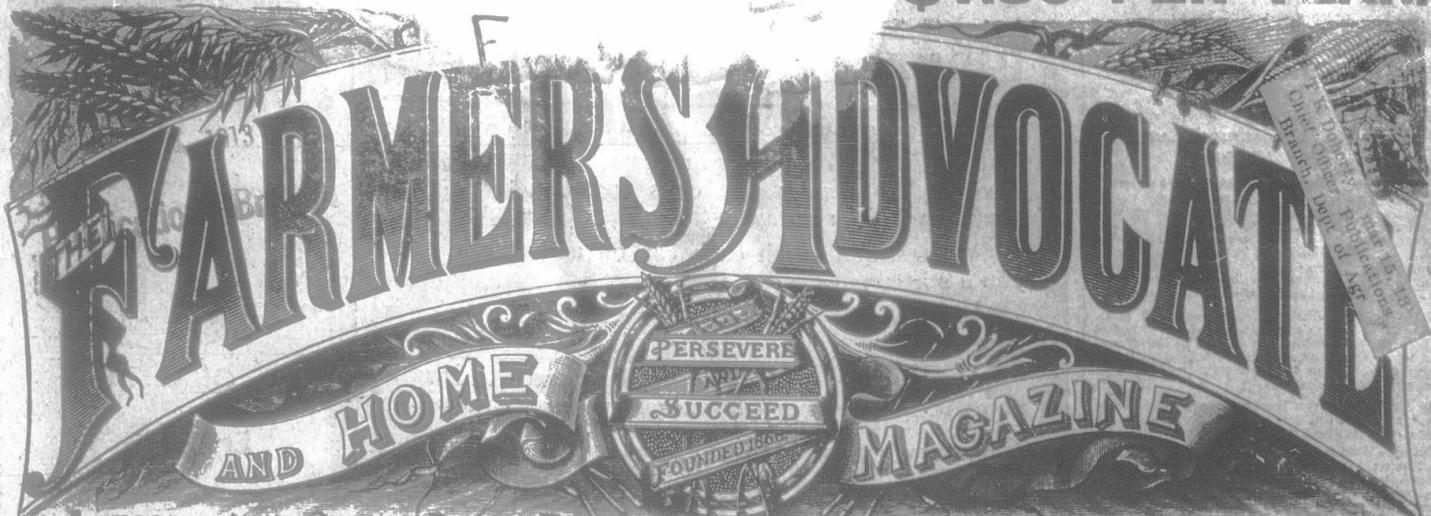


PUBLISHED

The

\$1.50 PER YEAR.



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

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VOL. XLVIII

LONDON, ONTARIO, JANUARY 2, 1913.

No. 1058

Free to Stock and Poultry Raisers

We will send absolutely free, for the asking, postpaid, one of our large sixty-four page books, with insert, on the common diseases of stock and poultry. Tells how to feed all kinds of heavy and light horses, colts and mares, milch cows, calves and fattening steers; also, how to keep and feed poultry so that they will lay as well in winter as summer. No farmer should be without it.

NOW is the time to use Royal Purple Stock Specific. At a cost of only two-thirds of a cent per day per animal, it will increase it 25 per cent. in value. It permanently cured Bots, Colic, Worms, Skin Diseases and Debility. Restores run-down animals to plumpness and vigor. It will increase the milk yield three to five pounds per cow per day and make the milk richer.

Royal Purple is not a stock food. There is no filler used in its manufacture, and we import from Europe all the seeds, herbs, barks, etc., and grind them on our own premises. Therefore, we can guarantee it to you as being absolutely pure. We do not use cheap filler to make up a large package. We give you the best condition powder ever put on the market in a concentrated form.

A tablespoon levelled off, once a day, is sufficient for a full-grown animal. It prevents disease, keeps your animals in perfect health, and is absolutely harmless. It makes six-weeks-old calves as large as ordinary calves at ten weeks. You can develop six pigs ready for market in just one month's less time than you can possibly do without it, at a cost of only \$1.50, saving you a month's work and food.

A 50c. package will last a horse 70 days. A \$1.50 pall or six-eight tin, containing four times as much as a 50c. package, will last an animal 280 days.

If you have never used it, try it on the poorest animal you have on your place, and watch results. If it does not produce better results than anything you have ever used, or give you satisfaction, we will refund your money.

Toledo, Ont., July 1, 1910.
W. A. Jenkins Mfg. Co., London, Canada.

Gentlemen,—I have used a part of a package of your "Royal Purple Stock Specific." I fed it to one cow according to directions. She gained six pounds of milk while using part of a package. The rest of my herd reduced in milk while this one gained. I consider it has no equal.

T. G. BELLAMY.

Bondhead, Ont., Aug. 31, 1912.
The W. A. Jenkins Mfg. Co., London, Ont.

Gentlemen,—After experimenting with a great many stock foods, I was about convinced that there was very little virtue in any of it, but your dealer insisted on me trying Royal Purple Stock Specific, saying it was different from all others. I have since used a great lot of it, as I keep from ten to twenty horses and about the same of cattle. This Specific, in my opinion, is certainly in a class by itself as a conditioner, and is the best I have ever used.

GEORGE MAPES.

Clear Creek, Ont., Sept. 19, 1912.
W. A. Jenkins Mfg. Co., London, Ont.

Dear Sirs,—Your "Royal Purple" Stock Specific is the best stock conditioner I have ever had in my stables, and am never without it. I had a brood sow that had milk fever very bad. Your "Royal Purple" saved her life. Put her on her feet in three days. I had three calves last spring that got scouring very badly. Could not get it stopped until I used "Royal Purple." It did the work O.K.

Yours truly, H. B. MOULTON.

Saskatoon, Sask., Sept. 20th.
The W. A. Jenkins Mfg. Co., London, Canada.

Gentlemen,—Some months ago we bought some of your Royal Purple Stock Specific from Mr. Vogan here. We have been using it ever since, and we find it the best conditioner for driving horses we have ever tried.

H. F. McCALLUM, "The Palace Livery."

In using our Stock Specific, we guarantee you better results by using the ordinary food grown on your farm, such as good hay, bats and bran, and so forth, than you can possibly obtain by using any of the many patent foods on the market. In these the percentage of nutrition is usually very small for the amount of money paid for the same. You know exactly what hay, oats, bran, chop or any farm products cost you, and ROYAL PURPLE makes animals digest these foods properly.

What we wish to impress on your mind is that we manufacture nothing but pure, unadulterated goods. Our booklet gives over 200 recommendations for our different lines from people all over Canada. While we give you above the names of a few who have used it, our best recommendation is for you to ask any person who has ever used any line we manufacture.

W. A. JENKINS MANFG. CO., London, Ont.

Scott, Sask., May 22nd, 1911.
The W. A. Jenkins Mfg. Co., London, Ont.

Dear Sirs,—Do you want a man to represent your Royal Purple goods in this district. I am from Ontario, and have fed your Stock Specific—got it from Mr. J. Corbett, of Brownsville. My cows, while using it, made the largest averages, and tested five points over average at C.M.P. at Brownsville. I know your goods are the highest class Stock Specific on the market, and take great pleasure in representing you in this district.

NORMAN G. CHARLTON.

Royal Purple Poultry Specific

will make your hens lay in winter, as well as summer, and yet a 50c. package will last 25 hens 70 days, or a \$1.50 pall or six-eight tin, containing four times as much as a 50c. package, will last 280 days. It prevents poultry from losing flesh at moulting time, cures and prevents all the ordinary diseases, makes their plumage bright, and keeps them in prime condition.

Port Colborne, May 11.

W. A. Jenkins Mfg. Co., London, Canada.

Dear Sirs,—This is to certify that I have used one \$1.50 tin of your "Royal Purple" Poultry Specific, and there is nothing that can equal it. I wanted yours again and your agent did not have any, so he gave me another brand, and I can assure you it was not worth carrying home, for my hens layed better without it. I have been from 12 to 15 dozen eggs short every week since I have not used your "Royal Purple."

CHARLES RICHARDSON.

Royal Purple

STOCK AND POULTRY SPECIFICS

A second from Mr. Richardson as follows:—

Port Colborne, Ont., Aug. 24, 1910.

W. A. Jenkins Mfg. Co., London, Canada.

Dear Sirs,—Please find enclosed express order for \$3.00, for which please send me two tins of your "Royal Purple" Poultry Specific.

C. RICHARDSON.

A third letter from Mr. Richardson as follows:—

Port Colborne, Ont., Aug. 29, 1910.

W. A. Jenkins Mfg. Co., London, Canada.

Dear Sirs,—I received two tins of "Royal Purple" Poultry Specific all O.K. I have tried all kinds of specific to make my hens lay, and I find that you are the only ones that manufacture the genuine article. All the rest, I think, is a waste of time and money to bother with. As an egg-producer, I cannot praise your Poultry Specific high enough, for I would not be without it if I had to pay double the money.

C. RICHARDSON.

Sherbrooke, Que., Aug. 1, 1912.

W. A. Jenkins Mfg. Co., London, Canada.

Dear Sirs,—I have used your Specific for one year, and have given it to my birds with good results. See my winnings at the different fairs, which will tell the tale.

MISS GEORGINA CAMIRAUD.

Royal Purple Cough Specific

During the last four years there has been an epidemic cough going through every stable in Canada, which has been a great source of annoyance to horsemen. Our Royal Purple Cough Cure will absolutely cure this cough in four days, will break up and cure distemper in ten days. Absolutely guaranteed. 50c. per tin; by mail, 55c.

Royal Purple Gall Cure

will cure all sorts of open sores on man or beast. Will absolutely dry up and cure scratches in a very few days.

Mr. SAM OWEN, coachman for the Hon. Adam Beck, says: "By following directions, I find your Royal Purple Gall Cure will cure scratches and make the scabs peel off perfectly dry in about four or five days." Price, 25c.; by mail, 30c.

Royal Purple Sweat Liniment

will reduce lameness in a very short time. Mr. John M. Daly, coalman in London, says: "We have nine horses constantly teaming coal, and have all kinds of trouble with them being lame at times. I have used your Sweat Liniment for a year back, and have never known it go fall to cure sprained tendons, etc." Price, 50c., 8-ounce bottles; by mail, 60c.

Royal Purple Lice Killer

This is entirely different from any lice killer on the market. In order for you to understand the process of manufacture of this lice killer, you will have to send for one of our booklets, as we give you a full history of it there. It will entirely exterminate lice on fowls or animals with not more than one or two applications. It smothers them. Price 25c.; by mail, 30c.

Royal Purple Disinfectant (Sheep Dip)

In this line we give you the largest value for the money of any disinfectant on the market. A tin containing 1 1/2 gal. Imperial measure will cost you only 50c. Also put up in 25c. tins.

Royal Purple Roup Cure

Mr. Dulmage, the great breeder, of White Rocks, tells us that he has never used a Roup Cure that will give relief so quickly to hens suffering from Roup or kindred diseases. Our book tells you all about it. 25c. per tin; 30c. by mail.

Royal Purple Worm Powders

For animals. 25c. per tin; by mail, 30c.

AN ASSORTED ORDER AMOUNTING TO-\$5.00 WE WILL PREPAY.



SYNOPSIS OF DOMINION LAND REGULATIONS

ANY PERSON who is the sole head of a family, or any male over 18 years old, may homestead a quarter section of available Dominion land in Manitoba, Saskatchewan or Alberta. The applicant must appear in person at the Dominion Lands Agency or Sub-agency of the district. Entry by proxy may be made at any agency, on certain conditions, by father, mother, son, daughter, brother or sister of the intending homesteader.

Duties—Six months' residence upon and cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 50 acres solely owned and occupied by him or by his father, mother, son, daughter, brother or sister.

In certain districts a homesteader in good standing may pre-empt a quarter-section alongside his homestead. Price \$3.00 per acre.

Duties—Must reside upon the homestead or pre-emption six months in each of six years from date of homestead entry (including the time required to open homestead patent) and cultivate 50 acres each year.

A homesteader who has exhausted his homestead right and cannot obtain a pre-emption, may enter for a purchased homestead in certain districts. Price \$5.00 per acre. **Duties**—Must reside six months in each of three years, cultivate fifty acres and erect a house worth \$300.00.

W. W. CORY,

Deputy of the Minister of the Interior.

R.R.—Unauthorized publication of this advertisement will not be paid for.

A SUCCESSFUL LIFE

is usually the result of industry, work and provident methods of saving.

Make provision for an old age with independence while you are in the prime of life.

There is no more certain way than through Endowment Life Assurance.

THE FEDERAL LIFE ASSURANCE COMPANY

Head Office: Hamilton, Ont.

PATENTS procured everywhere by **EGERTON R. CASE**, Registered Attorney, Dept. E, Temple Building, Toronto. Booklets on request, 20 years' experience.

HIGHEST PRICE FOR CREAM

T. EATON CO. is now paying 31c per lb. for Butter Fat. We buy cream, sweet or sour, of good flavor. We furnish the cans and pay the express charges within a radius of 250 miles of Toronto.

We test and weigh each can on arrival, and send you a statement for same.

We pay all patrons once a week, and the price is increased as the price of butter advances.

Drop us a card, and we shall be pleased to furnish you with any further information you may require.

THE T. EATON CO. LIMITED
TORONTO CANADA

RAW FURS

Are you a trapper? Are you a dealer? Are you seeking a reliable firm to ship to? Many thousands of shippers say we give best returns, good reasons—we pay as we quote, give a square grade and send your money as quick as the return mail can bring it to you. We post you reliably.

No Commissions. No Express Charges. Write at once for price list, tags, envelopes, invoices, etc.

BENJAMIN DORMAN, Inc.

RAW FURS, GINSENG, GOLDEN SEAL

147 West 24th Street, New York. (Mention this paper.)

References: Greenwich Bank, N. Y. East River National Bank, N. Y.

The CENTRAL Nurseries

at the front with their usual supply of best grown stock for their customers. Priced catalog soon ready. With best wishes for a prosperous New Year, we are at your Service.

Faithfully, **A. G. HULL & SON, ST. CATHARINES, ONT.**



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YOU GET THESE IN A

BELL PIANO

We take the time and pains to build them right. There are many good features in the BELL never found in other makes. Information in our (free) catalogue No. 40. Send for it.

The BELL PIANO & CO., LIMITED
GUELPH, ONTARIO

4 1/2 per cent.

Sums of \$100 and upward can be placed in the hands of this Company for investment. Interest is paid at the rate of 4 1/2% per annum, and the safety of both principal and interest is guaranteed. Write for booklet.

THE FIDELITY TRUSTS COMPANY OF ONTARIO

Masonic Temple, LONDON, ONT.

Mention "The Farmer's Advocate."

DE LAVAL CREAM SEPARATORS

There's no good reason why you should wait till spring before getting one

On the contrary you may buy a DE LAVAL NOW and save half its cost by spring. Moreover, if you can't conveniently pay cash you can buy a DE LAVAL machine on such liberal terms that it will actually pay for itself.

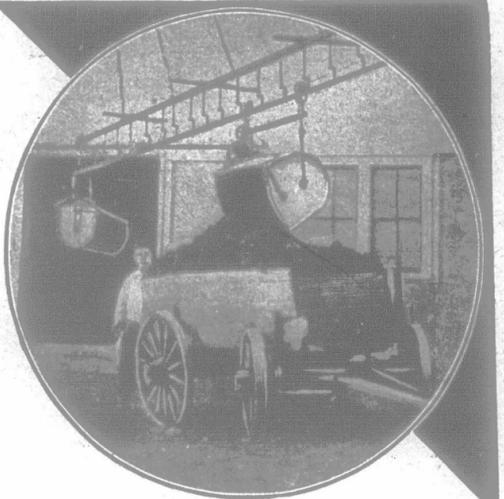
As to your NEED of a separator, if you have the milk of even a single cow to cream you are wasting quantity and quality of product every day you go without one. This waste is usually greatest in cold weather and with cows old in lactation, and it counts most, of course, when butter prices are high. Then with a separator there is always the sweet warm skim milk, and saving of time and labor, in addition.

When it comes to a choice of separators DE LAVAL superiority is now universally recognised. Those who "know" buy the DE LAVAL to begin with. Those who don't "know" replace their other separator with a DE LAVAL later—thousands of users do that every year. If you already have some other machine the sooner you exchange it for a DE LAVAL the better.

Why not start 1913 right in dairying? SEE and TRY a DE LAVAL NOW when you have plenty of time to investigate thoroughly. The nearest DE LAVAL agent will be glad to set up a machine for you and give you a free trial of it.

DE LAVAL DAIRY SUPPLY CO., LIMITED
173 William St., MONTREAL 128 James St., WINNIPEG

The Simple, Easy, Quick Way to Clean Your Barn!



Get a BT Manure Carrier. Load it in a jiffy—run it out of the barn and dump the load right into the spreader, wagon, shed or on the pile, away from the barn.

The BT Manure Carrier

Save half the time and work of cleaning your barn. Save all the liquid manure. Keep your barn cleaner and your stock healthier. There are a score of ways in which the BT Carrier pays big profits. Send for our catalogue. It explains all the facts. It tells why the BT Carriers are so far ahead of all others. It explains why the BT is the only Carrier made strong enough to stand up to the work. Read about the famous I-Beam track that can be bent around curves without heating. Read about the hangers—can be set at any angle—only one size and style needed. Learn why the BT Manure Carrier is the favorite everywhere.

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Send me by return mail catalogue describing your Manure and Feed Carriers.

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The Farmer's Advocate and Home Magazine

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1866

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875

Vol. XLVIII.

LONDON, ONTARIO, JANUARY 2, 1913.

No. 1058

EDITORIAL.

Not plenty so much as progress is our wish for the new year.

Low-priced articles often prove dear. Value more than price determines the economy of a purchase.

Let parliament not adjourn without removing the duty from ditching machines. Do your part by writing your member.

Threshing grain after Christmas is the unusual experience of not a few farmers in Western Ontario this year. Truly, it was a most trying and backward season.

A dollar and a half invested in good agricultural reading will bring far better results than the same sum expended for any other purpose, even for fertilizer or feed. Those who have tried will unhesitatingly say yes.

"It may interest you to know," writes a well satisfied Christmas number advertiser, "that we have had an unprecedented number of enquiries from our page advertisement in the Christmas number." An issue that pleases subscribers is certain to bring results to advertisers.

An index to over eleven hundred pages of good solid reading matter and illustrations, with, of course, a fair proportion of valuable advertising intermingled, was included in the last number of 1912—an increase of sixty or more over the corresponding volume of 1911. Every year shows steady growth.

Because a provincial or national exhibition becomes of necessity a fixture at some large center is no reason why smaller places can have nothing of the kind. On the contrary, it is well to develop a number of small local centers. Fat stock shows, for instance, are successfully held at a number of villages and towns over Ontario, and there is nothing to hinder the better-situated of these expanding into larger spheres of interest and usefulness. Some might draw from a county, others from half a dozen counties or more.

The Winter Fair at Guelph has admittedly outgrown its premises, and has just as certainly outgrown the hotel and billeting accommodation of the city where it is held. Progress being a first-law of nature, it seems inevitable that the major features of the show be moved to Toronto, constituting there the nucleus of a great provincial, National, or International Live-stock Exposition. This need not involve discontinuance of the present excellent institution, though it would tend to localize it somewhat. The poultry and seed departments might remain as at present and, with an exhibit of cattle, sheep, swine, and possibly horses from Wellington and neighboring counties, would still serve an excellent and useful purpose, synchronizing with such events as the Ontario Experimental Union meeting, which might be held as formerly in December, and with such other agricultural conventions and affairs as would not likely prove a success if held in connection with a larger exhibition at Toronto.

The Bank Act.

Overshadowed, though not eclipsed by the navy issue in the present session of the Federal Parliament, is the very important matter of the revision of the Bank Act, already two years overdue. The ex-Minister of Finance, Hon. W. S. Fielding, was about to bring down the decennially revised Act renewing the charters of our banks when his attention was arrested by certain searching criticisms of the status quo of our Canadian banking system, so that he withdrew the bill for further consideration and maturity. Before he had a chance to introduce another bill, a change of government occurred and the responsibility of this very important piece of financial legislation devolved upon his successor, the Hon. W. T. White. In the meantime the situation has been more or less freely discussed by publications and individuals, prominent among whom is our alert correspondent, Peter McArthur, whose four main contentions have been thus summarized:

1. Government inspection of all banks so as to protect shareholders, depositors, and the public from reckless or incompetent bank management.
2. A currency whose redemption will be secured without the use of the depositors' money for that purpose.
3. Some form of security for the depositors.
4. Some means of preventing the centralization of the country's capital in a few hands.

Latterly there has been also demanded, especially from the West, an amendment which would make it legal for banks to loan money to farmers upon the security of their grain.

The financial men of the country have shown a desire to appease public opinion by granting the lesser of these demands rather than the greater, and the bill recently presented in Parliament by Mr. White's resolution seems to accord pretty well with this desire. It is, however, a step in the right direction, and the Minister is to be commended therefor.

For instance, upon the matter of government inspection or independent audit, probably most important of all the new points, the provision made appears to partake more of the nature of form than of substance. It is proposed to require every bank at its annual meeting of shareholders to elect an auditor or auditors who shall examine into and report upon the affairs and condition of the bank to the stockholders, and who shall also, when directed by the Finance Minister, make any such investigation as he may order and report the same to him. The first point to note is that such an auditor would be the virtual nominee of the directors, whose very position denotes that they must be influential in the councils of the shareholders. It is true that once appointed he would be free to act in the interest of the shareholders without fear of dismissal by the directors, but let the directors of a questionably managed institution choose their auditor in a mere perfunctory compliance with the law, and they will not, as a rule, greatly fear his report. Inspection by an auditor employed nominally by the shareholders, but really by the directors, is hardly the kind to beget confidence. It looks as though this form of auditing would be open to the gravest criticism urged against government inspection, viz., that it would lull the public into a sense of false security, making people rely upon such inspection to a greater extent than the facts warranted.

An efficient and independent audit being the

object, it should be enacted that no one shall be eligible for appointment as auditor unless he shall have been for at least five years in business in Canada on his own account as an auditor, nor until he shall have been, for at least three years, a member of the Dominion Association of Chartered Accountants, which now embraces the membership of the Provincial Institutes of accountants.

This would give an opportunity to Government, to stockholders, and to the public to know something of the ability and integrity of the proposed auditor from his clients and his fellow auditors, and prevent the possibility of a nominee of directors being hastily qualified as a chartered accountant, solely for the purpose of filling a perfunctory position as auditor.

There are many chartered accountants in Canada, qualified for such an appointment, who have been in business as auditors for from five to twenty-five years and longer, while a host of younger C. A.'s, are rapidly nearing the five-year term of business, if that be the term accepted as a qualification.

The English Courts have laid down that an auditor shall not give an opinion nor seek to provoke enquiry, but shall confine himself to giving all the facts relating to the matter, that may have come to his knowledge. Our bank auditors should be expected to exercise the full prerogative of their legal privilege.

Passing for the moment the second and third points enumerated above, we have space to note merely the fourth one. Recent developments have given ground for the fear that our Canadian banking business would soon, through the merging of existing institutions, be concentrated into the control of a half dozen or so of financial magnates, and it is safe to say that the public would like to see some effective check upon this process. The new bill proposes to make it obligatory to obtain the consent of the Minister of Finance or some such governmental authority to an agreement for amalgamation before the matter is submitted to vote of the shareholders. A question was raised in the House of Commons why the consent of Parliament should not be required; but the Minister objected that this might not always be feasible, as the House is not continuously in session. Sometimes it happens that a weak bank, faced with the necessity of some step that would precipitate a panicky run, quietly amalgamates with a stronger institution, whereas delay and parliamentary discussion would invite disaster. There are other cases, however, where a little less haste in expediting mergers would work out in the public interest. Cannot the Minister derive a clause that will meet both kinds of cases?

