months of age. An exceptionally choice lot, full of type and quality; also a limited number of young boars. **MATTHEW WILSON, FERGUS, ONTARIO**

CHERRY LANE BERKSHIRES! At Toronto last fall our herd won both the boar and sow championships, as well as most of the other leading awards. For sale are both sexes, from 6 months of age down to 1 month; the best types of the breed. **S. Dolson & Son, Norval Sta. P. O., Ont.**

Willowdale Berkshires. For sale: Nice lot of 5 months' sows, one 5 months' boar. Eggs from my famous flock of R. C. R. I. Reds, \$1 per 13. Express prepaid on 5 settings or more. Phone 52, Milton. **J. J. WILSON, Importer and Breeder, Milton, Ontario, C. P. R. and G. T. R.**

Swine OF ALL BREEDS FOR SALE. I breed Yorkshires, Tamworths, Berkshires, Hampshires, Chester Whites, Poland-Chinas and Duroc-Jerseys. I have constantly on hand both sexes of all ages. Show stock a specialty. **John Harvey, Frelighsburg, Que.**

Pine Grove Yorkshires For sale: A choice lot of young boars fit for service; also sows already bred. Are booking Descendants of imported stock. Property of **Joseph Featherston & Son, Streetsville, Ont.**

Elmfield Yorkshires Present offering for quick sale: Young sows about 5 1/2 months old. Will register and crate for \$19.00 each. **G. B. MUMA, Agr. Ont.**

MAPLE VILLA YORKSHIRES AND OXFORDS A grand lot of boars fit for service. Some splendid sows to farrow to first-class boars. 30 ewe lambs, including 2nd pen at Winter Fair. Long-distance phone Central Beeton. **Bradford or Beeton Sta. J. A. CERSWELL, Bond Head, Ont.**

FAIRVIEW BERKSHIRES Ontario's banner herd. Prizewinners galore. For sale are: Young sows bred and others ready to breed, and younger ones. A number of young boars coming on. **JOHN S. COWAN, Donegal, Ont.**

For Sale—Ohio Improved Chester Hogs. Sired by first-prize hog at Toronto and London. Also reg'd Jersey Bulls, from 6 to 10 months, from high-testing stock. Write to **CHAS. E. ROGERS, Ingersoll, Ont.**

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I was helpless and bed-ridden for years from a double rupture. No truss could hold. Doctors said I would die if not operated on. I fooled them all and cured myself by a simple discovery. I will send the cure free by mail if you write for it. It cured me and has since cured thousands. It will cure you.

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CAPT. W. A. COLLINGS,
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Dear Sir:—Please send me free of all cost your New Discovery for the Cure of Rupture.

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100 Styles of Hay and Stock Scales

THINGS WE ALL KNOW.

- How to bring up other people's children.
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JUST ONE WOMAN IN THOUSANDS

Who Can Say "Dodd's Kidney Pills Made Me Well!"

Mrs. Louis Delorme, who was always tired and nervous and suffered from Backache, tells how she found a cure.

St. Rose du Lac, Man., March 27.—(Special)—The story of Mrs. Louis Delorme, a well-known and highly-respected resident of this place, is identical with that of thousands of other women in Canada. It is all the more interesting on that account. She was tired, nervous and worn out. Dodd's Kidney Pills cured her.

"I suffered for five years from Backache and too frequent urination, which destroyed my sleep," Mrs. Delorme states. "My head would ache, and I was always tired and nervous. My limbs were heavy, and I had a dragging sensation across the loins. Dodd's Kidney Pills made me well. I used in all, ten boxes, but they cured me."

Thousands of other Canadian women who have used Dodd's Kidney Pills, are in the same condition Mrs. Delorme was in before she used them. Thousands of others were in that condition and who used Dodd's Kidney Pills, are now well and strong.

We base our experiences of others, and the experiences teach us that the weary and worn women of Canada can find relief in Dodd's Kidney Pills.

GOSSIP.

John T. Gibson, Denfield, Ont., writes: We are getting some good Shorthorn calves from the Clipper bull I bought at the Toronto sale two years ago, when he was a calf. He has grown into a good-fleshed, wide, deep bull. The young bull I am offering was his first calf. He has lots of scale, even, good-topped, heavy-boned, an Undine, dam by Nonpareil Duke =45203=, his dam a good milker, and his sire's dam a good milker. He should produce both beef and milk makers. Another extra good calf is a September white heifer, out of a Wimple cow, by Mildred Royal =45353=. She is a full sister to the dam of True Cumberland, the young bull that headed his class in the West last year. If this calf was in a showman's herd, she would be heard from next fall. Perhaps the best calf we have is an October red bull calf, out of Proud Julia 2nd, she by Proud Gift (imp.) =50077=. This is one of the best calves we have had in our barns for years. Another October red bull, out of a Cruickshank J. (imp.), also a Julia, is a very promising calf, in nice fit. I am offering two young Clipper cows, in calf, and a number of red yearling heifers, all well-bred and in good condition, at moderate prices.