The new bill very properly includes provision for loaning money to farmers and ranchers upon security of their grain and cattle, and upon this point the Minister is to be congratulated.

Of the bill, as a whole, we regret to observe that while it may pretty well suit the officers of the Bankers' Association, it will need to be strengthened materially in order to meet the demands of the public. In this connection it is pleasing to observe that quite a number of bankers agree that there should be a thorough-going, unimpeachable system of independent audit or government inspection. Ineffectual or perfunctory inspection and audit is liable to be more dangerous than none. Bank inspection and audit must come. The country is united on that. It must be thorough. Failures have been happening too

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 and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers, of any publication in Canada.
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, extra. Contract rates furnished on application.
4. THE FARMER'S ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrears must be made as required by law.
5. THE LAW IS, that all subscribers to newspapers are held responsible until all arrears are paid and their paper ordered to be discontinued.
6. REMITTANCES should be made direct to us, either by Money Order or Registered Letter, which will be at our risk. When made otherwise we will not be responsible.
7. THE DATE ON YOUR LABEL shows to what time your subscription is paid.
8. ANONYMOUS communications will receive no attention. In every case the "Full Name and Post-office Address Must be Given."
9. WHEN A REPLY BY MAIL IS REQUIRED to Urgent Veterinary or Legal Enquiries, \$1.00 must be enclosed.
10. LETTERS intended for publication should be written on one side of the paper only.
11. CHANGE OF ADDRESS.—Subscribers when ordering a change of address should give the old as well as the new P.O. address.
12. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve "The Farmer's Advocate and Home Magazine," Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
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.

thick and fast for the credit of our system or the good of our pocket-books. And let us add that some of our largest and most pretentious banks need the corrective and wholesome influence of independent inspection quite as much as the smaller ones. As Mr. McArthur says, "Keep Your Eye on the Ball."

Report Freight-service Delinquencies
to the Commission.

In the matter of the temporary advance from Dec. 15th, 1912, to March 31st, 1913, in the demurrage charges from one dollar per day to two dollars for the first demurrage day, and three dollars for the second and succeeding days, Asst. Chief Commissioner D'Arcy Scott states:—

"The railway company are on record as stating that, if they get this temporary increase, which I think should be granted, there will be very little congestion, and few, if any, delays in the placing of cars. It will now be incumbent upon them to carry out their undertaking. This temporary increase in demurrage charges may be taken as a substantial contribution by the shipping public towards the relief of the difficulties, and it will be for the railway companies to do the rest. Unless greater effort is made by the railway companies, with the view of more prompt transportation and handling of traffic, I do not believe that the increase in the demurrage charges will make any substantial difference.

There is almost a unanimity of opinion among the shipping public, that they would cheerfully consent to the increase in demurrage charges, if a measure of reciprocal demurrage was made effective at the same time; that is, if the railway companies would pay a per diem allowance to the shipper, or consignee, for unreasonable delays in the delivery of cars on the part of the railway companies. That is a matter with which we cannot deal in this application."

To avoid having this advance in demurrage charges made a precedent or made permanent and in order to obtain information on which to

base a demand for reciprocal demurrage, it is necessary for the shippers and receivers of freight to keep a written record of the car numbers and initials, points of shipment, dates of shipment, dates of arrival and the dates on which the cars are placed on the proper sidings for unloading on all shipments made between Dec. 15th, 1912, and March 31st, 1913, and to submit same through their associations to the railway commission.

This course is being acted upon by other shippers, and it will be well for farmers to do the same. The case for reciprocal demurrage will be strengthened by every case of delinquency on the part of the railways that can be reported. Arm the railway commission with facts.

YOUR SUBSCRIPTION.

Have you sent us your renewal subscription to "The Farmer's Advocate and Home Magazine"?

Our subscribers are our best circulation getters. They can conscientiously recommend it to others, feeling that \$1.50 cannot be invested in any other manner that will give as much pleasure and profit. The larger our circulation becomes, the better paper we can give our readers.

Old subscribers sending us two NEW names and \$3.00 may have their own subscription advanced twelve months; or, for your own renewal and one NEW name, we will accept \$2.50. In either case we expect the new subscriber to pay the regular subscription price of \$1.50.

Does Canada Need an International
Winter Fat Stock Show?

Launched at Chicago some twelve years ago, the great International Live-Stock Exhibition held in that city has grown rapidly from year to year, until it is at the present time the largest live-stock show in America, if not in the world. It draws exhibits from all the best live-stock States in the Union and from Canada East and West. It is the Court of Highest Appeal for the American stockman, and is the only International Show in America exclusively for live stock. The honor of winning at Chicago is prized more by the exhibitor than all his other winnings during the year. This is what makes a great show. Large prizes and the chance of winning great honors mean keen competition, and the keener the competition the better the standing of the exhibition, the larger the gate receipts, and the better satisfaction to all.

For an exhibition, large or small, to be an unqualified success, several conditions are necessary. There must be a need for the exhibition. That is, it must have a place in the pleasure and economy of the country or district which is strong enough to warrant its being carried out. Then it must have a strong executive to look after the interests of the show itself by looking after the welfare of exhibitors and visitors. This latter is where the Chicago International scores its big success. With sufficient and satisfactory accommodation for all kinds of live-stock, "the International" is assured that the best breeders are not afraid to bring out their most valued animals. And with a large amphitheater, around which is seating capacity well arranged to seat thousands and thousands of people, the visitor is treated to one of the most educative sights as far as live-stock husbandry is concerned that it is possible to produce.

Such a show must also be well located in a large center where hotel, rooming and boarding-house accommodation is adequate to cope with the crowds drawn together.

Prize lists must be well classified, wide, and varied, covering all the more important breeds thoroughly to ensure a representative turn-out. To accomplish this it is often necessary to solicit the assistance of some large private companies interested in the betterment of the live-stock output in the way of money prizes.

The main points upon which such a show hinges are—prizes, accommodation for stock and man,

and the show's actual value to the stockman's business as an advertising medium.

Dogs Canada need such a winter exhibition? Is the number of breeders who would patronize such a show large enough, and is their stock of sufficient merit to make the show a success? There can be but one answer to these questions.

Have Canadian breeders not journeyed with their live-stock to Chicago year after year since that show's inauguration, and have they not come back bringing with them championships, blue and red ribbons galore? Our stock warrants the move. If such an exhibition were started on the right lines, it would draw from a large number of the best studs, herds and flocks of the United States just as Chicago now draws from Canada's best. American breeders would come here just as readily as our Canadian breeders go there, and doubtless in far larger numbers, for there are far more of them. It would divide to some extent the cost of exhibiting, because under existing conditions exhibitors to win International honors must ship their stock long distances to another country. With a successful International running here and one also in operation, as is the case, in Chicago, the exhibitors of each country would have an equal advantage.

Such an exhibition would not be an opposition to the Chicago show, nor to any of the smaller exhibitions, for the winter season is long enough to permit of a show circuit, and nothing suits the exhibitor better than a number of exhibitions following each other fairly closely, so that his stock, once fitted, is ready for all and does not have to be kept in the highest condition for any great length of time. We now have cities large enough to ensure accommodation for visitors, and we also have a live-stock country able, and we believe willing, to back up such an exhibition. No one doubts the educative value of such an exhibition and the good impression which it would have upon the live-stock industry of the country. We need a large exclusive live-stock show, and with the large numbers of American stockmen bringing their stock here to compete with the best Canadian stuff such an exhibition could not but be an unqualified success under proper management.

Stockmen and live-stock interests must hang together on this point. Dissatisfaction with the accommodation was expressed by the dairymen at the recent Ontario Provincial Winter Fair, and the opinion was expressed by them that they would be the gainers if a National Dairy Show similar to that held in Chicago in October were established in Toronto. If such is done, lessons should be taken from the outcome of the Winter Fair at Guelph, which has made such rapid progress that it has wholly outgrown the accommodation originally provided, together with that afterwards added. It should be remembered that the Chicago National Dairy Show calls the International Live-Stock Amphitheatre its home, and such should be the case in Canada in whatever city it is decided to locate this building and the stock barns necessary. There should be no division. The same building is equally appropriate for both exhibitions, whether they be held in conjunction with or separate from each other. A large sum of money is necessary to equip such an exhibition, and in unity there is strength. An arena large enough to take care of all future expansion is desirable in the beginning, as additions are not always satisfactory. It should, however, be placed where additional stock barns may be added as needed.

The management of the Canadian National Exhibition held in Toronto every year in late August and early September have signified their intention of providing in the near future plenty of suitable barns and stalls to accommodate the stock at their great exhibition. Also, it is, we believe, their intention to build one of the largest judging arenas in the world, with a large, comfortable and well-placed seating capacity. Just such accommodation as a winter dairy, fat stock and horse show requires. The more the building is used, proportionately less will be the expense. It looks like an opportune time for the live-stock interests to get to work. If they want such an exhibition, it looks quite possible, and they should strike while the iron is hot. How do the stockmen feel about the matter?

Nature's Diary.

By A. B. Klugh, M. A.



The Brown Creeper.

The red squirrel is always with us. He is a bit of a villain and a good deal of a meddlesome chatter-box, but he is at least lively, cheerful and familiar, and adds a touch of wild life to many a scene which would otherwise be devoid of it. He is a great mixture of inquisitiveness and suspicion, he apparently longs to investigate you. He approaches you in funny little stiff jumps; nearer and nearer he comes getting more and more excited all the time—then suspicion gets the better of curiosity and he turns and flees with a scolding chatter. At a safe distance he turns and sits up and slangs you.

Though the red squirrel does not hibernate, as do so many of our rodents, it lays up great stores of food for winter use. In July it cuts the green cones of the white pine and buries them, half a dozen in one place, half a dozen in another. Later in the season it makes large hordes of butter-nuts, hickory-nuts, beech-nuts and acorns. One such store-house, which I discovered, contained a bushel of butter-nuts. The squirrels seem to have no trouble in locating these stores no matter how deep the snow may be.

But in winter the red squirrel does not, by any means, depend entirely upon its hordes for food as the hemlock cones retain their seeds all winter, and any fine day one may see the squirrels out on the swaying tips of the branches cutting off the cones.

In spring the red squirrel relishes a drink of maple sap. It cuts saucer-shaped cavities in the upper side of a branch and drinks the sap which fills them, returning several times a day to partake of the sap which accumulates from time to time. I have also seen them hanging up-side-down drinking the sap which exuded from a wound on the under-side of a limb where a branch had been broken off.

In summer the food of the red squirrel is very varied, consisting of berries, fruits, roots, fungi and insect-grubs. At this season, too, the tinge of villany in its character shows, as it robs birds' nests of their eggs. One squirrel that I came across evidently had a taste for turtle flesh, for in its nest I found seven shells of very small painted turtles, all carefully cleaned of their contents.

Red squirrels build nests in trees by arranging a platform of twigs in a crotch, placing moss and strips of bark upon the foundation and roofing it over with pine-needles and leaves. They also make nests of soft grass in hollow logs and stumps. When they can get possession of the deserted nest of a crow or hawk they roof it over with moss, strips of bark and pine-needles.

On these nests the young, which are usually four in number, are born in April.

There is a little bird in our winter woods which very few people see, for only those see it who look for it. It is a little brown bird, barred and spotted with tawny and white, with a long slender, curved bill, and stiff, pointed tail feathers. Its coloration so nearly resembles the bark of trees that it is rendered extremely inconspicuous, and it is an excellent example of protective coloration. It is called the brown creeper and is very appropriately named, for it spends its time creeping up the trunks and large limbs of trees, searching for insects and insects' eggs hidden in the crevices of the bark. It creeps up a tree till it comes to the end of the large limbs, then flies down to the base of the same tree, or another one, and starts up again. Its favorite tree is the elm, undoubtedly because the rough bark of this tree affords shelter for more insects and eggs than does the smoother bark of other trees. Its call-note is a shrill "scree-scree-scree," and in the spring the males sing a very sweet little song.

The brown creeper is resident in Ontario, though it is commoner in autumn and winter than during the breeding season. When we say that a bird is "resident" in a certain region we do not mean that a certain individual stays in the same locality the whole year round, but that the species is to be found in that region at all seasons. Those individuals which spend the summer in the northern part of the range of the species, say near Hudson Bay, winter in Central and Southern Ontario, those individuals which breed with us winter in the middle States. Thus the species is always present, but is not represented by the same individuals.

The nest of the brown creeper is placed in a crevice where the bark is partially separated from the trunk of a tree. In the crevice is placed a platform of twigs on which the nest is built, being composed of strips of bark and moss and lined with down. The eggs are from five to eight in number and are dull white, spotted with light-brown and reddish-brown.

HORSES.

Sharp shoes on the front feet, at least of the in-foal mare, may prevent a serious accident.

Get your neighbors interested in the same breed in which you are interested. There is strength in numbers.

Do not turn the in-foal mare in the paddock for exercise at the same time as the colts are enjoying a frolic in it. There is danger of either the mare being kicked and injured, through playfulness on the part of the colts, or the colts being kicked through the wickedness of the mare.

Winter Care of Colts.

Much is written from time to time upon the care of the colt in winter, but the necessity of following closely a few fundamental principles cannot be too firmly fixed in the minds of horse-men and colt raisers. Dr. C. C. Lipp, of Minnesota University Farm, gives a few good hints as follows:

With the winter season comes the increased necessity for the proper care of the spring colts. This is a matter of sufficient importance to demand careful attention. Two fundamental principles must be kept well in mind, because upon their observance depends to a very considerable extent the success or failure of the project.

In the first place, the quality and quantity of feed demands attention. The colts are growing and developing animals, whose value at maturity

is common knowledge that any tissue not in daily use soon becomes weak, and if the disuse continues long enough, becomes practically worthless. How can strong muscles be developed except by exercise, and how is exercise possible when no opportunity is provided for it? Time and place for daily exercise should be as regularly provided as feed. When this is done, much of the danger from kicks and other injuries will be eliminated, and the probability of the colts reaching maturity as perfectly sound horses is correspondingly increased.

District Horse Breeding.

Good horses are seldom over-plentiful, and few horsemen would care to say that we have too many breeds, but many are the communities, districts, localities, neighborhoods, or whatever you choose to call them, which are breeding too many breeds of horses for their own good. If there is any branch of the live-stock business in which communities should practice breed specialization it is horse-breeding, for, unlike the breeding of most other classes of stock, the owners of the females are not often the owners of the sires. This has been a fertile cause of the motley breeding carried on in most localities. Three, four, or perhaps eight or ten men, each with his favorite breed of horse, have gone into the stallion business, and as many stallions of almost as many breeds have travelled the same districts, each with his quota of admirers and each getting some of the mares, regardless of whether he is likely to nick well with them or not. Good mares are bred first to one horse, then to another, and even where the mare is returned to the same horse each year there can be no uniformity in the colts from that particular district, because there is no uniformity in type or breeding of the sires used. Let every man in a district breed one breed of horses, and one only, and see how quickly that district will become noted for its horses and colts. Buyers are not slow to locate such districts, and are willing to pay better prices, knowing that the breeding of the colts is right and that a large number, if desired, may be secured in the one locality. We are all agreed that it pays to advertise or "boost" a good thing. What better means is there of making an impression upon horse buyers and the horse-loving world than the yearly output of a uniformly-bred and even type of colts and young horses? By their colts are stallions known, and colts are the breeders' strongest magnet with which to attract buyers.



Sir Hugo (10924).
Clydesdale stallion; brown. Sire Sir Everard (5858).

is measured to no inconsiderable extent by the degree of development of bone and muscle. Satisfactory development can only result when proper feed is supplied. The formation of bone and muscle require rations containing the so-called tissue builders in large quantities. In a grain ration of oats are combined the necessary elements for the formation of bone and muscle better than in any other single grain, and for this reason oats form a most necessary part of the ration. Other grains and mixtures may be substituted, but none of them are better than oats. However, if other rations are fed, remember that the demands of the animal require a quantity sufficient for tissue formation as well as for energy and warmth. To feed sparingly is to interfere with development to such an extent that its effects may remain in evidence throughout the life of the horse.

Daily exercise is the second fundamental principle in the successful wintering of colts. Only failure can result even if tissue building material is fed in sufficient amount, but the daily exercise is insufficient. Not only is the maintenance of vigorous health impossible, but the development of newly formed tissue is seriously hindered. It

A large number of breeds encourages cross-breeding—not good practice with most classes of stock, and certainly not with horses. True, comparatively few of the mares in the country are pure bred, yet the greater number of the best mares outside the registered stock are the result of more or less careful grading up—not cross-breeding. Yet, it is a common occurrence to see a mare have one, two, and often three top-crosses of certain blood in her veins and a very good type of mare of the breed of the stallions used bred to a horse of an entirely different breed, and usually with results scarcely such as would justify such policy. It is a distinct loss to cross-breed such a mare. If each community would stick closely to one breed, there would be little danger of much cross-breeding being done, partly because the stallions would not be available, but more particularly because the breeders would soon realize the advantages of community breeding through better stock, more buyers, greater demand, and larger prices. There is nothing to be gained by breeding to a stallion simply because he is a "nice horse." There are good stallions of all the important breeds, but the best of colts cannot be expected even by using the best stallion of the breed upon mares of different breeding and

6

bred with an entirely different type and purpose in view.

Now is the time to consider carefully the horse-breeding prospects of the coming season. Winter is a good time for meditation upon past and decision upon future policies. A district may have a half-dozen good stallions of as many different breeds, and still not be noted for its good horses, because there is not enough of any one breed to make an impression. Place in the same district the same number of stallions of the same breed and as nearly as possible the same type of that breed, stallions of the breed of which most of the mares of the district are good grades and let the mares be bred to these horses exclusively, and soon will it be known that such a district is a horse district and where a buyer, to get a carload of young horses of a particular breed, now has to cover many miles, he would then be able, after a few years of such policy, to fill his requirements in a short time in one district to his own and to the breeders' satisfaction and benefit. Too many breeds in a district means too much division of policy, too much "knocking" of the other fellow's horse, not enough co-operative effort, too much cutting of service fees to secure trade, and a consequent lowering of the breeding standard of the horses of the district.

We would not say that any established and useful breed should be boycotted out of the country. Far from it. There is room and a place for all, but not in one and the same small territory. Each district should be, and is, suited to the production of some particular class of horse. Of course the drafter is the most suitable for the farmer to breed, but he may also require a light horse or two for his road purposes. The light horse and heavy horse business should not conflict to any great extent, and would not if breeders would not cross the two types in an effort to get a half-way general-purpose animal—one which horsemen and show managements for years have found difficulty in classifying properly, and most are still much at sea as to just what constitutes a general-purpose horse. It would often pay the farmer better to go out and buy his driver in a district noted for light horses or in a light horse breeding district, rather than endeavor to breed one himself from his heavy mare and the roadster, hackney, thoroughbred, or coach stallion, travelling on his concession. A good colt from his heavy mare and a heavy horse would likely more than pay for his driver, and he would have a real driver—not a misfit. Such a policy would surely promote horse breeding the country over. It would eliminate "scrubs" resulting from injudicious mixed breeding, would raise horse values, and increase interest in the horse business generally and in the particular breeds.

LIVE STOCK.

Many herds will require headers for the coming season. Good bulls are never over-plentiful. Make a selection early and get the best available.

Do not confine the brood sow too closely. Outdoor exercise, even if the weather is cold, does her no harm; in fact, it makes for success with the coming litter.

Let the light into every stall. Short days and long nights and dull weather make enough darkness under the best of conditions, and dark stalls do not promote health.

How often one sees a man, and sometimes two or three men, trying to lead a cow or heifer which has not been taught the use of the halter, the animal nervous, excited, and generally stubbornly refusing to go in the direction desired; the men also excited and applying some of the roughest of persuasion, which only serves to increase the trouble. All this could be avoided by teaching the animal to lead when a calf. A little of winter's leisure may be profitably employed in teaching the calves, particularly the heifers to be added to the herd, to lead.

Quietness and gentleness are admirable at all times in caring for stock. Firmness is sometimes necessary, but firmness never means harsh words and abuse. Were you ever jammed in an old-fashioned stall by a nervous cow? Did "loud talk" and vicious blows cause her to stand over and let you out? Such is not generally the case. The more she is scolded and the more blows she receives, the tighter she squeezes you against the stall partition. Why? Because it is nervousness or fear that causes her to do this in the first place, and yelling and punishment increase the fear and also increases the cow's efforts to put its cause away from her. Petting and quieting words are far better balm for the cow's ruffled spirits than boisterous conduct.

Our Scottish Letter.

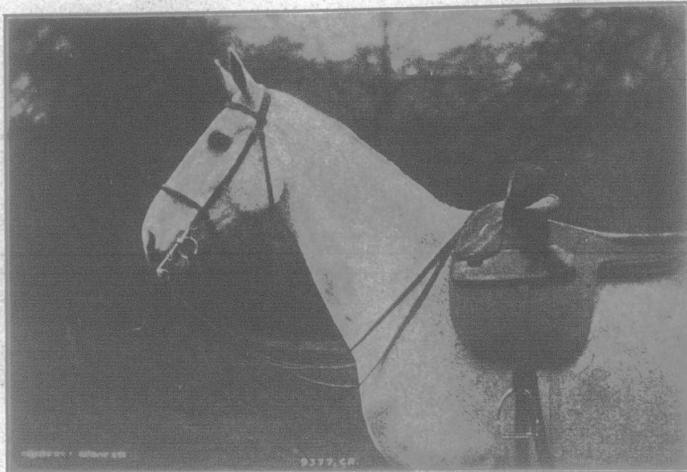
This will be my last letter for 1912, and it has just occurred to me to ask how many years have passed since I wrote the first of these occasional communications? Certainly more than twenty, and these years have witnessed many changes. I imagine it must have been about a quarter of a century since I wrote the first during the time that Mr. Hodson was Editor of the "Farmer's Advocate." The closing year has witnessed the passing of some of the most prominent men in our Scottish agricultural life. During the past ten days Provost Ferguson, of Renfrew, well-known to all Canadian and American buyers of Clydesdales a quarter of a century ago,

past, and there was every prospect of trade between Ireland and Great Britain being resumed on normal lines within a very few days. Then came the announcement of an outbreak away down in Kent, South of London, and a few days later the still more disquieting announcement that among cattle shipped from Newry, in South Ulster, to Birkenhead for immediate slaughter two with affected heads had been found. This at once led to the re-imposition of the embargo in full force; and just as we were beginning to breathe freely again, this fresh discovery in Glasgow upsets all our calculations.

Since the first outbreaks in June, there has been an uneasy feeling that Irish methods of administration were defective—that there was, in

fact, laxity of administration, or ignorance, or culpable negligence on the part of those in authority, and possibly a combination of all three. This view was strengthened by the admission of the head of the Irish Department that his officials had failed to trace the place whence these two cattle came. At the Farmer's club dinner in London on Tuesday evening Mr. Runciman, the head of the Board of Agriculture and Fishing, was able with pardonable satisfaction to boast that no one case had occurred during the past six months for which blame could in any way be laid at the door of his department, and, speaking at Glasgow on the previous Saturday, his lieutenant, Lord Lucas, made the very satisfactory announcement that under no circumstances would the importation of cattle from Ireland be again allowed without some kind of inspection at the ports of landing on this side of the channel. Recent experiences all go to strengthen the British Board in adopting this policy. Under the old conditions Ireland was supposed to be so immune from every form of contagious disease in cattle that the ports of this island were unreservedly thrown open to them, and no questions were asked. This year we have had a rude awakening, and it will take a deal to convince British farmers that all is well in Ireland so far as disease in cattle is concerned. One good result of this year's experience

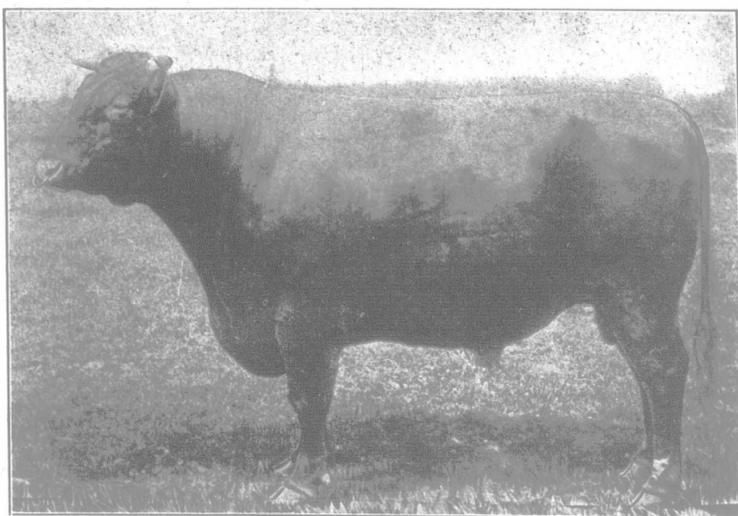
has been to increase interest in breeding on this side the channel, and there has also been a revived interest in feeding cattle in Ireland. That much more could be done in both directions is undoubted, but the great proportion of Irish territory must always make the Green Isle more of a breeding than a feeding country. The chief enemy of the Irish farmer is his own happy-go-lucky disposition. He lacks the faculty of sticking at it, and is far too much given to talking. At present, when every effort should be strained to effect a clearance of foot-and-mouth disease, the Irishman is greatly given to



A Sadler.

passed away. He was a close friend of Henry Jeffrey, of Whitby, Ont., and Alex. B. McLaren who still manages the Clydesdale department of the Nelson Morris House in Chicago. He did a large trade in Clydesdales during the boom from 1880-1890, but as this was only a subsidiary occupation for him, he gave up the business shortly after the beginning of the nineties, and had no hand in the later Clydesdale developments. He was a most genial companion, and very likeable in any company. Perhaps his most familiar friend of the older regime was the late Charlie Huston, of Blandinsville, Ill., who often made his home with Mr. Ferguson, and largely took his advice in connection with his Clydesdale purchases. As late as February last, Mr. Ferguson acted as a judge of Clydesdales at the Glasgow

partition, and, speaking at Glasgow on the previous Saturday, his lieutenant, Lord Lucas, made the very satisfactory announcement that under no circumstances would the importation of cattle from Ireland be again allowed without some kind of inspection at the ports of landing on this side of the channel. Recent experiences all go to strengthen the British Board in adopting this policy. Under the old conditions Ireland was supposed to be so immune from every form of contagious disease in cattle that the ports of this island were unreservedly thrown open to them, and no questions were asked. This year we have had a rude awakening, and it will take a deal to convince British farmers that all is well in Ireland so far as disease in cattle is concerned. One good result of this year's experience



Senator Lavender = 79917 =.

Shorthorn bull at head of herd of A. W. Smith, Maple Lodge, Ont. Sire College Senator = 46048 =, dam Lavender Thyme 7th (imp.) = 38207 =.

Stallion Show, and his genial presence will be sorely missed in many a gathering.

The closing year has been marked by one unfortunate feature for British agriculture—the presence in Ireland and, to a less extent, in England of foot-and-mouth disease. It first made its appearance in England in the end of June, was at once traced to Ireland, and up to this date neither country has altogether succeeded in getting rid of it. To-night it is intimated that among certain carcasses imported from Ireland into Glasgow two, if not three, heads have been found affected by the disease. When I last wrote there was reason to believe that the worst was

orating and complaining about the alleged unfairness of the British attitude. He forgets altogether the enormous loss incurred by British stock breeders through the cutting off of the export trade. This has been put at £800,000, but, without committing ourselves to such extraordinary figures, it is undoubted that the loss has been very serious.

The principal fat stock shows are now all over for another year. It has been a very successful year for the Shorthorn and its crosses. At the London and Birmingham Shows, an Aberdeenshire-bred pure Shorthorn bullock, owned by Mr. Hazlet, in Kent, has been champion, and at

London the reserve was also a pure-bred Short-horn heifer, also bred in Scotland, and owned by the Earl of Rosebery. His lordship was President of the Smithfield Club this year, and it would have been a big thing had he succeeded in pulling off the supreme championship. He just missed doing this, which was somewhat disappointing to all concerned. The Scottish National champion was a Ballindalloch cross-bred heifer, bred by the late Gordon-Smith, Cragganmore, and bought at the dispersion sale, personally, by Sir John Macpherson Grant, Bart. She was got by an Aberdeen-Angus bull out of a second-cross Shorthorn cow. Strictly speaking, therefore, she is not a cross, but a grade, and a good one at that. The Norwich champion is an Aberdeen-Angus Shorthorn cross heifer, named Ruby of Maisimore. She was the best cross or grade at London, the Ballindalloch, Edinburgh, champion being second-best, and Ruby of Maisimore was also the second-best heifer at London, the best being, of course, Lord Rosebery's Short-horn heifer. It is doubtful whether a better Short-horn champion than this year's Golden Arrow has ever been seen at London, but it would not be correct to say that he is a great champion. He is certainly the best of 1912, but he will hardly compare with some of the notable supreme champions of the past of the Aberdeen-Angus breed. This year, however, the Aberdeen-Angus is distinctly weak. The best one is probably the junior champion at London—Colonel McInroy's Vernon of the Burn. He was first at the Scottish National and in the classes under two years old he was chosen as first at Smithfield. He had, however, a very strong opponent in a white Shorthorn bullock, bred by Lord Fitzhardinge, first in his class both at Birmingham and London and sold to Sir Richard P. Cooper, Bart., to go on for another year. The champion steer at Edinburgh was a Galloway named Bely II, owned and bred by Robert Graham, Auchengassel, Castle Douglas. He was breed champion at London, and is a right good butcher's beast.

Interesting although the classes on hoof are, there can be no doubt that they do not teach as much as the carcass competitions. These become increasingly popular every year, and as practical demonstrations of the class of beef, mutton and pork desired by the London butchers to supply their customers they are invaluable. The animals are judged on hoof on the Monday of the show; they are slaughtered on the Monday evening; are presented to the public after being judged as carcasses on the Wednesday afternoon, and are then sold by auction. This year the champion carcass is a Shorthorn Aberdeen-Angus cross, and the reserve is a pure-bred Aberdeen-Angus heifer carcass. This cross and breed made the best appearance in all three classes. Taking the awards in the three classes for cattle, we find they run thus: Steer, not exceeding two years old—First and champion, Shorthorn-Aberdeen-Angus; second, Welsh; third, Aberdeen-Angus-Shorthorn; 4, Shorthorn-Dexter; 5, Galloway; 6, Aberdeen-Angus cross cow. Steer, above two and not exceeding three years old—1, Cross; 2, Aberdeen-Angus-Highlander; 3, Shorthorn-Aberdeen-Angus; 4, Aberdeen-Angus-Shorthorn; 5, Welsh. Heifer, not exceeding three years old—First and Reserve Champion, Aberdeen-Angus; 2, Aberdeen-Angus; 3, Shorthorn-Galloway cross; 4, cross; 5, Shorthorn-Dexter; 6, Shorthorn-Aberdeen-Angus. In the sheep section the results were almost a sweeping victory for the Cheviot and the Cheviot-Suffolk cross. The champion carcass was a Cheviot wether, and the reserve champion was a Cheviot-Suffolk wether lamb. In the class in which the champion carcass was first all the prizes except the second, which was a Welsh mountain carcass, went to Cheviots. The Cheviot also won all the prizes in the long-wooled wether-lamb class, and in the class for cross-bred wether lambs the awards went thus: 1, Cheviot-Suffolk; 2, Suffolk; 2, Suffolk-Cheviot; 3, Suffolk-Border-Leicester; 4, Southdown-Norfolk (the cross which made the Suffolk); 6, Suffolk-Cheviot. In the classes for pure-bred short-wooled wether lambs and wethers the Suffolk took both first prizes, and the major portion of the other prizes, Southdowns and Hampshires getting a minor share. In the pig section, in which there were four classes, it was a case of the Berkshire first, and the other kinds or crosses nowhere. The best prize taken by any other kind was two seconds to the Large Whites. Both champion and reserve champion and all four first-prize carcasses were Berkshires.

A feature at present in another department is the demand for new varieties of potatoes. The excessive moisture of the past season has wrought havoc among the seed potato growers of England, and Scottish growers are reaping a rich harvest. Three new varieties are on the market and are highly spoken of. These are Anan Chief, an excellent cooking potato of which experts expect much. The Leader brought out by John Niven, Madderty, Perthshire, who brought out one of our best late varieties, the Langworthy, and Wil-

son's Templar, brought out by Dr. Wilson, of St. Andrew's University, who is one of the best experimenters we have. It is possible some of my readers may have met Dr. Wilson. He was a member of the Scottish Commission which visited Canada some years ago, and he has done some excellent work in connection with agricultural research. This is a department in which we are promised considerable developments in the near future. Whatever else may be charged against our present Government, it must be acknowledged that they have done more to encourage research than any government in any time. The Development Commissioners are very sympathetic to the calls of agriculture, and everything is to be done to try to keep the people on the land. At the dinner in London already referred to Mr. Runciman made notable announcements along this line. Efforts are to be made, both in England and Wales, and in Scotland, to develop heavy-horse breeding, to establish milk record societies, and to encourage research into diseases in crops and animals. The horse-breeding scheme includes a determined attack on the use of unsound sires, and at a conference held on Monday at the Board of Agriculture and Fisheries it was made quite plain that the goal of the government is legislation to put the unsound stallion off the road. Everybody agrees that the end is desirable; the great difficulty is the lack of uniformity of opinion among veterinary surgeons as to certain forms of unsoundness. If breeders and owners could be satisfied as to this, a good change would at once be apparent in the attitude of horse owners: They squirm when they find eminent veterinarians flatly contradicting one another about a matter apparently so simple as ringbone in a filly, and one can excuse the owner of a valuable stallion who hesitates to place his property at the tender mercy of such men. It is, however, clear that both in England and in Scotland we are to have a scheme of registration for sound stallions, and there can be no doubt that in the end of the day all the best horses will be on that register. Meantime the scheme rather hangs fire, but the end is sure. SCOTLAND YET.

Canada's Sheep and Mutton Supply.

The following figures submitted by Prof. H. S. Arkell, B. S. A., Assistant Live-stock Commissioner for Canada, in the course of an address at the Ontario Provincial Winter Fair, show graphically the status of the sheep industry in Canada.

	1912 x	1901 xx	1891 xx	1881 xx	1871 xx
Canada	2,360,600	2,510,239	2,563,781	3,048,678	3,155,509
P. E. I.	104,500	125,546	147,372	166,496	187,801
Nova Scotia	343,200	285,244	331,492	377,801	398,377
New Brunswick	179,300	182,524	182,941	221,168	234,418
Quebec	519,800	654,503	703,282	839,858	1,007,800
Ontario	888,700	1,046,456	1,021,769	1,359,178	1,514,914
Manitoba	32,300	29,464	35,838	6,078	
Saskatchewan	111,800				
Alberta	181,000	153,152	64,920	346	
British Columbia		33,350	49,163	27,788	

x Census and statistics.

xx Census.



Captain.

Champion Devon steer at Birmingham, 1912. Weight at two years nine months twenty-four days, 1932 pounds. Exhibited by His Majesty the King.

EXPORTS OF SHEEP AND MUTTON FROM CANADA.

	Sheep.	Mutton.
1896 x.....	391,490	150,013
1906 x.....	244,262	105,062
1909 x.....	118,896	39,030
1911 x.....	46,597	17,865
1912 x.....	21,418	49,107
1912 April 1 to Sept. 30.	2,774	12,542

x Fiscal years ending March 31st.

SHEEP AND MUTTON IMPORTED INTO CANADA.

	Sheep.	Mutton.
1910 x.....	35,844	2,094,023
1911 x.....	68,673	2,708,161
1912 x.....	192,530	4,041,263
1912 Apr. 1 to Sept. 31.	154,435 xxD	2,580,018

x Fiscal years ending March 31st.

xx Not revised.

D British Columbia	44,970 head
Alberta	62,910 head
Saskatchewan	24,258 head
Manitoba	20,304 head
Ontario	1,980 head

SHEEP AT LEADING MARKET CENTRES.

	1910.	1911.	1912.*
Toronto	190,542	227,903	149,750
Montreal	98,023	117,779	102,199
Winnipeg	30,775	43,614	39,682x

Total

* Ending October 31st. (10 months.)

x It is reported that all of these, with the exception of about 1,000 head, were imported sheep.

Continuing, Prof. Arkell pointed out that while mutton cannot be expected to command a very high price, lamb, up to a year old, is meeting with an increasing demand in both Eastern and Western Canada. The prices paid both on foot and in the carcass have consistently stiffened during the past few years. The prices for lamb at the Toronto Market for 1912 have averaged as follows:—For January, \$5.62-\$7.25; February, \$6.37-\$7.25; March, \$6.95-\$7.96; April, \$6.25-\$8.53; May, \$5.60-\$8.30; June, \$6-\$9.62; July, \$7.31-\$8.62; August, \$6.25-\$7.48; September, \$6.12-\$6.76; October, \$5.50-\$6.17. Montreal prices are comparable to these. Reports from the Maritime Provinces indicate that competition amongst the buyers has been particularly keen this year. While not quite equaling Toronto prices, the markets in the West have been steady and strong, and without difficulty have been able to find place for the very considerable importations which are now being made from the United States and Australia. Viewed in the light of these facts, it becomes evident that the consuming public is looking with favor upon the purchase of lamb, and that the domestic consumption of this food product may be expected to

steadily and consistently increase.

The trade from East to West was formerly of considerable importance, but it has dwindled to a comparatively small item, within the present year. There is some interchange of sheep and lamb between Quebec and Ontario at Ottawa, and between Ontario and Quebec at Montreal. Quebec is at present short in supply. Shipments from Ontario westward are, on the whole, inconsiderable, it being expected that not more than 16,000 carcasses will go forward this fall. The West has now come to depend for its requirements upon its importations from the United States and Australia. The big packing houses in Winnipeg, Calgary and Edmonton, and a meat company in Vancouver, are the chief distributors of this imported product. This trade is fast becoming a permanent feature in the meat supply of Western Canada. In each one of the Maritime Provinces there has been within the last forty years a serious decline in sheep-raising, notwithstanding the fact that no other portion of Canada is better suited to sheep farming. For quality and flavor Maritime lamb and mutton have won an almost

international reputation, and yet a pittance only now finds its way annually into outside markets. There is, besides, a big Canadian Market to which they might cater, to say nothing of the advantages secured to them through cheap water transportation in building up an exceedingly profitable trade in foreign countries. The mixed farming areas of Prince Edward Island and the grazing grounds on the hills and in the valleys of New Brunswick and Nova Scotia are capable of supporting four and five times the present sheep population, and such an expansion of the industry is in line with the natural development of the country.

In the Province of Quebec buyers are now unable to obtain a sufficient supply to meet the local demand. One large packing firm which has depended for a part of its business upon the output of a certain district, a section especially adapted to sheep-raising, is now finding itself faced, not only with curtailed production on the farms, but with deterioration in the quality and finish of the stock. Such, in fact, is representative of conditions prevailing in the Province. Introduction of new blood to improve the breeding stock is greatly needed. In part, this need is being met through the efforts of the Quebec Sheep Breeders' Association, but even with everything favoring the movement, it may scarcely be expected that Quebec will be able within the next few years to produce a sufficient quantity of lamb and mutton to meet the requirements of its own markets. This is to be regretted, since sheep are badly needed as a corrective agent in many sections of the Province, while in others sheep-raising can be made naturally an exceedingly profitable industry.

A few years ago large shipments of lamb were made annually from Ontario to Buffalo. In 1907 these shipments reached the considerable total of 180,817 head. During the fiscal year ending March 31st, 1912, notwithstanding the duty, there were imported for sale on the Toronto Market 21,800 head. The statement of these facts will best serve to illustrate the relation at present existing between production and consumption in this Province.

In Western Canada the situation as regards supply and demand needs little comment. A very large percentage of the imported mutton, alive and dead, is brought into this country for consumption in the Western Provinces. Although the inferiority of the Australian frozen article is admitted, the big produce firms are obliged to make use of this available supply and are finding it to their advantage to do so.

That an extensive and elastic market is assured in the Prairie Provinces and in B.C. needs no proof. The urban population east of the Rockies is increasing to such an extent that the supply is becoming a question of no mean importance. West of the Rockies the cities of Vancouver and Victoria and the development work in the North and in the Yukon constitute a market of such dimensions as to now exert a very powerful influence on the trade in Alberta meat, it being found more profitable to ship west to Vancouver than east to Winnipeg. The demand for lamb throughout the whole Western market, and particularly that of the Far West, where a very large number of English people are finding homes, is becoming more and more a feature of the dressed meat trade.

Notwithstanding these facts, sheep-raising is very slow in attaining its rightful place in the agriculture of the West. The number of sheep on the range is decreasing owing, on the one hand, to the inroads of the homesteader and, on the other, to the difficulty of securing a permanent lease. There are, however, large areas which, it would seem, can most profitably be utilized by grazing sheep upon them, and it is to be hoped that means may be found whereby, upon such areas, stability may be secured for the ranching industry, and whereby in part it may be relieved of the disabilities under which it is at present carried on. If this can be realized, an immense stimulus will be given to sheep-raising in Southwestern Saskatchewan, Southern Alberta, and along the foot-hills of the Rocky Mountains. Following the growing of alfalfa in the irrigated districts of Alberta, extensive fattening and feeding grounds there and on the delta land of the Fraser River Valley in British Columbia will become available by means of which, as in Colorado, market sheep may be given a flesh and a finish which would not be possible upon the range.

A careful study of conditions in Western Canada reveals the fact that, in time, the great grain-raising areas may be expected to maintain a large sheep population. The value of sheep on grain land is gradually becoming recognized, and, while years may be spent in the process, the time may come when sheep will be reared as one of the most valuable assets and by-products of the grain farm.

The decline in the sheep industry cannot be explained by the losses sustained by dogs, by the difficulties and cost of fencing, nor by the alleged

charge that sheep are hard on pasture. There are economic reasons to which this decline is due, even as there are economic reasons for the shortage of beef cattle. A solution of the problems with which we are presented will involve an improvement in the system of marketing both wool and mutton, an effective distribution of high-class breeding rams at moderate prices, better facilities for transportation, particularly in Western Canada, laying the foundation for a foreign meat trade and a change in economic conditions which will force people back again upon the land. The movement having for its object the building up of a great sheep industry in Canada, is a comprehensive and ambitious undertaking, but it is

Sheep are at their best before two years of age. On' butchering healthy animals, the writer says:

There are a few essential points that should be observed in selecting animals to butcher on the farm. The first consideration should be given to the matter of health in the animals to be used for food. No matter how fat an animal may be nor how perfect its form, if it is not in perfect health, the best quality of meat cannot be obtained. If the animal is suffering from fever or from any serious derangement of the system the flesh will not be wholesome food. Flesh from animals that have been ill before slaughter

is not likely to cure well, and is very difficult to keep after curing. Bruises, broken limbs or like accidents all have the same effect on meat as illness, and unless the animal can be dressed immediately after such accidents it is best not to use the meat for food. This would be true especially if there has been a rise in temperature of two or more degrees. Such a rise in temperature just previous to slaughtering is likely to result in stringy, gluey meat and creates a tendency to sour in curing.

Animals that are in poor flesh will not yield first-class meat. While the texture may not be bad in such meat, it is essential that a reasonable amount of fat be present to give juiciness and flavor to the flesh. The presence of large amounts of fat is not essential and, in fact, it is often wasteful. It is far more important that the animal be in good health than that it be extremely fat.



Mangels Fertilized with Potash.

matched by the faith of all Canadians in the future of this country. That the Dominion is obliged to import a considerable proportion of her supply of lamb and mutton is a reflection, not perhaps so much upon the enterprise of our farmers as upon our system of farming, and we must admit that it is in line with natural progress that sheep-raising should become again a distinct commercial asset in the development of Canadian agriculture.

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THE FARM

Fertilizers on Mangels.

Editor "The Farmer's Advocate":

Will you kindly allow me space in your columns to report the result of an experiment with fertilizers on mangels, which, I think, may interest your readers. The experiment was conducted during the past season by myself in co-operation with the German Potash Syndicate of Toronto.

Three adjoining plots, each one-quarter acre in area, were selected for the experiment. A medium dressing of barnyard manure (about 10 tons per acre) was equally distributed over all the plots.

Plot 1 received no fertilizer.

Plot 2 received an application of 80 lbs. acid phosphate, 30 lbs. muriate of potash, 25 lbs. sulphate of ammonia.

Plot 3 received the same amount of acid phosphate and sulphate of ammonia as plot 2, but no potash, the idea being to observe the effect of omitting this ingredient.

Plot 1 (no fertilizer) yielded 510



Mangels Unfertilized.

The meat of the young animals very often lacks flavor.

The best meat will be obtained from cattle that are thirty to forty months old, though they may be used at any age if in good condition.

A calf under six weeks of age should not be used for veal, and is at its best when about ten weeks old and raised on the cow.

Hogs may be used at any age after six weeks, but to be profitable should not be over twelve months old.

bushels per acre.

Plot 2 (complete fertilizer) yielded 842 bushels per acre.

Plot 3 (without potash) yielded 591 bushels per acre.

These figures clearly show the beneficial effects of the fertilizing, and throughout the growing season the difference was distinctly noticeable. The potash and phosphate were applied to the land before seeding, the sulphate of ammonia

being given as a top-dressing at the time of thinning.

I was really surprised at the rapid and healthy growth of the fertilized plots, more particularly the one with the potash, which was distinctly the best. The mangels were sown very late, otherwise the yields might have been larger. However, I secured first prize at Oakville Fair on mangels taken from the potash plot. Next year I mean to note the continued effects, if any, of the fertilizer on the next crop. I am fully convinced of the value of fertilizers, when intelligently used, and understand why so many farmers are now applying them to their hoed crops.

Halton Co., Ont.

JOHN A. RIGGS.

A County Carleton Village School

Some eight years ago, in order to promote a greater interest in Agriculture, Sir Wm. C. Macdonald donated sufficient money to purchase land for the purpose of establishing School Gardens. Three of these are in the County of Carleton, Ont., one in Carp, one in Bowesville, and one in North Gower Village. For three years Mr. Gibson, now one of the Ottawa Normal School staff, managed these gardens with the children. Mr. Gibson also gave lessons in the school-room in Agriculture. W. Pettapiece, then Principal of North Gower Public School and a graduate of the Ontario Agricultural College, Guelph, carried on the work begun by Mr. Gibson in North Gower. Mr. Pettapiece, in order to encourage the pupils with their work, exhibited flowers and vegetables at the county fair held in Richmond.