BELLEVILLE HOLSTEIN SALE.

The auction sale advertised by the Belleville Holstein-breeders' Club, to take place in the city of Belleville, Ont., on April 7th, is their first, and the breeders consigning, understand that upon its success depends their future yearly sales. This should be a guarantee to the public that nothing but first-class individuals will be offered. Mallory Bros. are contributing the champion yearly butter cow of Canada, with over 23,500 lbs. milk, and about 1,100 lbs. butter; Trenton Keyes, a three-year-old, 16.54 lbs. butter in seven days; Echo Tina De Kol, with 16.46 lbs. butter in seven days; also a son of the great May Echo, and several other good ones. G. A. Brethen is contributing several grand young cows, all completing official records, which will be announced for sale. From seven cows that will be offered, his check from City Dairy for a period of 30 days, was \$200—certainly not a bad showing. A. D. Foster and S. J. Foster are offering several good ones, descendants of the cow, De Kol Plus, ex-Canadian yearly champion, and the grand old cow, Helena De Kol's De Kol. Geo. Anderson is offering a 17-lb. three-year-old, also a sister of May Echo, and her bull calf, sired by Velsta's Triumph, whose dam and sire's dam averaged over 100 lbs. milk in one day; a Korndyke heifer, bred to Sarah Jewel Hengerveld's son, a granddaughter of Calamity Jane, in calf to Velsta's Triumph, and a beautiful yearling bull (mostly white), whose dam made 18 lbs. butter as a two-year-old. J. A. Caskey's offering consists of a four-year-old, with a record of 18.89 lbs. butter, a 14-lb. three-year-old, a grand good one, four two-year-old heifers, one yearling heifer, and three bull calves, all sired by Francy 3rd's Admiral Ormsby, whose dam, Francy 3rd, has 29.16 lbs. butter to her credit, and whose sire, Sir Admiral Ormsby, has the four highest-record daughters in their several classes of any bull in Canada, including Jenny Bonerges Ormsby, with her yearly two-year-old record of 832 lbs. butter, and her seven-day three-year-old record of nearly 24 lbs.; also Vronke B. 2nd, at four years, 26.38 lbs. butter; Ormsby Bell, at four years, over 21 lbs. butter; Francy Bonerges, at three years, over 20 lbs. butter. Surely this is a rare opportunity to secure sons and daughters sired by such a bull, at the purchaser's own price. Mr. Caskey wishes to draw particular attention to a three-year-old bull he is offering, viz., Dolly's Cornucopia, whose dam, Dolly Inka De Kol, has a seven-day record of 23½ lbs. butter, and a thirty-day record of 93½ lbs. butter, and whose sire is a grandson of the ex-world's champion, Aaggie Cornucopia Pauline, butter 31.52. This bull traces to De Kol 2nd and Netherland Hengerveld, through their very best sons and daughters, and no better breeding can be found in the Holstein world. This bull is as kind as a calf, and a sure server. This short sketch, writes Mr. Caskey, is only a smattering of the good things offered in this our first yearly Belleville Breeders' Consignment Sale. For catalogues, apply to F. R. Mallory, Frankford, Ont.



OWNERS ARE PROUD OF I H C WAGONS

There is a certain pride in owning a wagon that you know is built of the highest quality materials obtainable—a wagon that is not only attractively finished with the best paint and varnish, but which also gives perfect service, day after day, and year after year. That's why I H C owners are so proud of their wagons.

If you want to be proud of your next wagon—choose one of these two in the I H C line—

Chatham or Petrolia

The loads they carry, the roads they traverse, and their wonderful durability make others wish they had bought a Chatham or Petrolia.

Chatham Wagons have a long record for satisfactory service in Canada. Made with hard maple axles, oak bolsters, sand boards, rims, and spokes, and oak or birch hubs—they represent the highest standard of wagon construction. When you buy a Chatham wagon it is with the assurance of getting the utmost service and satisfaction out of it.

Petrolia Wagons are constructed of first quality woodstock which is thoroughly seasoned by being air-dried. The ironing is of the very best. The inspection of each part is most rigid.

Be sure to call on the I H C local agent, get a pamphlet, and let him show you one of these wagons.

If you prefer, write the International Harvester Company of America at nearest branch house for any information you want.

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This Bureau is a clearing house of agricultural data. It aims to learn the best ways of doing things on the farm, and then distribute the information. Your individual experience may help others. Send your problems to the I H C Service Bureau.