North Gower School Garden is prettily situated at the foot of a hill on the north side of the village. The village is on the banks of St. Steven's Creek, which winds through it and flows into the Rideau River at Kars, the nearest shipping point about four miles from the village. Pretty red bridges, with driveways and footpaths cross the creek. North Gower School Garden contains two acres. Part of this is used as a play ground. Quite a large piece has been cultivated. This year about one-tenth of an acre was considered enough for experimenting with vegetables, fruits, and flowers. On the south side of the garden there is a small orchard containing apple and plum trees. At the rear, and also along one side, a row of balsams are growing. A variety of trees, many of which are doing well, was planted along the other sides. There is a tool-house at the center, to the back. Leading to it is a path bordered with irises of various color. Those flowers are one of the pleasing features of the garden, for they never fail. On both sides of this perennial border are some large plots and more smaller ones. The larger plots are worked by the older pupils singly or in pairs, or by the smaller pupils in groups. Even the little tots have a share in the work. If they cannot handle a hoe or a rake, they can use a small weed-rake. In the spring the School Board hire a man to delve the plots and fertilize the land. The scholars then prepare the soil for the seeds or plants to be transplanted from the hot-bed. The seeds are supplied by the School Board. The pupils easily get sale for what vegetables they raise; in fact, the supply does not meet the demand.

This year, besides cultivating the more common vegetables, the pupils tried to raise water-melons and peanuts. Both of these were a failure. The peanuts were sown too early and the cold and wet weather killed them. The water-melons did well in the hot-bed, but after transplanting they were slow of growth. The vines grew well by fall, but the fruit was rather scarce and small. Some of the children evidently were in too great haste to see what the fruit tasted like! The pupils in charge of the hot-bed sell any plants not needed for the garden. Money thus made by the garden belongs to them. Thus by failures, as well as by successes, the pupils learn. When one of the pupils is appointed superintendent of the plots or paths, it relieves the teacher of a great deal of overseeing.

Between the flower-and-vegetable garden and the orchard is a garden seat built about a large oak tree, presumably "for talking age and whispering lovers made." At the front of the garden, on both sides of the path, are two large flower beds. Early in spring crocus and tulips bloom here. Later, tall, hardy perennials blossom. On the north side of this patch of flowers and vegetables are nurseries of evergreens, white pine, Scotch pine and red cedar, also a clump of deciduous trees. These the pupils may take home for their lawns or farms. Down the center of the play-ground is an evergreen hedge. Part of this hedge is now destroyed, as there is about completed on this ground a white cement four-roomed school-house, bright and commodious.

In writing the "Farmer's Advocate" regarding the interesting school-work being accomplished at North Gower, Miss Christine Cameron makes the following most encouraging comment: "Teaching agriculture and gardening increases the work of

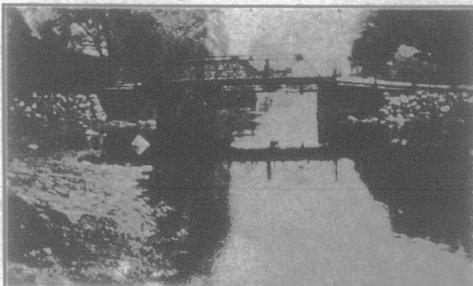
the school. Both pupils and teacher are the better for it physically, mentally and spiritually. Neither the earthworm nor the toad is spurned nor 'cast as rubbish to the void.' Pupils learn to respect God's creatures. It makes the pupils broader-minded, gives them a larger view-point. It enables them to be better citizens."

An hour a week is given for lessons in agriculture in the Public School. During seeding and weeding times this time will be spent in the garden. Besides learning fruits, vegetables and flowers, the children learn the names of the weeds and grasses. During the holidays this year, the latter flourished in quantity, size and variety! The Department of Agriculture, Ottawa, kindly aided the school in naming the strangest of them last fall.

Back of the school-house is a lawn-tennis court. The people of this community believe that "All work and no play makes Jack a dull

undergraduate of Queen's University, taught until the summer holidays. The present teacher is Miss Taylor, of New York City, a graduate of Queen's. Of the graduates of this school, not a few have become successful teachers, who, in turn, will do their share in quickening a love for agriculture.

The past fall the Continuation Literary Society was organized. The School Board and local clergymen were made honorary members. The society meets every Friday at 8 p.m. After the business part of the meeting comes the program, consisting of debates or original matter of a literary nature contributed by the pupils. Ladies and gentlemen interested are invited from time to time to be present at the meetings to encourage the pupils in their work and to act as judges of the debates. The society has not only chosen its colors (black and gold), but it has also composed its song.



A Bit of North Gower Scenery.



North Gower Public School Pupils in Garden.



New White Cement School, North Gower, Ont.
Continuation class and teacher in front.

boy." A Lawn-Tennis Club was organized last spring. The members of the School Board were among the first to join. A small fee is charged the pupils wishing to become members. During school hours and after six o'clock outside members may use the court. Pupils who are members may use it any of their spare time. Outside members are charged a larger fee. On the opposite some of the boys played football or baseball. Here, too, in the evening the young men played games. Next summer it is expected that football will be played across the street in the old school lawn, which is surrounded on three sides by beautiful large sugar-maple trees.

The Continuation Classes of this school were begun about six years ago. Miss Craig taught those classes until Easter of this year. Then Miss Calendar, a graduate of the school and an

Seed Growers' at the Winter Fair.

Prof. Zavitz, in a few opening remarks as chairman of the largely attended meeting of the Seed Growers' Association in connection with the Winter Fair at Guelph, pointed out that the object of the meeting was to bring growers together to compare notes, as many of those present would not be privileged to attend the annual meeting to be held in Ottawa in February.

A paper by Wm. Lewis, Dunsford, Ont., giving five years' experience in seed improvement, was the first number. He had profited by his experience and was able to sell his seed oats at from 80 cents to \$1.25 per bushel, and his registered barley at \$1.25 to \$1.50. No matter whether the season was wet or dry, selected seed had done better for him than unselected or ordinary fanning-mill seed. One of his greatest difficulties in keeping his grain clean and pure and preventing weeds from gaining a foothold on his farm was that of getting a clean threshing machine to do his threshing. The average machine going the rounds is a distributor of all kinds of noxious weed pests.

Charles Pearce, of Wellington, not being able to be present, sent in a short paper describing his method of planting and cultivating potatoes. He uses the corn marker one way, so that his hills are in rows each way and can be cultivated in either direction desired. Nearly all the work of cultivation is done with the cultivator.

A. S. Maynard, commenting on the method, said that he liked to put 12 to 18 loads of stable manure on clover sod in the autumn and plow it in either the fall or spring before planting.

In reply to a question on fertilizers, Alf. Hutchinson stated that ten pounds phosphate and five pounds potash had given him marked results.

"The Choice of Foundation Stock and its Importance" was the subject well handled by Fred Foyston, Minnesing, Ont., in which he referred to the good work of Prof. Zavitz in giving to the people such splendid varieties as O.A.C. No. 21 barley and No. 72 oats. He believed that the greatest good could be done if the seed produced were sold at a moderate price.

Dr. Chas. Saunders, Cerealist, at the C. E. Farm, Ottawa, discussed a few of the crops which he has been instrumental in introducing, as the heavy-yielding Marquis wheat also the Prelude wheat, a very early and hard variety for Northern districts. A new pea has been introduced—Arthur by name—productive and early, a promising variety.

L. D. Hankinson discussed high-class seed corn production in Western Ontario, a fuller report of which is given elsewhere.

W. J. Lennox, representative of the Dominion Seed Branch, gave some of his observations in connection with the work of inspection of the members' field plots. He found the growers very enthusiastic and satisfied that they were able to increase their yields very much by using improved seed. He found more members improving corn than any other crop.

T. G. Raynor, representative of the Seed Branch for Eastern Ontario, gave some of his impressions of the work as a result of seven years' experience. There are not as many pursuing the work in Eastern as in Western Ontario, but quite a number are now considering its advantages and will probably take it up. He claimed that where the members had produced good seed and got it on the market, it recommended itself and the buyers came back for more.

Improving and Handling Seed Corn.

From an address by L. D. Hankinson, at the Guelph Winter Fair.

There is no crop in the farm economy that is receiving so marked attention, at the present time in South Western Ontario, as is the production of seed corn. Nearly one-half the cultivated area in that district is devoted to the production of corn.

Until some four or five years ago, very little attention was given to the production of seed corn in this district; corn was grown principally for one purpose: "to fatten hogs." Ontario growers depended largely, if not wholly, upon American corn for their seed purposes. A great deal of this seed was of varieties very unsuitable for Ontario conditions, our season being some ten days shorter than that of the American corn belt.

A few enterprising men came to the conclusion that by the proper choice of varieties, and by properly acclimatizing these varieties, Western Ontario could produce seed corn more suitable for the ensilage growers of this province than that grown across the border.

It was principally through the instrumentality of these men that the Ontario Corn Growers' Association originated, and now we have hundreds of farmers in Essex, Kent and Elgin counties producing seed corn of the highest standard of perfection, and thousands of bushels of South-Western-Ontario seed corn are shipped annually to ensilage growers and farmers of greater Ontario. Many individuals ship from 100 to 500 bushels each, and a few others, who have made a specialty of the corn trade ship by the thousands of bushels. That the corn supplied for this source is giving every satisfaction is indicated by the repeat orders sent to growers each year.

While the enormous growth of the Canadian seed corn trade is possibly due to the efforts of the Ontario Corn Growers' Association, and the enterprise of the individual growers, we have the Canadian Seed Growers' Association to thank for the improvement of varieties. Very few years ago varieties were practically unknown. Growers did make a distinction between dents and flints, but yellow dents and white dents were often grown from the same package of seed, and it all went as simply "ensilage corn." We now have been able to establish several standard varieties and place them on the market as such. Variety characteristics are becoming so marked and established that a corn grower can as well distinguish an ear of Bailey corn from one of the Leaming variety as a stock-man can distinguish one breed of cattle from another.

At the present time we have far too many varieties. The fact that corn crosses so easily has resulted in the development of numberless so-called varieties or strains, and it is impossible to effect any permanent improvement in any of these without first understanding the individual peculiarities, and the good and bad points possessed by each. By complying with the rules of the C. S. G. Association, a systematic study of varieties has been brought about, and the weaker-producing specimens of the variety are eliminated, those possessing the stronger character being maintained and systematically improved.

There is also too wide a variation in the type or strains of the leading varieties, due, possibly to a great extent to cross-fertilization. The Seed Growers' Association guards against this to a certain extent by requiring seed plots to be planted at least 40 rods from corn of other varieties. This difficulty could be greatly overcome by localizing the growing of the different varieties, and by so doing certain districts would become famous for the production of certain corns with a standard of perfection. The low average yield of corn per acre graphically illustrates the necessity for improvement. There is no danger of our corn crop exceeding our needs, for the various uses to which it can be put, multiply out of proportion to the increase in yield, and acreage per annum.

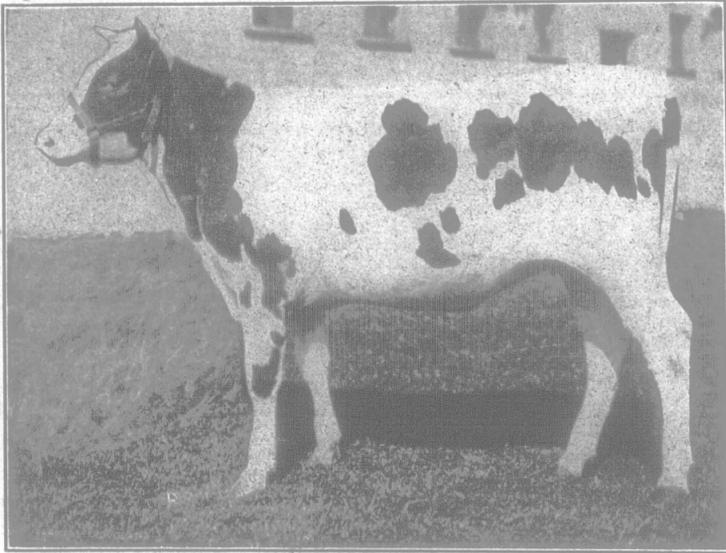
There are several methods by which improvement may be achieved. The betterment of the physical condition of the soil, and the increase of the available plant food will in themselves work wonders. It is generally conceded that each individual variety or strain of corn has a limit of development, beyond which it cannot be forced. Some means must be found therefor, by which the producing qualities can be increased, and this characteristic perpetuated and transmitted from one generation to another with unflinching regularity.

To accomplish this end, work with individual plants must be taken. By study and observation it is possible to discover plants with superior merit. When these are found and the seed is selected and planted on special seed plots, and the corn breeder picks out the progeny of the choicest and most productive ears, year after year, much will be accomplished in the way of perpetuating and standardizing our leading varieties.

Seed corn should be well matured on the stalk. By selecting the earliest-maturing ears and picking them as soon as the husks turn yellow, earliness is secured at the expense of vitality. A slight frost will not injure corn for seed if well matured, and it is the last few days of the growing season that seem to put strength and vitality into the seed. Better to mark the early maturing plant and select the seed when the plants have become fully ripened, when the full strength of the plant has been given to the production of seed.

A great deal of choice seed corn is ruined year after year by improper handling and storing. When the corn is taken from the stalk it contains from 20 to 30 per cent. moisture, and unless this moisture is reduced before freezing weather sets in, the vitality of the seed is greatly injured. The most practical means open to the farmer is kiln or fire drying, and there is no better place than the kitchen, garret or some well ventilated room directly over a heated room or with heat within it. Corn may be suspended from the rafters or placed upon shelves about the room. Corn cured in this manner and kept so that it will not take on moisture from the outside atmosphere before hard freezing weather sets in, shows up exceptionally well when tested for vitality.

Far too much seed corn is stored in large cribs, and often in close bins, which is still worse. If seed must be placed in cribs, the moisture must either have left it naturally or must be expelled before being stored. At all events, cribs for storing seed corn should be narrow and well ventilated, and precautions should be taken to prevent snow or rain from driving into them. The roof should have wide eave projections, and the sides be made with plenty of slope. The sides could be equipped with a curtain which could be down during stormy weather to protect the seed from the drifting storm.



Pauline Colantha Mercena.

First-prize senior Holstein heifer calf at London, and second at Toronto, 1912.

It is very important that seed corn should be tested for vitality before being placed on the market, and before planting, and it would be a move in the right direction on the part of our Seed Branch if the same rigid systematic inspection of seed corn was taken up as is followed in regards to our clover and grass seed.

THE DAIRY.

"Buttermaking begins in the stable, but it does not end until the finished product reaches the table of the consumer." Nothing is truer than this quotation. Good clean, wholesome milk, clean utensils, and absence of foul odors are necessary.

One of the greatest advantages in weighing milk regularly is the opportunity this gives the dairyman to remedy any conditions which are causing a drop in the flow of milk of any individual cow. If the amount given at a milking falls off three or four pounds, such might not be noticed in a heavy milking cow if weighing the milk were not practiced, but the scales always tell the truth, and when the flow deteriorates, the dairyman quickly seeks to ascertain the cause and remedy. Weighing milk is in this way very important in every dairy herd.

"There is no standard temperature for churning, as conditions vary and many things should be taken into consideration. For example, low churning temperatures may be used when we have

such conditions as rich cream, not too much in the churn, succulent food, and cows fresh in the milk." This is the verdict of the staff of the Dairy School, who advise choosing the temperature that will bring the butter in nice, firm granules in from 20 to 30 minutes. A range of temperatures that will cover most farm conditions would be 54 to 58 degrees F. in summer, and 56 to 64 degrees in winter.

Dairy By-products as Feed.

The value of skim-milk for young calves and pigs is much increased by feeding it sweet. The whole-milk creamery should heat all skim-milk to 185 degrees before it leaves the creamery. Sweet skim-milk is probably worth 15 to 20 cents per 100 pounds. It has also about the same value for growing pigs, when sour, if fed along with meal.

Buttermilk has about the same value as sour skim-milk, if it does not contain too much water. When selling buttermilk in bulk at the creamery, a convenient way is to value it at so much per ton of butter. From \$5 to \$8 per ton of butter is a fair price.

Experiments made at the Ontario Agricultural College showed that 100 pounds of whey were equal to 14 pounds of meal in the production of bacon. Both skim-milk and whey had a marked influence in the production of firm bacon. When selling whey in bulk at the factory, it is usually valued at from five to ten dollars per ton of cheese.

The by-products of cheesemaking and buttermaking are valuable factors in adding to the wealth of dairymen by means of feeding bacon hogs and young cattle for beef and the dairy.

All these by-products ought to be pasteurized at the factory before returning them to the farm. When heated to 160 degrees F. for one hour in the whey tank will likely destroy the germs which produce tuberculosis in hogs and other animals. All cheese factories ought to pasteurize the whey. It improves the feeding quality, lessens danger of spreading disease, and reduces danger from bad flavors in milk and cheese, as most of the organisms causing these flavors are killed by heating. The cost of pasteurizing the whey has been estimated at 50 cents to a dollar per ton of cheese. This is the estimate which

Dairy School Bulletin 206 of the O. A. C. places on dairy by-products.

Responsibility for Yeasty Cheese.

- 1.—What do you consider is the cause of yeasty (or yeasty) cheese?
- 2.—Is it possible for the maker to detect it in the milk?
- 3.—Or whose fault is it—the patron's or cheese-maker's?
- 4.—Do you think the maker should have to put up the loss when that is the only fault found?

O. B.
Ans. 1.—It is due to minute organisms which get into the milk in many different ways. Yeasts have been found on the leaves of trees, stable dust, in improperly washed utensils and in the whey tanks. The milk belonging to one or more patrons may become seeded from some source. Rapid growth occurs in milk which is not properly cooled. Numbers of the yeast organisms pass with the whey into the whey tank, where, under ordinary conditions, they multiply very rapidly, are conveyed back to the farm through the medium of the whey, and unless all the cans are sterilized with boiling water the active organisms which are left in the can will seed the next lot of milk. Once the whey becomes infected, the ordinary method of cleaning the whey tank does not eliminate yeasts.

The practical remedy is: (a) Cool the night's milk immediately after milking to a temperature of 65 degrees by placing the cans in a tank of cold water. (b) Pasteurize the whey, heating to 155 degrees, by introducing live steam directly into the whey tank and clean the tank every day.

(c) Sterilize the milk cans and all other utensils with boiling water. (d) Keep the factory and surroundings clean. Note.—See O. A. C. Bulletin No. 120, "Bitter Milk and Cheese," also Bulletin No. 183, "Notes on Cheddar Cheese Making."

2.—It is usually impossible for the cheesemaker by ordinary means at the weigh stand to detect yeasts in milk. In a few instances the flavor may be recognized by the taste or smell, in which case the milk would be rejected, but frequently nothing abnormal is noticed when the milk is taken in. Sometimes a peculiar flavor and condition of the curd at the time of drawing the whey is the first indication of the presence of yeasts. In many cases the presence of organisms is not suspected until the cheese begins to ripen, when a yeasty or fruity flavor may develop, with or without a weak open texture.

3.—Some or all of the patrons may be at fault.

4.—Under the circumstances we do not think the cheesemaker should be expected to pay for the loss.

F. H.

Re Standardizing Milk.

Editor, "The Farmer's Advocate":

Milk producers complain that their wholesale customers exact a certain standard of milk and pay for it at a fixed rate, whether it exceeds that standard or merely reaches it. As we farmers cannot do very accurate testing, nor do it very often, we have to sell something we do not know the value of, and leave it to the customer to notify us if the standard should fall too low.

Butter fat, as well as solids, costs the milk producer hard cash or its equivalent, and he should see to it that he knows what he is selling as well as what he is collecting from his customers. This matter is vital, I think, and is a question of good business. My plan is to do for the wholesale customer just what he does for his retail customer—namely, to separate the milk and cream, thus cleaning it at once, and then add to the skimmed milk just what his contract calls for in butter fat. This is absolutely fair to both and leaves the surplus cream at home for butter-making. Do you know whether milk producers elsewhere are doing this?

SCARBORO.

Note.—On the face of it, this looks very reasonable. In practice it would be not only illegal, but inconvenient and troublesome. Under a federal order in Council, dated at Ottawa, November 14th, 1910, milk was thus defined:

"Milk, unless otherwise specified, is the clean and unaltered product obtained by the complete uninterrupted milking, under proper sanitary conditions, of one or more healthy cows properly fed and kept, excluding that obtained within two weeks before and one week after calving, and contains not less than three and one-quarter (3.25) per cent. milk fat and not less than eight and one-half (8.50) per cent. of milk solids other than fat."

Skim-milk is defined as milk from which a part or all the cream has been removed and which contains not less than eight and one-half per cent. of non-fat milk solids.

The term "unaltered" seems to proscribe such means of standardizing as proposed above.

The Ontario Milk Act, in those municipalities where it has been put in force by local by-law, would likewise prohibit any change in milk which would make it different from normal milk without clearly and distinctly advertising the fact in accordance with the regulations of the municipality in which sold. Penalty for infraction is a fine of not less than \$1 nor more than \$50, levied under the Ontario Summary Convictions Act.

Even were there no legal restrictions, your plan would entail too much trouble to be profitable in any but a large dairy. It would involve testing and weighing of the cream, and probably a subsequent confirmatory testing of the modified product. By the time all this was accomplished the milk would be well on the way to souring and the cattle bawling for their feed.—Editor.

The Western Dairymen's Convention.

The forty-sixth convention of the Dairymen's Association of Western Ontario will be held in the Opera House at Woodstock, Wednesday and Thursday, January 15th and 16th. The Wednesday afternoon session, as usual, will be featured especially for farmers, the program including a report of the dairy-herd competition, an address by Prof. C. A. Zavitz on the alfalfa situation in Ontario, another by Prof. Edwards on legume bacteria in connection with alfalfa growing, and one by Chas. F. Whitley on the work of the Dairy Record Centres in 1912.

Fuller particulars from the Secretary, Frank Hens, London, Ont.

A Lower Temperature for Milk.

Cool milk and cool cream mean much in the production of good cheese and good butter. At last year's annual meeting of the Western Ontario Dairymen's Association a resolution was passed stating that night's milk for daily delivery be cooled to 65 degrees or under, and that the temperature of this milk be not higher than 70 degrees when delivered. Where night's and morning's milk are mixed it was decided that the night's milk should be cooled to 60 degrees or under, and be held at this temperature until delivered. Many of the factories (27 in all) passed this resolution also, and according to the instructors from the several groups in Western Ontario who were assembled at the Guelph Dairy School recently where acted upon, the resolution has worked wonders, and a big chance for the better was noticeable in the quality of the milk. Frank Hens, Chief Dairy Instructor for Western Ontario, believes in getting some standard temperature. In the past patrons have been confused by the 55 degrees, 60 degrees and 70 degrees, talked by different men. Mr. Hens also wishes to impress upon the patrons the necessity of cooling the cream immediately after separating. The more quickly the cream is cooled the more likely it is to remain sweet. The meeting referred to passed the following resolutions: (1) That wherever possible, cream be cooled immediately after separating to a temperature of 55 degrees or lower, and kept at that temperature until delivered to the cream hauler. (2) To facilitate the rapid cooling, and provide a convenient method, the use of ice and water in an insulated cream tank similar to the one described in the 1912 Creamery Instructor Circular should be practiced. The Western Ontario Dairymen's Association Convention will be asked to pass upon this resolution.

At the Guelph meeting Mr. Rickwood gave in detail the results of some experiments conducted during the past season, which proved that the higher the percentage of acidity of the cream be-

should be employed in 1913, as good success had followed the practice in 1912.

To get correct readings it has been pointed out that a standard temperature should be adopted for reading the Babcock test, and the dairymen present at this meeting expressed an opinion in the form of a resolution that the temperature be from 130 to 140 degrees.

POULTRY.

A Few Suggestions for the Farm Flock.

A very concise and instructive bulletin has been written by W. A. Brown, B. S. A., and published for free distribution by the Dominion Department of Agriculture. It is entitled "The Care of Market Eggs", and gives a few suggestions which the poultryowner would do well to act upon.

(1) Keep only pure-bred stock of the larger general-purpose varieties.

(2) Discard all stunted, nondescript and all diseased stock.

(3) Give the poultry-house a thorough cleaning every spring and keep it clean; spray often and whitewash walls, roosts, etc., regularly.

(4) Feed the flock on pure and wholesome food, and provide pure water in clean utensils.

(5) Hatch the chickens early; keep them separate from the old stock and give them every possible opportunity to grow into strong, healthy, vigorous, well-matured birds before the cold weather comes in the fall and early winter.

(6) Give the poultry the care and attention they deserve, and, if the farmer has not the time or inclination to do the work himself, let him delegate it to some responsible member of his family.

A few specific suggestions are given as follows: Remove the male birds from the flock immediately after the breeding season, and market no fertile eggs.

Provide roomy nests and plenty of clean nesting material, preferably dry shavings or cut hay.

Keep the nests clean and sanitary.

Collect the eggs regularly, at least once, better twice, a day in moderate weather, and more frequently in very warm or very cold weather.

Remove at once in clean utensils to a cool dry cellar.

Cover with a clean cloth to prevent dust from settling upon them, and also to prevent evaporation and fading.

Do not pack loose in a box when taking them to market, but rather secure a suitable egg case and thus avoid breakage.

Market as frequently and as directly as possible.

Cholera in Poultry.

Many poultry queries are answered each year through the columns of "The Farmer's Advocate," but very often the symptoms given are not stated clearly enough that one is able to diagnose definitely. There are so many diseases, the symptoms of which are so similar, that in many cases it is very difficult to name the particular disease with which the bird is affected. No doubt, many birds succumb annually to cholera, a very infectious disease. According to L. E. Willey, of Minnesota University: The disease may be introduced into the flock by newly purchased birds which may be sick or have been exposed, by feeding garbage which contains the entrails of diseased birds, or by exhibitional poultry shows. The period of illness is only from 24 to 48 hours. As the disease runs through a flock the period of illness is preceded by conspicuous symptoms. The birds suddenly become depressed, they assume a crouching position, seek secluded places, and sit trembling. The plumage is ruffled and the wings may droop. Thirst is increased and a foamy slime drops from the mouth and nasal openings. The vomiting of greenish material is common and diarrhea is usually profuse. The plumage becomes soiled. There is usually a difficulty of respiration and in the chronic form the fowl becomes very much anemic and emaciated.

The treatment of fowl cholera consists first in sanitation. Remove all dead birds, clean all



English White Wyandottes.

fore pasteurization the greater is the loss of fat in the buttermilk, and the poorer the quality of the butter.

Paying for milk delivered at cheese factories by test has for some years been agitated by dairymen. But as Mr. Hens put it on this occasion, it is the people who produce the milk who should say whether or not they want it paid for by test. It was suggested that a ballot or census of opinion be taken during the coming summer of the patrons of cheese factories in Western Ontario regarding the payment of milk by test, the ballot to embody three points as follows: (1) Are you in favor of payment of milk at your cheese factory by test? (2) What method of payment do you prefer? (3) Would you be willing to pay for the extra work of testing? This, of course, was only the opinion of the meeting, and the subject is likely to come up for further discussion at the association meeting at Woodstock.

Composite samples of both milk and cream should be kept corked if the tests are to show the quantity of fat in the milk that should be there at the end of the testing period.

The importance of having a correct amount of acid in the milk at time of setting, according to Prof. R. Harcourt, of the O. A. C., is due to the fact that the acid has a very marked influence on the firmness of the curd. If no acid is present it is practically impossible to get any coagulation of the milk with rennet. Too much acid will not allow a proper coagulation. High acid in curd dries it by shrinking and excluding water.

It was the opinion of the meeting that a special instructor—to visit creamery patrons—

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loose material out of chicken house, and move well birds to new quarters if possible. The feeding floor should be swept clean after each feeding and disinfected, for the droppings of sick birds are highly infectious and contaminate the ground. The most efficient treatment of the chicken house is thorough disinfection and drying. For disinfecting the yards and floors, any one of a number of reliable disinfectants may be used, such as a solution of freshly slacked lime, a five or ten per cent solution of iron sulphate, creolin, 1-1000 solution of bichloride of mercury, etc. Drinking vessels should be scalded and iron sulphate given in the drinking water in a one per cent solution, made by adding an ounce of iron sulphate to each gallon of water.

APIARY.

Ontario Apiary Inspection.

The extent of the bee-keeping industry in the Province of Ontario may be inferred from the fact that a complete list of apiarists now includes about 7,000 names. With regard to the disease situation, Morley Pettit, the Provincial Apiarist, in his annual report for 1912 is in a position to state that American foul brood is being slowly driven back, but unfortunately, on the other hand, European foul brood is making very rapid spread over the province. Under the system of inspection, which Mr. Pettit is carrying out, with a great deal of care and energy 1,152 apiaries were visited during the year; 406 of these were found to be diseased, the total number of diseased colonies being 4,208; and the total number of colonies in diseased apiaries 8,802. In the fight with disease, however, progress is being made. In 1911 it was found that 41 per cent. of the apiaries visited were found diseased, but last year the percentage was lowered to 35. When one considers that the inspectors only went to apiaries where disease was practically certain to be found, headway may be inferred in the critical eradication of the disease in addition to the valuable educational work done, which is putting the keepers on a more independent footing, with reference to this great enemy of their industry. The rapidity with which the disease spreads may be gathered from the report of Inspector Warrington Scott that in the counties of Hastings and Northumberland in 1909 it covered an area of only 100 square miles, in the latter, whereas, now it covers an area in the two counties of fully 3,000 square miles. To Italianize ahead of the disease is the solution Mr. Scott offers for the problem. F. E. Millen, who worked in Prince Edward County, reports the results of the disease very serious, and owing to the fact of the lack of previous inspection and the absence of periodical internal examination, few bee-keepers realized the presence of disease and so "the disease cleaned out the hives before they were aware that anything was wrong with the bees." Mr. Pettit himself is quite clear in declaring that nothing but Italianizing the apiaries in the path of advancing disease can check the spread of European foul brood, but it seems difficult to persuade men to realize the necessity of going to this expense before they have suffered actual loss.

Mr. Pettit's report is methodically arranged under six headings, from which a few points may be given:

1st.—The Provincial Foul Brood Legislation, under which inspectors are appointed and given power to act, remains unchanged.

2nd.—A conference of inspectors was held, and courses of instructions given for training men in the work which is naturally bringing about more uniform efficiency. It has been found necessary to make the examinations more rigid, especially where disease is at all likely to be found, and also to require subsequent reports showing that measures advised have been carried out by the owner.

3rd.—An effective system of correspondence from the office of the Provincial Apiarist has been developed, securing the co-operation of bee-keepers in the struggle against disease of bees.

4th.—During the year demonstration meetings were conducted in nearly every county to the number of about 50 with a total attendance of 1,286, and an average of about 26.

5th.—About 10,000 copies of the revised and enlarged bulletin on "Bee Diseases in Ontario" have been distributed by mail and by the instructors, so that bee-keepers are well advised as to how to cope with the disease.

6th.—Some fifteen apiary inspectors were engaged in the work, a number of them being specially trained men from the student body of the Ontario Agricultural College at Guelph. The efficiency and economy of the work is reported to have been greatly promoted by centralizing its control in the office of the Provincial Apiarist, and it is but reasonable to believe that this system of subsequent report following up inspection visits must ultimately be productive of much better results than could otherwise be expected.

GARDEN & ORCHARD.

Hollow Potatoes.

During the past season there have been a good many complaints from potato growers that, although the yield has been good, many of the largest and finest tubers are found, on cutting, to be hollow. This is an occurrence which is not uncommon in seasons which have favored the rapid growth of the tuber, and for a similar reason it is found more commonly in large tubers than in those of small or medium size. A potato grows by the addition of new layers of tissue slightly below the skin. The cells composing this tissue are at first small, but rapidly expand to their full size, and in so doing set up a state of tension. The layers of cells towards the outside, being young, are capable of dividing and expanding in a similar way, so that an external cracking or splitting is avoided. It is different, however, with the tissue in the interior. This is composed of mature cells no longer in a state of growth, and if the tension becomes too great a tearing or rupture of the tissue will result, followed by degeneration and the formation of a cavity.

Cavities of this nature are much less serious than injuries on the outside of the tubers, since the latter permit of the entrance of numerous organisms of various kinds which cause rotting. They do, however, necessitate increased trouble in preparing potatoes for the table, since the discolored surface of the cavity must be cut away. Hollow potatoes are also particularly objectionable for baking. However, the factor of rapid growth which is liable to bring about this condition is in the main one necessary to the securing of a large yield, and most farmers will probably prefer so to stimulate growth by cultivation and fertilizers as to attain this end and take the risk of a certain proportion of tubers becoming hollow.

THE FARM BULLETIN.

The Farmer's Advocate Alphabet.

- A—Stands for Advocate,
Staunch through the ages;
- B—For the Benefit
Derived from its pages.
- C—For the Children,
Whose cause it doth plead;
- D—For our Destiny,
Glorious, indeed.
- E—For the Elders,
Who read it o' nights;
- F—For the Farmers,
Whose battles it fights.
- G—For the Guidewife
(It does not forget her);
- H—For the Hired Help,
It sure makes them better.
- I—For the Influence,
Clean on all pages;
- J—For the Justice
At which evil rages.
- K—For the Kindness
Shown to each writer;
- L—For the Labor
Appreciation makes lighter.
- M—For Magazine,
Long may it live;
- N—For the News
Which each week it doth give.
- O—For the Olive branch
It doth extend;
- P—For the Patience
Shows a critic and friend.
- Q—For the Questions
Each week it doth answer;
- R—Rural School System,
Needing a sponsor.
- S—For the Service
It renders each section;
- T—For the Truth,
That should need no protection.
- U—For its Usefulness
In all walks of life;
- V—For the Views
Of the farmer and wife.
- W—Is for Weldwood
The facts to reveal;
- X—For Xpressing
The pleasure we feel.
- Y—For Yuletide Greetings
To the Advocate Staff;
- Z—For the Zeal
Shown in our behalf.

"HOWARD KENT."

M

Awakened by a Short Course.

Editor "The Farmer's Advocate":

This is the time of the year when in the counties where there is a representative of the Department of Agriculture an appeal will be made to the young men to come out and take the short course in agriculture, stock-judging, etc., that is generally carried on. Perhaps you will allow me space in your valuable paper to tell some of the benefits that have accrued from said course in my own experience. I hope that it may influence a few of your readers to take hold of these opportunities as they are presented to them and reap an abundant reward for their trouble. In the first place, I have no natural tendencies towards farming or stock-judging and rearing. My father and older brother were no better posted than I was, so I was three years ago as self-satisfied, ignorant and dissatisfied a boy of nineteen as you ever saw.

A year previous to this I had undertaken to work on shares the worn-out place, stocked but poorly with cull stock and with buildings all needing repairing.

Mr. McKenny, as District Representative, and Mr. Lewis, as assistant, were offering a course at Essex High School, to last two months. I followed advice given me and took up this course at some inconvenience to myself, as I had to keep up chores as usual morning and night.

I was in earnest and was soon deeply interested. I may say just here, for the benefit of those who think it would be slow, that I had a dandy time and formed friendships then and in a course I took later, with boys from all parts of the county, many of which will probably last a lifetime and yield me a great deal of pleasure.

For the benefit of those who fear to show their ignorance unduly I may say that everything studied is started at the very bottom, and if you know it, all right; if not, you have the chance to learn, as a matter of course.

In the courses I have taken (for I was so interested I again took the course last winter) we studied arithmetic as far as it would ordinarily be needed by a farmer in transacting his business, and a very simple but workable system of bookkeeping.

Live-stock judging and rearing was first studied in class, then demonstrated in actual practice on all the different classes of stock. Feeds and feeding, dairying, veterinary science, field crops, cultivation and drainage of the soil. Study of weeds and injurious insects, fertilizers, poultry, fruit and vegetable growing. All this was studied, discussed and demonstrated in the most practical manner possible.

Now, as to the results of all this upon myself, I will say a little. I was not afraid of work, and at once took hold to improve things. The first step on this kind of land was, in the light of my new knowledge, "drainage," both surface and tiling. I have surface-ditched the farm in good shape, and am tiling as fast as I can get to it. Next came thorough cultivation and use of good seed, together with putting a stop to the annual harvest of weeds of all kinds. The farm was badly infested with Canada thistle, and since then they have never gone to seed, and as a consequence the farm is practically clear of this pest. Of course, the result has been that each year the crops produced have increased in quantity and improved in quality. As to stock, we had bred to every kind of bull, from alpha to omega, so to speak, and, of course, had got nowhere. Our cattle are kept for dairy purposes. I began keeping milk records, and, of course, soon was decided that there must be a change.

I purchased a Holstein bull, as good as I thought I could afford at the time, somewhat fearful as to whether it would pay me, for I had to depend on outside service to make him pay his way. I now find I can make it pay, and have, therefore, bought a bull with much better breeding and am turning the old one off for beef.

We had taken no farmer's paper, and I now subscribed to the "Farmer's Advocate," and have gotten a tremendous amount of help from it.

I took part in stock-judging competitions at the local fairs and stock-judging courses in Essex, and thus gained experience.

Last week I competed for the championship of county in stock-judging. Although I failed to take first place, I was surprised to find how much I had learned in the last three years. Although much encouraged, I criticize myself more severely than do my friends and am dissatisfied with myself, but am at last satisfied with my position on the farm. I sprayed the old neglected orchard this last year, and whereas it had for years never yielded enough for ourselves we had this season all that we could use ourselves and supplied one other family with winter apples, and had more early apples than we could care for.

Not only this, but I had thoroughness impressed upon me so much that I did an extra good job, and had a high quality of apple as a consequence. I had it impressed upon me that

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it pays to take part in the local fairs, something which we never had done. As a result, I entered three animals and got two firsts and a second; two kinds of apple and got two firsts, and believe could have done so on half-a-dozen others; entered roots and got first on these.

As a result of all this, whereas three years ago, I was slaving on a farm because I could not help myself, to-day, as I see things, if I had my life to live over again, I would still be a farmer and I would have a course at the Ontario Agricultural College. But half a loaf is better than no bread; and if you cannot get a college course, by all means take advantage of and attend the local courses, institute meetings, judging conventions, fairs, etc., for, believe me, we can not be too well posted.

Although at the time it may not bring you extra cash, that will follow later if you use common sense in applying this information to your own work. And, at any rate, it makes life worth living.

And again I say take the course in agriculture, young men and boys, and you older men, make it easy for your brothers or sons to do so.

Essex Co., Ont.

R. A. JACKSON.

The Bryant Holstein Sale.

The auction sale of Holstein cattle and Oxford Down sheep, held at Cairngorm, Ontario, on Dec. 18th, W. A. Bryant, proprietor, was a success. The day was fine and the crowd, while not exceedingly large, bid with a spirit that assured good prices and quick sales. The sheep sold as high as \$20 each, and altogether, considering that many of the cattle were calves less than a month old, the prices realized were satisfactory.

The following is a lot of those selling for a \$100 or over :-

Homestead Colantha Sir Abbekerk 2nd, W. S. Shearer, Listowel.....	\$150
Laurel Segis Korndyke, L. Lipsit, Stratfordville.....	185
Ruby De Kol, Isaac Rush, Norwich.....	185
Hillview Princess Gretqui, A. Thompson Watford.....	140
Adelaide Brook Ormsby, Isaac Rush.....	185
Daisy Gretqui De Kol, W. S. Shearer.....	285
Hillview Dolly De Kol, J. M. McCutcheon, Thamesville.....	135
Queen Bess Burke, Jas McLaren, London.....	155
Hillview Burke Beauty, L. Lipsit.....	135
Rosabelle De Kol, J. M. Boeckh, Concord.....	225
Hillview Pearl, Isaac Rush.....	125
Woodcrest Ormsby De Kol, L. Lipsit.....	180
Lilly Gretqui De Kol, J. M. Boeckh.....	180
Susie Gretqui, Isaac Rush.....	145
Joan Beauty, Isaac Rush.....	155
Princess Gretqui De Kol, W. S. Shearer.....	180
Gertie Gretqui De Kol, Isaac Rush.....	170
Lillie Mae, Isaac Rush.....	100
Gertie Ormsby Gretqui, Henry Stead, London.....	170
Lassie Ormsby, L. Lipsit.....	110
Lida Beauty De Kol, Jas. McLaren.....	105

Apiculture Short Course.

The third apicultural short course, held at the Ontario Agricultural College, January 7-18, 1913, will be, according to the announcement, of a very practical nature, calculated to meet the needs of beginners as well as of those more advanced in the business. No fees are charged and no examinations held. Many of the best known authorities will discuss questions of interest to everyone keeping bees or contemplating doing so; arrangements have been made for reduced rates on all railroads. If interested write to the Ontario Agricultural College for a copy of the programme. A communication to D. G. C. Creelman, President of the Institution, or to Morley Pettit, Provincial Apiarist, O. A. C., will bring the particulars.

Three Agricultural Colleges for Alberta.

Alberta is to have three agricultural colleges established in different parts of the province ready for the reception of students in agriculture next fall. These colleges will be placed at Olds, Vermillion and Claresholm.

Two-year courses will be given at these colleges, and corresponding to the two first years in more pretentious institutions of the same character. By the time the schools have been in operation for two years it is probable that a central agricultural college will have been instituted, at which the higher branches of the work will be taken up, and where students will be able to graduate as Bachelors of Scientific Agriculture.

Hope from Improved Methods.

Editor, "The Farmer's Advocate":

Among the topics frequently coming through the press is "Why do the Boys Leave the Farm." It does seem strange, but if the real truth were known, are the boys to blame? If we all understood what takes place on some farms and about the home we would not look surprised.

Our grandfathers cut down the timber, built a set of buildings year by year, and dug and pried the stumps and farmed around a few of the most stubborn ones that the young fellow helps pull out of the way, and wonders why it was not done long ago as they are so rotten they would not stand a draw from the horses. Why was that stump left? Father saw grandfather plough around that stump all his life and comes to the conclusion that it must have been tough or he would never have left it.

Now if you will go to these old homesteads and see the number of things there that correspond with the old stump in the field. The barn that grandfather built still stands with the stable floors patched up, and yet not safe for a heavy horse. The plow that was used to break with is the plow the young man still breaks with. The old binder (better known as a horse-killer) without a sheaf-carrier was purchased when father was a young man. In the barn the crops are stored away by hand or they might be fortunate enough to have a rack-lifter.

The corn field invites the poor lad out, but he goes with a horse and the old-fashioned cultivator.

Why not wake up and scrape some of that old rust off? The young man can read enough to see that up-to-date farmers do not work as we do with old traps and working half the night, but he reads of men counting the milking part of the day's work and then going to bed for a night's rest; while the poor old farmer does like grandpa.

The young man cannot be blamed when he becomes enterprising enough to want up-to-date machinery, but he finds that he cannot mould his father into new methods such as building a silo and doing away with all that corn-husking; buying a gang-plow so he won't have to be so far behind up-to-date neighbors with the corn-planting in the spring.

Now father if you do not move a little, why in place of your son using back numbers in the field he will go to the city and help manufacture up-to-date machinery.

This is the case in some of the older settled parts of Ontario. They actually are going so far behind that they may come in ahead in a few generations.

It seems strange to think the young man so ignorant. His father taught him all he knew, and if after twenty-one or two years training the son is still unfit for farming what more can the father expect to teach him? But father thinks there is nothing wrong with the way he farms as it was good enough for his father it is good enough for his son, and if the boy would leave those wild ideas out of his head there would be no trouble.

Well why did you ever have a binder instead of using a cradle? Why, the binder cut more grain in a day than you could in three, and when it had cut it was all tied in sheaves and done so much more easily. Now you will argue that such is the case, and if that is true have a little mercy on the bones the young man carries around, and let him read to you what people who make more money, and do more work use in accomplishing so much.

Give him a trial and if he makes a failure of it you will still not lose more than a hired man will cost for a year, and if he makes a success of it he will be cheaper than a hired man. "What man has done man can do."

A YOUNG READER

who has had some of these privileges.

Handsome and Useful.

The Christmas Number of "The Farmer's Advocate" is certainly a handsome production, and as useful as it is handsome. The contributions average high, whether viewed from the standpoint of composition or utility. The elevating moral tone possessed by many of the contributions adds greatly to their value. The publishers are certainly to be congratulated on the outcome of their effort.

THOMAS SHAW.

No wonder the price of beef has been high in Chicago. There were marketed 281,298 head less at the Chicago yards in 1912 than in 1911. Nevertheless \$3,282,735 more money was paid for these cattle than for those bought in 1911.

Education a Necessity.

Editor, "The Farmer's Advocate":

Now that winter is approaching, I deem it a duty to write a few lines to your valuable paper pertaining to an important question which is being discussed in many farm homes to-day—it is discussed at the supper table, and it is discussed as the family chat around the kitchen fire—and that question is whether Johnny will go to school this winter or not. He has been at home all summer, and his ability to do chores has proven to be so great that the parents are undecided as to know whether to let him go this winter or not. Although he is young, he would be the largest boy at school, and consequently would have no playmates. On the other hand, he can do a lot of chores at home that would otherwise call for the assistance of a hired man, and wages are so high, so they decide that John should remain home, which is much to his pleasure.

Doesn't the above conversation seem to be a common occurrence? But as John grows up, he gets tired of doing chores and he would rather occupy some other position that calls for a man with more learning, and so Johnny is handicapped, and, while he may maintain the physical strength, he lacks that training which is so essential in making an existence in this world. What a pity so many of our boys are led astray. Who is to blame? It surely isn't the child, who is often narrow-minded and, in his humble opinion, sees not the necessity of a good training. No; it's the parents who are at fault, and who ought to know what education means in this world, and they must remember, too, that the boys of to-day are the men of to-morrow, and if Canada is to retain her greatness, she must have men at the helm who are educated.

RUSSEL LANN.

Meat and Milk Inspection in United States.

The United States Secretary of Agriculture in his Annual Report estimates that 60 per cent. of all meat slaughtered in the United States is subject to Federal inspection, the 40 per cent. not inspected being slaughtered by local butchers and by farmers. Six million more animals were inspected this year than last, the greater part of the increase being hogs, of which 5,000,000 more were slaughtered in 1912 than in 1911. Of the 59,013,819 animals inspected, 208,778 entire carcasses and 468,859 parts of carcasses were condemned on account of disease or other unwholesome condition. Tuberculosis continued to be the cause of a high proportion of condemnations of cattle and hogs.