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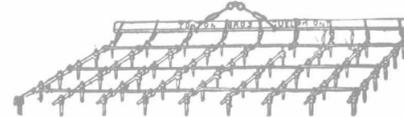
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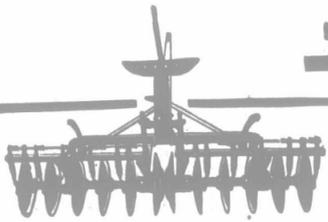
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Section and Flexible All-Steel Harrows with an unequalled record. Pre-eminently the most efficient, strongest and longest-wearing Harrows ever manufactured is our unprecedented guarantee. Send to-day for descriptive circular furnishing the facts. Address: Dept. F.



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No. 3 Out-throw Disc Harrow

WE have great pleasure in offering to our patrons this harrow which we believe to be the best out-throw harrow manufactured.

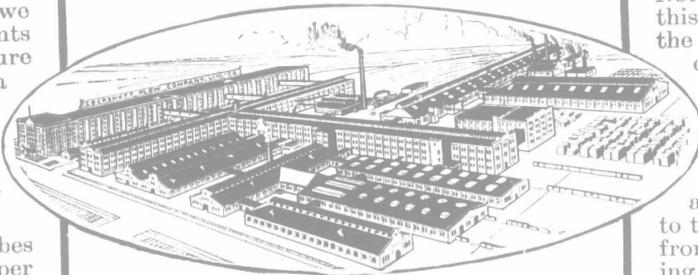
We desire particularly to draw your attention to the spring pressure which is applied to the boxings at the inner end of the discs. The users of out-throw harrows no doubt have experienced great difficulty in keeping the harrow cutting level when set at the full angle as the outer end of the harrow will have a tendency to go in deep, leaving the inner ends out. The spring pressure we have on these harrows prevents that, and this spring pressure is regulated by the use of a convenient lever. The amount of pressure to be applied can be easily adjusted, which insures the gangs cutting evenly no matter at what angle they are set.

We oil these harrows with tubes from the top of our scraper holders, and we use hard maple boxings in these harrows which we have found will outwear any other style of boxings in an out-throw disc harrow. Besides they are easily and cheaply replaced in case it is necessary to do so after years of wear.

We wish to call your attention to the bracing of this harrow. The hitch is very close to the work, and is in a class by itself with regard to any out-throw made. Samples of this harrow you will find at your nearest Cockshutt agency, and we believe if you would see one that you would purchase it in preference to any other.

Drop us a post card and we will send you our Catalogue free so that you can read all about these Harrows and also get acquainted with the full line of Cockshutt Implements.

HERE are two of the lightest draft Disc Harrows made anywhere. For a simple, sturdy piece of durable machinery, neither of them can be equalled. They are made of the very best materials, and we can assure every farmer that, no matter how rough or uneven the soil may be, these Harrows will do the work better, quicker and with less strain on the horses than any other Harrow.



About the Cockshutt Plant

IF the farmers of Canada—if you—could spend only one day going through our great plant at Brantford, you would get some idea as to why "Cockshutt" implements are shipped to every country in the world. From the time raw materials come into the yard, until the

finished products are put on the freight cars, every process of manufacture is under the watchful eye of some inspector. Not men who have spent their lives at an office desk—but practical expert mechanics—men who have actually lived on farms—men who know the farmer's needs—specialists in agriculture.

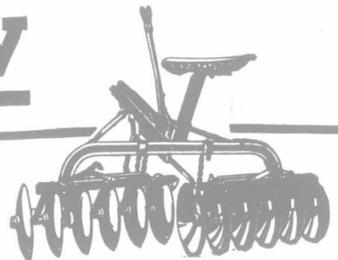
Every man suggesting, improving, inventing—trying to make the farmer's task easier and his work more profitable. Not only do we use the best materials and workmanship, but we strive to put conscience into our implements, not as a matter of policy, but honesty—the principle of giving 100 cents value for every dollar received.

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No. 4 In-throw Disc Harrow

WE sold a great many thousands of these harrows last year—every buyer was highly pleased.

Before commencing the manufacture of this new In-throw Disc Harrow, we noted all the merits and defects of disc harrows and we have combined in this one all the good features of all disc harrows, with many of our own which we have proven to be beneficial.

The frame is made of channel bar steel—strong enough to stand the strain under all conditions.

Notice how the braces are set on this harrow—also how convenient the lever for setting the harrow to cut at any desired angle. Notice the chains attached to the beam for regulating the depth of the harrow and preventing it from going too deep at inner end when harrow is set at full angle. Oil is conveyed to the bearings by tubes running from top of scraper holders, keeping the bearings dust proof and making them last longer.

Steel balls, accurately turned and perfectly polished, run in chilled bearings—this relieves end thrust of sections and makes draft very light. Cast balls (commonly used) soon wear flat on one side and bearings then become useless. With a touch of the foot, scrapers can be set to clean the harrow in heavy or sticky soils. Notice the shape of the discs—they are made to cut and turn all the soil. This is not only the best looking disc harrow but the best working disc harrow—examine it at any of our dealers.