Recommendations are made by the chief of the Bureau of Animal Industry concerning a system of inspection of dairy products. Investigations during the year show that inspection of dairy manufacturers is very desirable. They showed 61 per cent. of the 5,154 lots of cream inspected were dirty, decomposed, or sour, and that 94.5 per cent. of the creameries visited were insanitary to a greater or less degree. The dairy research laboratories have shown that butter made from sweet pasteurized cream, aside from the commercial advantage of better keeping quality, is much safer for human health than butter made in the usual way, as pasteurization removes the danger from disease germs that are liable to exist for a considerable time in butter made from unpasteurized cream.

York County Notes;

Editor, "The Farmer's Advocate":

We had a very backward fall. Much plowing has to be done in the spring, and in some parts York County fields of buckwheat were never cut. One farmer finished harvest on the 15th day of October, the latest ever known in York County.

Corn was harvested with difficulty, in some places it stood in the stook in water. A few silos had not been filled the middle of November.

The root crop was the best for years, potatoes were not so good; beans were no good at all, and apples only fair.

Many stockers are being fed this winter, and many farmers are sending their cream and milk to Toronto.

A large number of auction sales are being held, and prices are very high; milch cows from \$50 to \$125 in many places.

Many farms are changing hands, and farms are selling from \$7,000 to \$12,000 for 100-acre and 150-acre farms.

York Co., Ont.

R. E. R.

Fire losses in Canada are exceedingly high. It is scarcely conceivable that Canadian property burns at the rate of \$500 per minute, yet this is what figures prove.

Good Seed Essential in Growing Roots.

That roots are a valuable crop in Ontario was shown by Prof. C. A. Zavitz, of the O. A. C., in an address at the Ontario Provincial Winter Fair, in which he stated that the value of Swede and fall turnips, mangels, sugar beets and field carrots, grown in this province amounted to ten million dollars annually, nearly all these being used in the province. Statistics show that the acreage of turnips and carrots has fallen off considerably during the past ten years as compared with the previous ten years, but that the mangel acreage is nearly double that of the ten years previous to 1902. According to Prof. Zavitz it is probable that in a very few years the acreage devoted to the growing of mangels and sugar beets will be considerably greater than that used for the growing of Swede turnips, fall turnips and field carrots.

VARIETIES OF MANGELS.

Mangels are classified into long, intermediate, tankard, and globe, according to their shape, and each class is represented by a number of varieties. Some of these varieties vary greatly not only in shape, but also in size and color. At the Ontario Agricultural College mangels have been tested under fully one hundred and seventeen different names. In some cases, however, the mangels under different names resemble one another so closely that they may be considered as the same variety, and yet there are frequently differences in purity of seed, in germination, and in productiveness even of these mangels owing to the varying conditions under which the seed has been grown, harvested, stored, etc. It is very difficult indeed to get anything like a definite knowledge of the different varieties of mangels from the seedsmen's catalogues. It is also exceedingly important to conduct experimental work in order that the different varieties may be grown and studied under uniform conditions. As the seasons vary considerably it is unsafe to draw conclusions from experiments conducted for one or two years. Ten different varieties of mangels have been under experiment at the O. A. College in each of the past eleven years, and five of them in each of the past nineteen years. A large amount of seed was used each year in order to get a uniform number of plants. Even with this great care, however, the stand of the plants was uneven in 1909 and in 1898, and the results for those two years have been discarded. The following table gives the average yield per acre of each of ten varieties of mangels grown under uniform conditions in each of ten years, and of five varieties of mangels in each of seventeen years:

Varieties.	Bushels per acre.	
	Av. 10 yrs.	Av. 17 yrs.
Yellow Leviathan (Ferry)	1028	935
Sutton's Mammoth Long Red	1006	911
Carter's Windsor Prizetaker		
Yellow Globe	977	
Rennie's Perfection Mammoth		
Long Red	974	
Steele-Brigg's Giant Yellow		
Intermediate	967	898
Garton's Improved Yellow		
Globe	964	
Ideal (Kirsche)	941	
Simmer's Mammoth Prize		
Long Red	920	900
Steele-Brigg's Giant Yellow		
Globe	883	
Bruce's Mammoth Red Inter-		
mediate	850	774

Of the ten varieties of mangels presented in the table the seed of six was obtained from five Ontario seedsmen, the seed of three from three English seedsmen, and the seed of one from a seedsman in Germany. The name in every case indicates the color and the shape of the root with the exception of the Yellow Leviathan which belongs to the Intermediate, and the Ideal to the Tankard class. The results show that the variety which has given the highest average yield per acre belongs to the Yellow Intermediate class, the second to the Long Red, and the third to the Yellow Globe. We have, therefore, three distinct types of roots represented by the three highest yielding varieties in the average results for ten years. It will be noticed that the three lowest yielding varieties in the ten-year experiment also belong to the same three classes of roots as the three highest yielding varieties. It will, therefore, be seen that in these results there are greater differences amongst varieties than amongst the classes themselves.

The seed of the Yellow Leviathan mangel was first procured in 1893. In each of the past four years it has been purchased as advertised by a number of the Ontario seedsmen. These different lots have varied considerably in purity, in germination power, in shape, and in color. In each of the past few years seed of the Yellow Leviathan variety of mangels has been produced at the Ontario Agricultural College, and an average germination for the past three years as

compared with seed purchased from seedsmen showed the O. A. C. with 123 per cent., as against 105 per cent., 99 per cent. and 62 per cent., with seed from each of three seedsmen. These average results are those of eight distinct tests.

In 1911 there was a registered frost at the college, of two degrees on September 14th, and the mangel seed was not collected until September 26th. This frost apparently proved disastrous to the germination of the mangel seed as its vitality was practically ruined.

GERMINATION OF MANGEL SEED.

In each of the past four years very careful determinations have been made in the field as to the percentage of plants produced from exact numbers of clusters planted under uniform conditions. The results in 1909 showed a variation of from 174 per cent. down to 15 per cent.; in 1910 from 158 down to 15; in 1911 from 219 down to 60, and in 1912 from 125 down to 35 per cent.

This shows that there is a very great variation in the germination of the clusters of mangels of different varieties in each of the past four years. It is not a matter of variety, however, and the natural conclusion is that the mangel seed of any variety in the hands of any Ontario seedsmen may produce either a high or a low germinating power. The germination of the mangel seed has a much greater influence on the actual returns of a crop than many people realize. If we wish to grow mangels in Ontario with the hope of securing a good crop, it is absolutely essential that we use seed of good vitality.

SELECTION OF ROOT SEED.

A large amount of experimental work has been conducted at the O. A. College within recent years to determine the influence of different selections of root seed upon the resulting crop. Four tests were made annually with the different selections of seed of the field roots. Duplicate experiments were conducted in which the seeds of the different selections were planted separately, and duplicate experiments were also conducted by planting three large, five medium, and eight small seeds at each place where it was desirable for a root to grow. The plants were thinned to one at each place, and at equal distances apart. When the roots were harvested the yields of the duplicate tests of each method were averaged. The following table gives average results of the duplicate test made by means of each of two methods of comparison in order to ascertain the amount of influence of the size of root seeds on the yield of the roots produced:

Method of Planting.	Roots.	Number of Years' Tests	Yield of Crop per Acre.		
			Large Seed (tons)	Medium Seed (tons)	Small Seed (tons)
Plots in which equal number of seeds were planted separately.	Mangels	5	31.19	27.02	18.57
	Sugar Beets	5	23.25	21.32	13.48
	Swede Turnips	5	15.35	12.63	7.03
	Fall Turnips	5	26.72	22.00	13.55
	Field Carrots	5	22.32	19.31	13.59
Plots in which equal number of plants were left when thinning.	Mangels	5	35.17	32.23	24.47
	Sugar Beets	5	22.54	22.37	15.05
	Swede Turnips	5	13.77	17.85	10.40
	Fall Turnips	4	26.14	25.35	24.00
	Field Carrots	5	26.62	25.15	18.87

Note:—In the case of mangels and sugar beets the seed clusters instead of the separate seeds were used.

This is the average of no less than ninety-eight distinct experiments conducted with large, medium, and small seeds of five distinct kinds of field roots. It will be noticed that in every instance the large seed produced greater yields than the medium sized seed, and that the medium sized seed produced greater yields than the small seed.

The results go to show very clearly that the root crop is greatly influenced by the quality of the seed sown, and that the quality of the seed is determined largely by variety, by the percentage of germination, and by the comparative size of the seeds within the variety. Good seed is at the very foundation of success in root production.

Experimental Union Annual Meeting.

The Ontario Agricultural and Experimental Union will hold its annual meeting at the Ontario Agricultural College, Guelph, on January 7th and 8th, 1913. The co-operative experimental work of the Union has been more extensive during the past year than at any previous time. Six different committees have conducted active work in 1912. In agriculture alone experiments were conducted on 5,327 farms in Ontario. The summary results of these experiments will be presented and discussed at the annual meeting. Besides the presentation of the results of experiments there will be addresses and discussions on the following special subjects: "Possibilities of

Intensive Farming in Ontario," "Division of Labor on the Farm," "The Operation and Value of the Seed Control Act of 1911," "Conveniences in the Home and on the Farm," "Ontario's part in Federal Agricultural Co-operation," etc.

These meetings are open to any one interested in agriculture. Cheap railway rates have been arranged for on the certificate plan. For fuller particulars apply to the Secretary, C. A. Zavitz, Agricultural College, Guelph, Ontario.

Lime for Sour Soil.

The use of lime is demanding the attention of farmers of Eastern Ohio, according to Porter Elliot, an instructor for the College of Agriculture, Ohio State University. He says: "In a great many localities it has become difficult to secure satisfactory crops of red clover. This is undoubtedly a misfortune as it not only makes it difficult to provide a properly balanced and economical ration for farm animals, but increases the difficulty of maintaining the fertility of the soil. Too often when clover failure becomes common timothy is substituted in the rotation. This crop can never take the place of red clover. It will form a good sod and, if plowed under after two or three mowings, helps to maintain the supply of humus in the soil. It does not, however, have the deep-rooting of the red clover. It does not bring up plant food from the subsoil, nor have the loosening or lightening effect on the soil so noticeable when clover is grown. What is of much greater importance it leaves the soil poorer in nitrogen while clover, if grown under proper conditions, not only secures the bulk of the nitrogen from the air in the soil, but actually adds a fresh supply to help grow the crops that follow in rotation. The commonest cause of failure in keeping a stand of clover is an acid condition of the soil. This is easily corrected by an application of two tons of finely ground limestone or one ton of quicklime per acre. Preferably this should be applied after plowing for corn, but nearly as good results are secured when applied to wheat ground."

A cement water tank on a Seneca county, Ohio, farm illustrates, according to the Ohio State College of Agriculture, an excellent method of prolonging the usefulness of an old wooden water trough or tank. The bottom of this tank, which was circular, was taken out and the dirt beneath removed far enough down to give a good foundation. This space was then filled with concrete. Next a circular form, the same height as the outside of the tank, but small enough to go inside of it and leave about six or eight inches

of space all around, was put in. This space was filled with concrete, reinforced with old wagon tires. With the removal of the inside form, the job was complete. The wooden part of the old tank was not removed. It helps to prevent injury to the tank, retards freezing of the water, and makes injury of stock less probable.

According to a report from the Canadian Trade Commissioner at Birmingham, the exports of Canadian butter during the past year have been the largest for any year in the past five. Canada reduced New Zealand's long lead in this commodity. There was also an advance in Canadian cheese, Canada easily leading the British colonies in the amount of cheese exported to the United Kingdom.

A good New Year's Resolution which should be acted upon by Ontario farmers and farmers' sons: "Resolved—That I will make every possible effort to attend the short course either at the O.A.C. or as held by the district representative of the Department of Agriculture, and that I will also attend the meetings of the Farmers' Institute in my district and help to make these meetings interesting by aiding in discussion."

Other birds besides turkeys, geese, ducks and chickens are valued at high prices. At the exhibition of cage-birds recently held in Toronto the 300 of the feathered tribe on exhibition were valued at nearly \$5,000.

Two International Agricultural Yearbooks.

The International Institute of Agriculture has just published the first volume of the International Yearbook of Agricultural Legislation (1911).

Until now there has been no annual publication in the whole world giving such complete information on the principal laws and decrees relating to agriculture. There are, indeed, some international annuals of legislation; but some are of a general character, and therefore very often only give a brief indication of the laws relating to agriculture, and even omit any mention of some of them; others only deal with special subjects, not agricultural. The International Yearbook of Agricultural Legislation is intended to supply this deficiency.

The work is completed by two detailed indices, one chronological according to country, the other alphabetical according to subject. The Yearbook (price, 10 frs.) can be obtained on application to the International Institute of Agriculture (Rome, Villa Umberto I.), or at the principal booksellers.

The International Institute of Agriculture has also just published, through its own Office of General Statistics, directed by Prof. Umberto Ricci, its first International Yearbook of Agricultural Statistics. This Yearbook contains statistical data upon the most important agricultural products and live stock, for the period 1901-1910, of the countries represented at the Institute. The latter are fifty in number, and take in practically the whole of the civilized world. All are official, because they have either been taken from official publications, or have been furnished to the Institute directly from the Governments. This Yearbook, the price of which is 4 shillings, may be obtained from the International Institute of Agriculture (Villa Umberto I., Rome), and from the principal booksellers.

United States Importation Regulations.

The United States Secretary of Agriculture has had it made law that all horses imported into the United States from any part of the world, except North America, shall be accompanied by a certificate from a duly qualified veterinarian giving a description and the distinctive markings of each animal, the name and address of the importer, the proposed date of exportation, the proposed port of shipment, the name and address of the consignee in the United States, and stating that the horse or horses to be exported have received a careful veterinary examination, and are apparently in good health and free from dourine (maladie du coit) and any other diseases contagious to horses. All these horses shall also be accompanied by an affidavit of the owner or owners, or person or persons in charge of the horse or horses for the six months preceding the date of their shipment, to the effect that during that period the animal or animals have not been exposed to any disease contagious to horses; and that during the six weeks immediately preceding shipment, the said animal or animals have been continuously located in the district whence moved for exportation, and indicating the localities in which the said animal or animals have been located during the period of one year preceding the date of shipment; also by an affidavit from the importer, or his agent supervising the shipment, to the effect that in transportation the animals have not been exposed to any disease contagious to horses or animals of their kind; and that they have been transported in clean and disinfected cars or vessels direct from the farm or place at which they were purchased. A certificate must be furnished the minister of agriculture that as far as it is possible to ascertain none of the bad contagious diseases existed within a year in the localities in which the horse has been. All these horses must pass a veterinary inspection at the port of entry by an inspector of the Bureau of Animal Industry. No straw may be landed until disinfected.

TRADE TOPICS.

An almanac different from the ordinary is that issued by the International Harvester Company of America. This almanac, first published in 1909, is designed especially for the needs of rural people, and each year the services of agricultural experts are secured to prepare special articles of particular interest to those engaged in farming. In this year's almanac, some of the best articles are, "The Disk," by Henry Wallace; "Plowing," by U. G. Orendorf; "Mixed Farming," by A. J. McMillan; "Care of Farm Machines" and "The Farm Water Supply." These articles are in addition to astronomical observations, tables of weights and measures, postal information, and other useful data. The almanac is well illustrated, and many are the morals drawn from the unprogressive's condition. Also, with the New Year comes two I. H. C. calendars, Deering and McCormick, the former depicting a number of bare-foot boys playing an exciting game of baseball, while in the distance a self-binder is reaping a magnificent crop of golden grain. The setting is a good one, and the coloring realistic. The McCormick calendar depicts an aged and sinewy smith at his anvil, with the blazing-red fire and all the characteristics of the village smithy, while in a panel underneath is a panoramic view of the great McCormick Works. A copy of either of these beautiful calendars may be had on application to your local I. H. C. dealer.

HUNTING BUFFALO.—Some forty-odd years ago, when buffalo were nearly as plentiful as domestic cattle, and roamed the prairies of the Western States in vast herds, they were hunted and killed as a matter of business, for their hides, as all other wild, fur-bearing animals are to-day. Occasionally, a few of the saddles or hind quarters of meat were taken, but generally the carcass was left to the coyotes or other wild animals. The buffalo and buffalo robes are now practically a thing of the past, and one rarely sees a real, genuine buffalo-hide robe. There have been many substitutes made and tried to replace the old-fashioned buffalo robe, but most of the substitutes have been more or less of a failure in the past. Of late years, however, there has been a special process of tanning invented by B. F. Bell, of Delhi, whereby domestic cattle and horse hides are tanned soft and pliable, and are equal to, if not better than, the old-fashioned buffalo. They have this advantage, they do not get hard from age or use, or from being wet, and do not hold the snow or rain as did the buffalo with their long, woolly fur. Cattle and horse hides also make very dressy, serviceable overcoats, gauntlets, mitts, or coats for ladies, being warm, soft, and pliable. Mr. Bell has an advertisement in another column of this paper to which attention is invited. Write him.

BOOK REVIEW.

A REVISED POULTRY BOOK.

In the "Rural Science Series," published by The MacMillan Co., Toronto, Canada, a revised, enlarged, and very much improved edition has been issued of "Farm Poultry," described aptly on the title page as "a popular sketch of domestic fowls for the farmer and amateur," by Geo. C. Watson, M. S. It is a useful, well-printed volume of nearly 370 pages, with a number of illustrations. Copies may be obtained at \$1.60 postpaid, through this office.

Joseph Seabrook, Balaphorene Farm, Havelock, Ont., C. P. R., advertises for sale choice Jersey bull calves, three to sixteen months old, at moderate prices. He has recently sold to A. W. Caton, Napanee, all the females he can spare at present.

GOSSIP.

A VALUABLE ALMANAC.

For many years the Live Stock Journal Almanac has carried to all parts of the world the annual record of the pure-bred stock of Great Britain, and has done much to extend the regulation of the many British breeds where excellence is now universally acknowledged. The 1913 issue is the largest of the agricultural annuals containing all the usual features and numerous illustrations comprising artistic reproductions of paintings and portraits of the leading prizewinning stock of the year. About sixty special articles contributed by the best-known agricultural authorities of the country are given. A few of the subjects discussed are, "Agricultural Societies," "Parades at Shows," "Hackneys as Saddle Horses," "Suggestions as to Horse Shows," "What is the Most Popular Feature of the Modern Show," "Light Horse Breeding," "The Shire for the Tenant Farmer," "The Prevention of Foot-and-Mouth Disease." These are only a few. Nearly every recognized breed of horses, ponies, cattle, sheep and pigs, is reviewed for the year by eminent experts. Portraits number about 200, and a breeders' directory and breeders' tables are prominent features. The almanac is published at one shilling, or 1s. 4d., postpaid, by Vinton & Co., Ltd., 8 Bream's Bldgs., Chancery Lane, London, E. C.

WOODBURN BERKSHIRES AND COTSWOLDS.

The Woodburn herd of Berkshire swine and flock of Cotswold sheep owned by E. Brien & Sons, of Ridgeway, Ont., are the result of over twenty-five years of careful and intelligent breeding, and there is none other in the country up to a higher standard of breed perfection. The Berkshires are practically all of the noted old Sally tribe, famous for their big size, length and depth of body, and strength of bone. All of the twenty-odd brood sows in breeding are more or less strongly infused with this great Berkshire blood. They vary in weight from 400 to 700 lbs., and among them are many winners at the leading shows. On their sire's side, the majority of them are descendants of the world-famous sire and many times champion, Imp. Baron Lee 4th. On such a line of breeding has been used a most carefully selected lot of sires from the leading herds of England, United States, and Canada, and to-day the breeders of this country are getting the benefit. For sale, at all times, are breeding stock of both sexes and any desired age. The Cotswolds this year at Chicago produced the champion yearling ewe, besides many other winners. The lambs are by an imported Swanwick-bred ram, a Royal winner. Shearling ewes, rams, and ewe lambs are for sale.

PONDEROUS BULLOCKS.

The picture on another page of "Pat the Giant," winner of the special prize at the recent Birmingham Fat-stock Show for the heaviest beef animal, is a curiosity to present-day feeders, and reminds old-timers of the days when four- and five-year-old bullocks were not uncommonly in competition at fat-stock shows. The preference nowadays for baby beef, or at most, two-year-old heaves, on the part of the feeder, the dealer and the consumer has become so general that an older or larger bullock fails to attract buyers at nearly the price of younger stock. The Birmingham steer, with his weight only 77 lbs. less than 3,000, reminds one of the history of "The Durham Ox," said to have been bought at Durham Fair, for Charles Colling, for £14, in 1796, sired by the noted Shorthorn bull, Favorite (252), and out of a common black-and-white cow, and to have weighed, at ten years old, 3,800 lbs. The Durham Ox, it is reported, was purchased in 1801 for \$700, for exhibition, the buyer, after travelling him for five weeks, sold him for \$1,250, a few weeks later his owner refused \$10,000 for him, and travelled with the ox six years through principal parts of England and Scotland. It is said that in London \$485 in admission fees was taken in one day.

QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.
2nd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.
3rd.—In Veterinary questions the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.
4th.—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Veterinary.

CHRONIC INDIGESTION.

Ox does not thrive. He eats well, but is in poor condition. He passes a whitish slime with his feces. He becomes inflated, converts himself into an animated piano, voids flatus per rectum, and can play "Hall Columbia" from start to finish without missing a note.
S. F. McG.

Ans.—The musical attainments of this ox are unprecedented, and certainly most remarkable. If he can be taught to perform when told to, he would be more valuable for show purposes than as a worker. If you decide to treat, purge him with three pounds Epsom salts and two ounces ginger. Mix equal parts sulphate of iron, ginger, nux vomica, and bicarbonate of soda, and give him a heaped tablespoonful three times daily. Add to his drinking water one-fifth of its bulk of limewater. Feed on food of first-class quality in small quantities, and as digestion improves increase the quantity. Allow regular exercise, but not enough to tire.
V.

Miscellaneous.

FLAX FOR CALVES AND COWS.

1. Is flaxseed good for calves? If so, at what age would it be advisable to start feeding them, and how much?
2. Could flaxseed be fed profitably to the milking cow? If so, how, and how much should be fed? I threshed about ten bushels of it this fall, and have been feeding it to the horses and new-milch cows—horses one small handful on grain twice a day, and cows two small handfuls on silage and chop twice a day.
3. I have been told that if fed to cows that had not freshened yet, it would cause them to lose their calves. Do you think that it would do so?
G. M.
Ans.—1. Flaxseed is one of the best known feeds for calves along with skim milk. The best method of feeding it is to soak the whole feed for 12 hours in water 1 to 6 parts by volume then boil slowly and simmer to a jelly feeding of this about a third of a teaspoonful in warm milk gradually increasing to about a cupful as the whole milk is withdrawn. It is safe and good for the calves at all times if fed in moderation. A good mixture is one part of pure ground flaxseed, 2 parts finely ground corn meal sifted and 2 parts finely ground oats sifted, the whole well mixed. From one to two pounds a day is calculated to improve almost any ration for the dairy cow. Fed as meal it would be all right mixed with other concentrates or sorghum.
3. Fed in small quantities it should not be dangerous.

Heart O' Me.

Heart o' me, the world is sweet,
The violets are blooming,
All the tender, greening things are
laughing in the sun;
Sad, my heart? Be glad, my heart!
Summer time is coming!
Bird and brook are singing for the
joy-days now begun.
Oh, the weary, weary days, and nights
that followed after,
Oh, the bitter tears we shed, and oh,
the mist of pain!
Sad, my heart? Be glad, my heart!
Listen to the laughter!
How the sunshine glimmers on the
blossoms wet with rain!
Heart o' me, the world is sweet!
Remember not thy sorrow,
Follow after running brook, and
bloom, and bird, and bee!
Sad, my heart? Be glad, my heart!
Greet the good-to-morrow!
Wist ye not the golden world was
made for thee and me?

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16
MARKETS

Toronto.

REVIEW OF LAST WEEK'S MARKETS

At West Toronto, on Monday, December 10th, 1911, receipts numbered 25 cars, comprising 443 cattle, 159 hogs, 412 sheep and lambs, and 19 calves; no business transactions. Packers quote hogs at \$8.25, fed and watered, and \$7.90, for h. cars, although the market closed last week at \$8.40, fed and watered.

The total receipts of live stock at the City and Union Stock-yards last week were as follows:

	City.	Union.	Total.
Cars	7	56	63
Cattle	130	108	238
Hogs	—	1,788	1,788
Sheep	106	786	892
Calves	54	60	114
Horses	—	21	21

The total receipts of live stock at the two markets for the corresponding week of 1911 were as follows:

	City.	Union.	Total.
Cars	148	244	392
Cattle	1,225	1,535	2,760
Hogs	4,865	18,170	23,035
Sheep	2,540	3,582	6,122
Calves	178	60	238
Horses	24	45	69

The combined receipts of live stock at the two markets for the past week show a decrease of 329 cars, 2,572 cattle, 16,308 hogs, 5,230 sheep and lambs, 124 calves, and 48 horses, compared with the same week of 1911.

Receipts of live stock last week were light owing to the holiday season. All offerings were readily bought up by the abattoirs, at about steady prices, compared with the week previous.

Butchers.—Good to choice butchers' cattle sold from \$6 to \$6.25; good butchers' \$5.75 to \$6; medium, \$5.25 to \$5.50; common, \$4.75 to \$5.15; inferior, \$4 to \$4.50; cows, \$3.50 to \$5.25; canners, \$2.25 to \$2.65; bulls, \$3.50 to \$5.25.

Stockers and Feeders.—Few of either class were on sale, and prices were unchanged. Steers, 900 to 1,000 lbs., are worth from \$5 to \$5.25; good stockers, from \$4.25 to \$4.75; common, light stockers, \$3.75 to \$4.

Milkers and Springers.—Receipts of milkers and springers were light. Prices were unchanged, and ranged from \$45 to \$65 for medium to good. Choice cows sold from \$70 to \$80, but we only heard of one at the latter price.

Veal Calves.—Not many were on sale, and prices were firm, at unchanged quotations, ranging from \$3.50 to \$9 per cwt.

Sheep and Lambs.—Receipts of sheep and lambs were light. Prices were steady to firm, as follows: Ewes, light weights, sold at \$4.25 to \$4.75; ewes, heavy, and rams, sold at \$3.50 to \$3.75; lambs sold from \$6.75 to \$7.75 per cwt.

Hogs.—The run of hogs was not large, and prices were firm for the local trade, as follows: Selects, fed and watered, \$8.25 to \$8.35, and \$3 f. o. b. cars at country points.

BREADSTUFFS.

Wheat.—Ontario, No. 2 red, white or mixed, 90c. to 91c., outside. Oats—Ontario, new, 33c. to 34c., outside; 33c., track, Toronto; Manitoba, No. 2, 41½c.; No. 3, 40c., lake ports. Rye—No. 2, 75c. to 76c., outside, nominal. Peas—No. 2, \$1 to \$1.10, nominal, outside. Buckwheat—47c. to 48c., outside, nominal. Manitoba Wheat—No. 1 northern, 92½c.; No. 2 northern, 90½c., track, lake ports; feed wheat, 65c., lake ports. Barley—For malting, 60c. to 65c.; for feed, 40c. to 50c., outside. Corn—New No. 3 yellow, 54½c., track, Toronto. Flour—Ninety-per-cent. winter-wheat flour, \$4.05 to \$4.15, delivered. Manitoba flour—Prices at Toronto are: First patents, \$5.80; second patents, \$4.80; in cotton, 10c. more; strong bakers', \$4.60 in jute.

HAY AND MILLFEED.

Hay.—Baled, in car lots, track, Toronto, \$15 to \$15.50 per ton, No. 1; No. 2, \$12.50 to \$13.

Straw.—Baled, in car lots, track, Toronto, \$10 to \$10.50.
Bran.—Manitoba bran, \$21 per ton; shorts, \$21.50; Ontario bran, \$21 in bags; shorts, \$24.50, car lots, track, Toronto.

COUNTRY PRODUCE.

Butter.—Fresh-made butter was not as plentiful. Prices about the same, as follows: Creamery pound rolls, 32c. to 33c.; creamery solids, 30c. to 31c.; separator dairy, 28c.; store lots, 24c. to 26c. Eggs.—New-laid, 50c.; cold-storage, 27c. to 28c.

Cheese.—Large, 14c.; twins, 15c. Honey.—Extracted, 12½c.; combs, per dozen sections, \$2.75 to \$3.

Beans.—Broken lots of primes sold at \$2.90 to \$3, and \$3.10 for hand-picked. Potatoes.—Car lots of Ontarios, 85c. per bag, track, Toronto; New Brunswick Delawares, 95c., track, Toronto.

Poultry.—Receipts were large, but the Christmas market demand was so great that prices were high, averaging 2c. per lb. over last year; but the quality was so much better than last season that it made up for extra cost. Turkeys, wholesale, dressed, 24c. to 25c.; geese, 16c. to 18c.; ducks, 17c. to 19c.; chickens, 17c. to 19c.; hens, 18c. to 16c.

FRUITS AND VEGETABLES.

Apples.—Spies, \$3 to \$3.50; Spies, No. 2, \$2.50 to \$2.75; Greenings, \$3 to \$3.25 for No. 1; Greenings, No. 2, \$2 to \$2.50; Baldwins, \$2.50 to \$3; fall apples, \$1.50 to \$2. Cranberries, per barrel, \$9.50; cabbage, 25c. to 40c. per dozen; beets, per bag, 75c.; carrots, per bag, 75c.; turnips, per bag, 40c.; celery, 25c. to 75c. per dozen, according to quality. As a rule, fruit, especially apples, has not been as plentiful and cheap in several years.

HIDES AND SKINS.

No. 1 inspected steers and cows, 15c.; No. 2 inspected steers and cows, 14c.; No. 3 inspected steers, cows and bulls, 13c.; country hides, cured, 12c. to 13c.; country hides, green, 10½c. to 11½c.; calf skins, per lb., 14c. to 15c.; lamb skins, \$1 to \$1.25; horse hides, No. 1, \$3.50 each; horse hair, per lb., 37c.; tallow, No. 1, per lb., 5½c. to 6½c.

TORONTO SEED MARKET.

Alsike No. 1, per bushel, \$11.50 to \$12; alsike No. 2, per bushel, \$10.50 to \$11; alsike No. 3, per bushel, \$9.50 to \$10; timothy No. 1, per bushel, \$1.90 to \$2.25; timothy No. 2, per bushel, \$1.25 to \$1.60.

Montreal.

Owing to the fact that butchers for the most part bought freely previous to Christmas, the market afterwards was not at all active and nothing of importance took place. The choicest cattle on the market sold at about 7c. and there were very few of them. From this price ranged down to 6½c. for fine stock, while good sold around 6c. to 6½c. and medium ranged down to 5c., all depending upon quality. Common stock ranged around 4c. down to 3½c. All sorts of mutton was only in fair supply and prices were 4½c. to 5½c. per lb. for ewes and 4c. to 4½c. for bucks and culls while lambs were 6½c. to 7c. per lb. Calves ranged all the way from \$3 to \$12 each, while hogs sold at 8½c. to 9c.

Horses.—Christmas week was a dull one in the horse market. Almost no horses were sold, and there were very few in the stables. Prices were: Heavy draft horses, weighing from 1,500 to 1,700 lbs., \$300 to \$400; light draft, 1,400 to 1,500 lbs., \$225 to \$300; light horses, weighing from 1,000 to 1,100 lbs., \$125 to \$200; broken-down animals, \$75 to \$125, and choice saddle and carriage animals, \$350 to \$500 each. Holders of horses are in no way anxious to part with them, as they seem to think that the price will hold steady.

Poultry.—Although it was claimed there was not enough turkey to go round, there were a few left over on the hands of merchants. The poultry market still held firm, prices being 23c. to 25c. per lb. for turkeys; 15c. to 16c. for ducks; 16c. to 18c. for chickens; 12c. to 14c. for fowl, and 13c. to 15c. for geese.

Dressed Hogs.—The market for abattoir-dressed, fresh-killed hogs showed lit-

tle change, at 12½c. to 12½c. per lb., but country-dressed were firm, at 12c. to 12½c. per lb. for light weights, while heavy were 11c. to 11½c. per lb.

Potatoes.—There was little change in the market for potatoes. Green Mountains, in car lots, 85c. to 90c. per lb. while Quebec stock was 75c. to 80c. per bag. In smaller lots, prices were 15c. to 20c. higher.

Eggs.—The market for eggs did not advance, and it looks as though it would not for some time to come. In fact, there are predictions that it might decline. Strictly fresh sold at 60c. per dozen, retail. Selects were 32c., in case lots; No. 1 candled, 28c., and seconds, 22c. to 23c.

Syrup and Honey.—White clover comb honey, 16½c. to 17c. per lb.; dark comb, 14c. to 14½c.; white extracted, 12c. to 12½c., and dark, 8½c. to 9½c. Maple syrup was about steady, at 8c. to 8½c. per lb. in tins, and 6½c. to 7c. in wood, sugar being 8½c. to 9c. per lb.

Butter.—Prices were steady, at 30c. to 31c. per lb. for finest creamery, while good butter might be had at 29c., this not being any too desirable. Fresh makes were about 28c. to 29c., and dairy, 26c. to 27c. per lb.

Grain.—The local market was not very active. Prices of No. 2 Canadian Western oats were 43c. to 43½c. per lb.; Western No. 1 feed oats, 42c. to 42½c. per bushel, ex store.

Flour.—Manitoba spring-wheat patents sold at \$5.40 per barrel, in bags, for first patents; \$4.90 for seconds, and \$4.70 for strong bakers. Ontario patents, \$5.35; straight rollers, \$4.95 to \$5, in wood. Wood was 30c. dearer than jute.

Millfeed.—Bran continued to sell at \$21 per ton, in bags, while shorts were \$24; middlings, \$28 to \$30; mouille, \$34 to \$35 for mixed, and \$36 to \$38 for pure.

Hay.—The market was about steady, and rather easier on some grades. No. 1 pressed hay, carloads, track, Montreal, sold at \$14 to \$14.50 per ton; \$13 to \$13.50 for No. 2 extra; \$12 to \$12.50 for ordinary; \$10 to \$11 for No. 3, and for clover mixture.

Hides.—The market was steady. Beef hides were 13c., 14c. and 15c. per lb. for Nos. 3, 2 and 1, respectively; calf skins, 90c. each, and horse hides, \$1.75 and \$2.50 each. Tallow sold at 1½c. to 3c. per lb. for rough, and 6c. to 6½c. per lb. for rendered.

Buffalo.

Cattle.—Prime steers, \$8.75 to \$9; butchers', \$6 to \$8.40; bulls, \$4 to \$6.50; stock heifers, \$4 to \$4.50; shipping, \$7.50 to \$8.65; heifers, \$4.75 to \$7.50; cows, \$3 to \$6.25; stockers and feeders, \$4.75 to \$7; fresh cows and springers, \$35 to \$75.

Veals.—\$4 to \$12.50. Hogs.—Heavy and mixed, \$7.75 to \$7.80; Yorkers and pigs, \$7.75 to \$7.85; roughs, \$6.90 to \$7; stags, \$5.50 to \$6.50; dairies, \$7.65 to \$7.80.

Sheep and Lambs.—Lambs, \$5 to \$9.35; yearlings, \$4.50 to \$7.75; wethers, \$5 to \$5.50; ewes, \$2.50 to \$4.75; sheep, mixed, \$3.50 to \$5.

Chicago.

Cattle.—Beves, \$3.70 to \$9.50; Texas steers, \$4.60 to \$5.80; Western steers, \$5.75 to \$7.60; stockers and feeders, \$4.25 to \$7.30; cows and heifers, \$2.75 to \$7.50; calves, \$6.50 to \$10.50.

Hogs.—Light, \$7.05 to \$7.40; mixed, \$7.10 to \$7.50; rough, \$7.05 to \$7.20; pigs, \$7.05 to \$7.25.

Sheep and Lambs.—Sheep, native, \$4.20 to \$5.50; Western, \$4.25 to \$5.50; yearlings, \$6 to \$7.40. Lambs, native, \$6.10 to \$8.75; Western, \$6.45 to \$8.75.

British Cattle Market.

John Rogers & Co. cable 12c. to 13½c. per pound for Irish steers.

STOCK SALE DATES CLAIMED.

Jan. 14th—Combination sale registered Shropshires and Southdowns, Burford, Ont.; J. G. Hammer, Secretary.
Jan. 15th—D. Campbell, Komoka; Holsteins.
March 5th—Annual sale of pure-bred cattle, Guelph Fat-stock Club, J. M. Duff, Secretary, Guelph.

GOSSIP.

The 1913 oat crop will depend largely on the seed. Look up the "Island Oat" advertisement of Jos. Read & Co., of Prince Edward Island, in this issue. They make a special offer.

The Guelph Fat-stock Club announce in our advertising columns the date for their annual consignment sale of pure-bred animals of the beef breeds, entries for which close January 10th, and the sale date is March 5th, 1913.

Henry F. Brown, of Minneapolis, Minnesota, a noted and widely-known breeder of Shorthorn cattle, died on December 14th, 1912, at the age of seventy-five years. He was one of the leading Shorthorn-breeders of the generation which is passing.

At a sale of Percherons, by W. S. Cora, Whitehall, Ill., December 10th, five stallions sold for an average of \$947, and thirty-five mares for an average of \$679. The highest price for a stallion was \$1,835, and the highest for a mare was \$1,200.

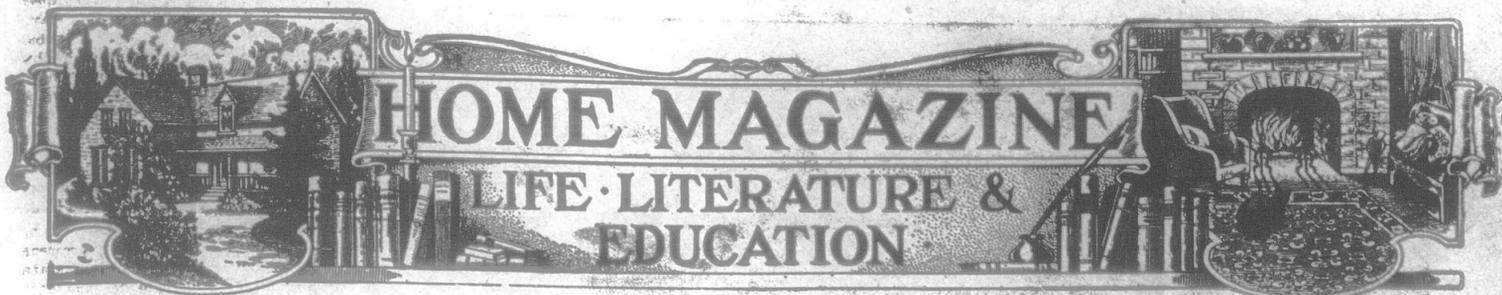
At a sale of Shires, by Truman's Pioneer Stud Farm, at Bushnell, Ill., December 12th, the highest price obtained was \$2,225, for the two-year-old chestnut filly, Lathwaite Rose. Gray Countess, a gray two-year-old filly, brought \$1,550, and 34 mares sold for an average of \$646.

The death is announced of Henry Dudding, the noted English breeder of Shorthorn cattle and Lincoln Long-wool sheep, of Riby Grove, Great Grimsby, Lincolnshire. As a breeder of Lincoln sheep, and a winner of championship prizes, few men have gained more fame than Henry Dudding, while for high prices obtained for rams at his annual auction sales, his record was probably unequalled; some selling as high as 1,000 to 1,400 guineas. An appreciation of Mr. Dudding's work in the cause of stock-breeding was shown on the occasion of his sale in 1911, when his portrait was presented to him by his numerous friends.

The annual combination sale of registered Shropshire and Southdown sheep will be held at the Agricultural Park, Burford, on January 14th, 1913, at 1 o'clock. This is one of the best opportunities of the year to purchase foundation stock for a flock, or new blood for the flock already established. Among the contributors are such well-known breeders as H. N. Gibson, Delaware; C. Hodgson, J. Lloyd Jones, and J. G. Hamner, of Burford. The offering comprises 75 yearling ewes, 40 ewe lambs, and 20 rams. The names of the contributors are a guarantee that everything sold will be high class. Look up the advertisement in another column and plan to attend the sale.

THE SMITHFIELD SHOW.

The grand champion beef animal at the 1912 Smithfield Fat-stock Show, was the Birmingham champion, Will Gazelet's red-and-white Shorthorn steer, a son by Golden Mascot, of the Cruickshank Buttery cow, Beatrice 22nd, sold at Wm. Thompson's sale last May for \$1,100. The reserve was H. M. the King's Shorthorn steer, Marmaduke. In the competition for the sheep classes, the championship for the best pen of fat sheep went to A. E. Blackwell's Hampshire Down wethers, the reserve being Messrs. Dean's Lincoln wether lambs. In the pig classes, the champion plate for the best pen of two, to be Arthur Hiscock's Berkshires. The reserve was B. I. Phillip's Hampshires. The single pig champion was the King's Berkshire, defeating another of the same breed shown by Prince Christian. The Berkshire, it is reported, predominated this section at the show.



A New Year.

Our other years have slipped away, as slips the flower its sheath,
 Once more with hands held out we grasp a gift the Father sends,
 And give Him thanks for length of days, for joy that comes with breath,
 For home and books and happy work, for children and for friends:

All in the midnight and the frost we sped the old year out;
 All in the dawnlight and the glow we bid the New Year in!
 The King is dead! Long live the King!
 'Tis aye the clamorous shout;
 And ever 'tis with mirth and hope the new-born reigns begin.

What yet may wait of care or grief to-day we cannot tell,
 Another year, another start, another chance to do
 What lieth closest to our hand: God loves us, all is well.
 Disdaining fear, we greet the year, whose first white leaves are new.
 —Margaret E. Sangster.

The Panama Canal.

A TRIUMPH OF ENGINEERING.

[Condensed from "The Americans in Panama," by Wm. R. Scott, Statler Pub. Co., New York.]

On February 11th, 1912, Mr. Wm. R. Scott tells us in his graphically written book, "The Americans in Panama," a tug and three barges lay at Cristobal, on the Atlantic side of the Isthmus of Panama. They were urgently needed at Balboa, on the Pacific side, just forty-seven miles away. Just two ways of placing them there were possible. (1) To take them to pieces, transport them across the intervening land and rebuild them on the other side; (2) to have them go by water around Cape Horn, the most southerly point of South America. The latter method was chosen, and the vessels arrived at Balboa just 126 days later, after having traversed a distance of 10,500 miles. Should the same or other vessels desire to make the return journey from Balboa to Cristobal during the latter part of the present year, they will find it possible, if all goes well, to make the distance in ten hours.

Yes, the great undertaking is almost completed, one of the greatest engineering triumphs the world has ever known, almost achieved. By July of this year, providing no reverses occur, the last shovelful of earth will have been lifted, the last bolt shot, and, standing upon the banks of the great cutting at the Isthmus of Panama, the magnates of the nations, standing side by side with the engineers and employees who have forged the tremendous task through, will watch the waters creep slowly up and up until Atlantic joins Pacific,—the dream of centuries realized!

The money cost of making the Panama Canal, when completed, will have reached the sum total of \$375,000,000. Its cost in human lives—for all such enterprises call for human sacrifice—will have approximated 6,000, a number, all conditions considered, held to be remarkably low; the building of the Panama railroad alone, during 1850-55, involved as many. The total excavation will have been, according to present estimates, 221,000,000 cubic yards. Yet, when all this has been told, the story is just beginning.

The Panama Canal, as carried out, crosses Panama from Colon to the City

of Panama. In its construction the waters of the River Chagres have been utilized to form the Gatun Lake, 23 miles in length, and 85 feet above sea-level. Any ship which desires to descend from this lake to the Atlantic will find it necessary to descend the great Gatun Locks, thence through a channel, which has been dredged for seven miles, to the Caribbean Sea. If, on the other hand, she desires to go through to the Pacific, she will find her way first through the enormous Culebra Cut, nine miles long, thence down the Pedro Miguel locks to a lake one and a half

"As if by magic, the gates swing open and an electric locomotive (or locomotives), which has run out on a guideway and fastened to the ship, tows it into the first lock. The gates swing together, and the ship is imprisoned in a chamber 1,000 feet long and 110 feet wide, built of concrete. In a moment the water in this chamber begins to rise, being supplied through holes in the bottom, and the ship rises 27½ feet with the water. . . . Another set of gates swing open in front of the ship, and the locomotives tow it into the second lock, a concrete chamber of the same dimen-

reverse of the process at Gatun. The water in the concrete chamber begins falling, taking the ship down with it. When it has fallen 30 feet, the gates in front open, and the ship goes out into another artificial lake, a mile and a half long, at the end of which are the Miraflores locks. These two locks lower the ship 27½ feet each, or a total for the three locks of 85 feet, which was the height the ship was raised at the other side. The ship then steams through a sea-level channel for seven miles to the Pacific, having made the whole journey from deep water in the Atlantic to deep water in the Pacific, fifty miles, in ten hours.

By following the map as one reads this description, the course of the vessel becomes clear, but perhaps seeing only could give any idea of the enormity of the work that has been accomplished, and the difficulties that have been surmounted. For instance, at Gatun the locks are so heavy that it was found necessary to remove 3,000,000 cubic yards of rock and earth to get down to a solid enough foundation. Here a concrete wall 3,366 feet long has been built. In order that ships might pass, it was necessary to build the locks in pairs, and the outer walls of these are 52 feet thick, the wall between being 60 feet thick. For the construction of all the locks, the amount of concrete required totals 4,302,563 cubic yards. The gates are from 47 to 79 feet high, and 7 feet thick. They have been constructed with air chambers at the bottom and water chambers at the top, are sheathed with steel plates, and operated by electricity, and cost \$5,374,474. There are 46 gates in all (some made for use only in emergency), made with two leaves each.

The Gatun dam is 105 feet high, 1½ miles long, 100 feet wide at the top, and nearly half a mile thick at the bottom. From the lake above, an immense spillway, to dispose of the overflow from the Chagras River, has been constructed, and the water-power will be utilized to operate a hydro-electric power plant.

The Culebra Cut, perhaps the most spectacular portion of the undertaking, is, as has been noted, nine miles long, and there the excavations reach an average depth of 120 feet, at the highest point 272 feet. It was estimated that 100,000,000 cubic yards of soil and rock would have to be removed from this cut, but numerous and unexpected landslides have considerably increased that amount. The excavating has, of course, been chiefly effected by the use of huge steam-shovels. All the charges for blasting have been set off by electric currents, and, in all, 54,504,150 pounds of dynamite were used up to the end of 1912.

Of the immense quantities of land and earth removed, much has been used in building the great Gatun dam; a considerable amount has been utilized at Balboa, where 400 acres have been reclaimed from the ocean; other amounts have been used in building the new Panama Railroad; and the remainder has been thrown on the dumps.

Before leaving the Culebra Cut, it may be interesting to note that the excavation for each month has usually exceeded an amount equal in bulk to the Pyramid of Cheops, which is 750 feet square and 451 feet high.

For the sea-level channels, huge dredges, shovels, and hydraulic methods have been called into service.

As may be imagined, for such an immense undertaking, a veritable army of men has been required. Since last spring, as the work of nine years has



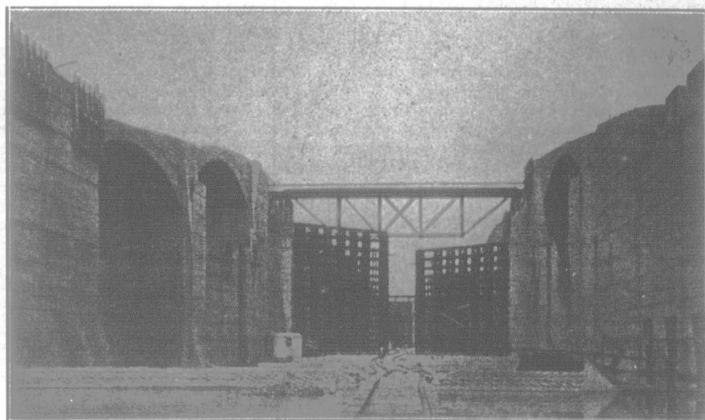
The Culebra Cut.

miles in length, down again through the Miraflores locks, to the sea level, thence out through another dredged channel seven miles long into the Pacific Ocean. It is somewhat hard for those who have never had the opportunity of examining a system of locks, to grasp the principles of their working, hence, perhaps, a quotation from Mr. Scott's minutely-described account of a trip from ocean to ocean, as it will be taken through the Canal, may here be in order:

"A ship arriving at Colon on its way to the Pacific, enters the sea-level chan-

nels. The gates having closed behind, this chamber begins filling with water until the ship is raised again for 27½ feet. A third set of gates open, and the ship is towed into the final lock, where the operation is repeated with a rise of 30 feet, or a total lift for the three locks of 85 feet. When the gates now swing open, the ship steams out into the Gatun Lake. The time spent in climbing 85 feet was an hour and a half.

"For sixteen miles through this lake the ship steams in a channel 1,000 feet wide; for four miles in a channel, 800



Entrance to a Lock. Gates Under Construction.

feet wide, and for three miles in a channel 500 feet wide, or twenty-three miles in all. Then it enters the famous Culebra Cut, which is 300 feet wide through the Continental mountain divide, and nine miles long. At the end of the cut is the Pedro Miguel lock, 32 miles from Gatun.

"After entering this lock, which is essentially the same as the ones on the Atlantic side, the ship goes through the

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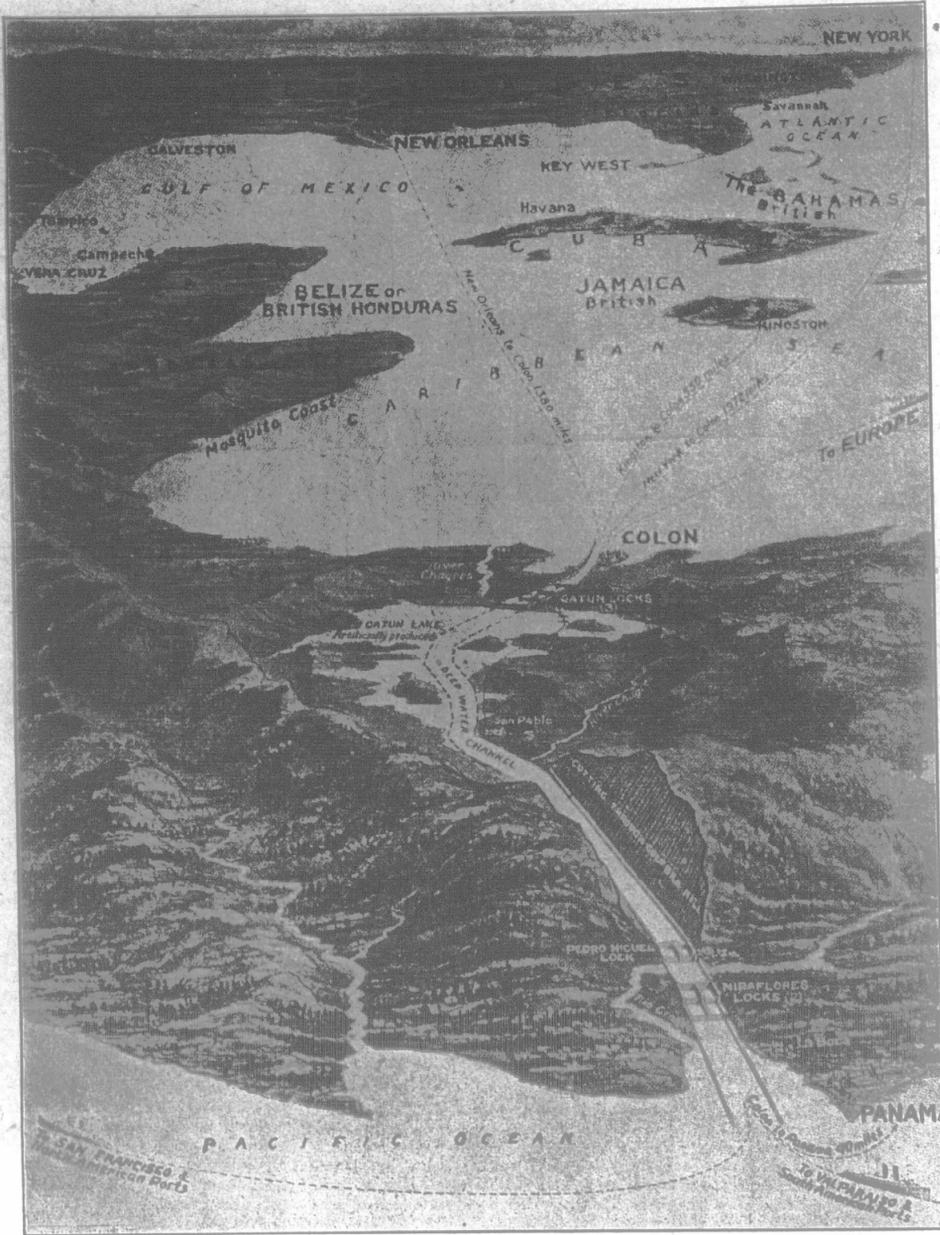
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neared completion, this army has been gradually disbanding. The highest record of workers was in March, 1910, when the pay-rolls showed 88,676 employees.

Having come to this point, many questions suggest themselves. At what rate have the men been paid? What was the mortality due to tropical diseases? How did the United States gain the right to construct a canal across Panama? What was the previous history of this region? What effect will the opening of the Canal have upon the shipping fortunes of the world, and especially upon that of Great Britain? The reply to these must be left until a later date.

(To be continued.)

Continuity of Bloom in Small Gardens.

By W. T. Macoun, Dominion Horticulturist.

[Although written especially with reference to towns and cities, the suggestions given in this paper will be found equally adaptable to the country homes. The paper was given by Prof. Macoun, at the annual Convention of the Horticultural Association, Toronto.]

To one person, a garden seems small if it occupies ten acres or more of ground; while to another, a garden of one acre will appear very large. The man who has but a small area at the back of half a city lot thinks that his neighbor, who has the back and part of the front of a whole lot, has a large

garden compared with his own. One's standards as to what is or is not a small garden may thus be set in various ways. The garden of a true lover of flowers is always overflowing, and if he cannot expand, his garden always seems small.

In offering suggestions to obtain "Continuity of Bloom in Small Gardens," we have presumed that the kind of garden in mind by those who suggested this title is such as may be found in a town or city, and occupying anywhere from part of half a lot to part of several lots.

One of the main features of a small garden should, in my judgment, be a well-kept lawn. For myself, I prefer a well-kept lawn without flowers, to flower-beds in a plot of uncared for grass. Fortunately, a large proportion of our citizens have well-kept lawns, hence these are not as rare as well-kept flower gardens. This, however, is by the way, and has nothing to do with continuity of bloom, but a flower garden without a lawn might be compared to a picture without a frame, or a precious stone without a setting. In the case of the garden, however, the picture and frame have changed places.

In the front of the house most of the ground should be given up to grass, for various reasons, but there should be at least one bright spot from early spring until late summer; not a bed in the middle of the grass plot, but if possible, close to the house, or bordering the walk to the house. Here there should be tulips, followed by scarlet geraniums, and there is nothing in my experience so satisfactory for this particular pur-

pose as these plants. If there is some place within sight of the entrance where scarlet salvia can be planted, this, also, is one of the most satisfactory plants for massing, but as it will fail if the summer is hot and dry, it should not be in too conspicuous a place.

There should be climbing plants on the house or veranda, and if the right kinds are planted, there will be continuity of bloom from early summer until autumn. Among the most satisfactory are English honeysuckle (which, however, is too tender for the colder parts of Ontario), scarlet trumpet honeysuckle, clematis Virginiana, the common virgin's bower of our woods; clematis Jackmanni, and clematis paniculata. Of climbing roses, three of the most satisfactory are crimson Rambler, tausendschon, and Dorothy Perkins. Where it succeeds, the wistaria is one of the most useful and beautiful climbing plants, but is not hardy in the colder parts of Ontario.

A few flowering shrubs should find a place in nearly all small gardens. They not only help to keep the continuity of bloom, but will be attractive even when not in flower. Where there is room for only a very few specimens, great care should be taken to plant those with a graceful outline and attractive foliage, which will be pleasing to the eye all through the growing season. Two shrubs which have these special features are spiraea arguta and spiraea Van Houttei. They both bloom in the month of May, the former several days before the latter. A mass of several specimens of either or both of these against the house is very attractive. Both of these have white flowers. An-

other very graceful shrub is caragana frutescens, bearing yellow, pea-shaped flowers, during the latter part of May. Other comparatively small, useful shrubs, which will furnish bloom later in the season, are the Japanese rose, rosa rugosa, some of Lemoines' smaller-growing Philadelphia, such as bouquet blanc and auec blanche, and weigelia Eva Rathke, a red-flowered variety, which appears hardier than most others. By the middle of the summer there will be so much bloom in the flower border that the flowering shrubs are not so much needed, but masses of hydrangea arborescens grandiflora and hydrangea paniculata grandiflora should find a place, as these are very effective when in flower. As neither of these shrubs are particularly attractive when out of bloom, they should not be planted in too prominent a place. Lilacs, of course, should be in every garden where there is a place for them, but the blooming season of each variety is short, hence, if the space is so limited that there cannot be enough sorts planted to give a succession of bloom, we should not devote much space to this popular shrub. If there is room for one small tree, let it be a European mountain ash, attractive in flower, foliage, and fruit, and if there is room for one more, a Bechtel's double-flowering crab-apple will give delight by its bloom, and also by its perfume. Fruit trees are also desirable in a flower garden if there is room for them.

The herbaceous border seems the most suitable means of furnishing continuous bloom in desirable quantity in a small garden. It economizes ground, saves cutting up what little grass there is, and makes a nice background to the lawn, no matter how tiny it may be. I find in my experience, which now covers a good many years, that it is very difficult to obtain mass effects in small gardens, and if continuity of bloom is desired, some other effect must be obtained, unless annuals which have a long blooming season are used, when masses of color may be had; but to me most annuals are brilliant, but not attractive, hence I would relegate most of them to a less conspicuous part of the garden, if it is large enough to have such.

For small gardens, I prefer to have many small clumps of plants blooming at the same time scattered through the border, and so placed that they will make a good contrast, or blend with the foliage of other plants not yet in bloom, and also among themselves give a variety and pleasing contrast or blending of color.

To obtain the best results in a border, it should be wide, ten or twelve feet in width not being too much, but in some places a narrow border is a necessity through force of circumstances.

Were I beginning a herbaceous border in a small garden with the object of obtaining the greatest continuity of bloom at the least expense in the shortest time, I should go about it in the following way. As in ninety-nine cases out of a hundred the desire comes in the spring, let us assume that we are starting at that time. Prepare the border carefully, using good soil and manuring it well with rotted manure. Plant nearly the whole border with annuals the first year, either sowing the seed where the plants are to be in the border or setting out plants. At the end of the border which is least conspicuous, or in some other place if there is one available, sow seed of the following perennials of the best strains that can be obtained:

Iceland poppy, long-spurred columbine, Oriental poppy, hesperia matronalis alba (white rocket), campanula persicifolia, foxglove, coreopsis grandiflora, pyrethrum, delphinium Chinense, delphinium hybridum, platycodon, echinacea purpurea, hollyhock.

It would be much better if this seed were sown in the autumn, as a far larger percentage would germinate. If sown in the spring, it should be got in the ground as soon as possible. Sow seed about half an inch deep in rows four inches apart, and see that the soil does not dry down below the seeds, at least until after they germinate. If the surface soil is kept loose, and weeds pulled out, there should be hundreds of plants by autumn. It is desirable, if there is ground available, to prick out as many of the young plants as possible

during a wet time in July, setting them about four inches apart each way.

From one or two dollars' worth of seed, or less, many hundred plants should be obtained. The plants which are pricked out should be in splendid shape for setting out in September, or early October, and even if they have not been pricked out, they may be planted into border directly from the seed-bed.

As soon as the annuals have been injured by frost, or before, if it comes time to plant them, bulbs should be planted, and these should consist mainly of tulips and narcissus. If a good assortment of these is chosen, there will be a succession of bloom from the latter part of April until the latter part of May. In our experience, from six to ten bulbs is sufficient to plant in a clump. Clumps should be planted irregularly from one end of the border to the other, and from the front to the back. The more clumps there are the better the effect will be, but it may not be possible to plant all that are desirable the first year. They should be planted so that there will be contrast or blending of colors in adjoining clumps, and late or early tulips and narcissi should occur here and there all through the border, so that there will be an effective display all over at one time. The object of planting small clumps irregularly is that the perennials may be planted between, and when they develop during the season they will hide the spaces where the tulips and narcissi have been. These small clumps of bulbs need not take the place of solid beds of bulbs if the garden is large enough to have such. After the bulbs have been planted and an outline of the clumps marked on the surface of the soil the seedling perennials should be taken up and planted all over the border, planting from one to three plants of each kind in a group, and bearing in mind that Iceland poppy may be planted quite close to other plants, as it will seed freely in the border, and the original plants are likely to disappear after the second season. Columbines, on the other hand, must not be crowded, if they are to do their best. Oriental poppies have heavy, rank foliage, and should be kept well away from weaker-growing plants. As, however, the tulips will be about ready to dry up when the leaves of the poppies overshadow them, the latter may be planted near the tulips. *Hesperis matronalis alba*, or white rocket, is a most desirable plant. It is one of the few tall, white-flowered perennials blooming in the early part of the season. It should be arranged so that it will come in sharp contrast with the scarlet oriental poppies, which bloom at the same time. *Campanula persicifolia*, the peach-leaved bell-flower, is very attractive during the month of June. One gets it in white, and light- and deep-blue-purple. It spreads rapidly, and seeds itself freely, and once in the border is always there, in my experience. The yellow of the *coreopsis grandiflora* makes a very pleasing contrast to the blue and white of the campanula. It will be remembered when planting *coreopsis* that the same plant only blooms one year satisfactorily, hence they may be planted fairly close to other plants. They seed themselves freely, and new plants are thus easily obtained.

Delphiniums: It is difficult to say which is the more useful, the dwarf or Chinese larkspur, *delphinium chinense*, or the tall larkspurs, the seed of which may be obtained under the name *delphinium hybridum*. The advantage of the dwarf varieties is that they do not look out of place in any part of the border, being tall enough for near the back, and not too tall for near the front. There is not, however, as great a range in color as among the tall ones.

The *platycodon*, or Chinese bell-flower, comes in bluish-purple and white. It is a very satisfactory plant, blooming in July and August. It does not take up much room in the border, but will hold its own once it is established. The purple cone-flower, *echinacea purpurea*, should be used in large numbers. It is very effective in late summer and autumn when bloom is scarce. It is tall and upright in habit, and for this reason can be squeezed in between other plants. With a good supply of plants of the above flowers, a good ground-work for the border will be made, and there will be bloom from early spring until autumn. Moreover, all of these plants seed them-

selves. Seedlings not wanted may be treated as weeds. When the seedling perennials which have been planted, bloom, the poorest should be rooted out, as more space will be needed every year for the newer things which are sure to be obtained.

There are many other plants which must find a place if the border is to look its best, but most of these will have to be bought or obtained from friends.

The seasons when it is most difficult to have good bloom is just after the bulb season in the spring, and during the month of September. Hence we shall

be omitted, the many varieties of German iris soon follow.

The day lily, *hemerocallis flava*, is an attractive, yellow-flowered plant, and its fine foliage makes it useful as a background for other species.

Among summer-blooming plants there is none more desirable than perennial phlox, of which there are many fine varieties. Among low-growing plants for bloom in late summer we have found that *Rudbeckia Newmanni*, a sort of black-eyed Susan, is one of the most desirable. It increases rapidly, and clumps should be scattered all along the front or near the front of the border.

a border where continuity of bloom is desired, all the tall plants should not be put at the very back. The late-blooming sorts are most of them tall, and if they are all kept in the rear, there is a dearth of bloom near the front in late summer or autumn unless annuals are used, most of which do not go well with perennials.

It will be noticed that peonies have not yet been mentioned, but peonies should, in a small garden, be planted by themselves. They take up too much room in a mixed border, and are apt to smother smaller and more precious things. A peony-bed should not have too prominent a place in a small garden, as when the blooming season is over it is too conspicuous an object and not sufficiently attractive. If planted near a fence or wall, provided they have abundant sunlight, good soil, and sufficient moisture, they will look well when in bloom, and will relieve the hard lines of the fence afterwards.

A border of narcissi or pansies along the front will give color to the bed before the peonies bloom, and gladioli may be used with good effect behind for later bloom.

Gladioli are also very desirable in the mixed border, and if some are planted late, will be particularly useful in September when bloom is scarce.

Annuals should play some part in a small garden, and until perennials are well established, more of them are likely to be used later on. Sweet peas, asters, nasturtiums, scarlet salvia, phlox Drummondii, verbena, and white and pink petunias, are my favorite annuals, and are among the most persistent bloomers. Sweet peas should be planted so that they will not be too conspicuous in late summer when the lower leaves have fallen and they have a ragged look. It may be possible to screen the lower part of the sweet-pea row with some other flower, planted two feet or more from the sweet peas, but which from a distance appear close to them. Beds of annuals usually become ragged in late summer in Ontario, hence a border of annuals where they will not be so conspicuous, would seem to me best.

Every year some re-arrangement of some of the planting in a small garden will need to be made in order to have that continuity of bloom, freedom from gaps, and blending of foliage and flower which is so necessary in a small garden where all one's attempts may be taken in at a glance, and where weak spots are quickly seen.

[A bulletin on "Herbaceous Perennials" has been prepared by Prof. Macoun, and will be found of great value to anyone who loves flowers. Copies of this will be sent free to those who apply. Address, "Prof. W. T. Macoun, Central Experimental Farm, Ottawa.]

The Beaver Circle.

OUR SENIOR BEAVERS.

[For all pupils from Senior Third to Continuation Classes, inclusive.]

Dear Beavers,—You will be pleased to see some more of the Garden Competition letters to-day, and also some of the splendid photos sent by Lillian Garland. Lillian sent three more pictures, which we shall be pleased to show you, later, if she will be so kind as to leave the photos with us a little longer.

Lillian sends a separate list of her flowers and vegetables, as follows:

Flowers.—Golden-glow, gladioli, perennial phlox, phlox Drummondii, asters, zinnias, sweet peas, pansies, balsams, larkspur.

Vegetables.—Red cabbage, Savoy cabbage, drumhead cabbage, tomatoes, parsnips, carrots, onions, beets, citron, celery, sugar pumpkin, vegetable marrow, scalloped squash, Boston marrow, Hubbard squash, cauliflower, musk-melon, salsify, crook-neck squash.

Dear Puck and Beavers,—I will try to tell you all I can about my flower and vegetable garden.

FLOWER GARDEN.

The first to bloom in my garden were the tulips, crocuses, and narcissi. I then got the ground prepared to plant the other seeds. To prepare the ground I took the shovel and dug it up, then I



Lillian Gillespie and Her Garden.

suggest more plants for spring and autumn than for summer.

One of the earliest blooming perennials is *Arabis alpina flore pleno*, or double-flowered alyssum. This begins to bloom soon after the snow has gone. Its double, pure-white flowers are borne in great profusion. It is low-growing, increases rapidly, and is very useful for the front of the border.

No small garden is complete without a good plant of bleeding-heart. It has a blooming season of a month or more in the latter part of May and June, and is both striking and attractive.

The *epimediums*, or barrenworts, are very attractive spring-flowering perennials, and are desirable for cutting. The varieties of *trollius*, or globe flower, in

No lilies have been mentioned so far. They are not as necessary as some other flowers, and anyone who wants lilies will get them anyway, but *lilium speciosum* is, we believe, an absolute necessity in a small garden where continuity of bloom is desired. It flowers during the month of September when bloom is scarce. Japanese anemones are also desirable for late bloom, but as the first frost injures these, and they do not bloom until very late, they are not to be depended upon. There are many tall-growing yellow flowers, such as *rudbeckia golden glow*, *helianthus* of various species, and *heliopsis*, with running root-stalks, but all of these should be kept out of the mixed border, as they give endless work in keeping them under con-



Lillian Garland and Her Vegetables.

various shades of yellow and orange, are among the best spring-flowering plants, and the native *trillium grandiflorum* should be in every small garden. It thrives well under cultivation, and clumps soon spread.

Lily-of-the-valley and *forget-me-not* are delightful spring-flowering plants, but each needs a place of its own. The former, because its blooming season is short and it spreads rapidly, and the latter because it becomes a weed in the border.

Iris florentina blooms in May, and because of its early blooming it should not

be treated as things apart. There are, however, some good, late-blooming flowers which do not spread in this way, or at least not rapidly. Among these are *helianthus multiflorus maximus*, *helianthus soleil d'or*, *helenium autumnale superbum*, *helenium grandicephalum striatum*, and some of the finest autumn-flowering plants are among the *Michaelmas daisies* or asters, and of these we have found that *aster Novae Angliae*, Mrs. Rayner, a reddish-purple-flowered variety, is one of the best.

We have learned by experience that in

took the garden rake and raked all the hard lumps up and threw them away. I then planted the seed. The place where I planted the flower seed was too cold and damp this year. When the seed grew I took the hoe and rake to weed them. I did not find it very hard to keep the weeds down after I weeded them the first time.

The flowers bloomed fine, and I cut many bouquets of them. I took a vaseful of them to church every Sunday and put them on the pulpit. I liked to work in my garden. I had a very good garden this year, but not as good as last year.

MY VEGETABLE GARDEN.

The first thing I got done in my garden was to get the ground cultivated, which the men did. I then planted the seeds. The muskmelons, watermelons, citrons, cucumbers, squash, pumpkins, and vegetable marrow, were planted in drills five feet apart. The carrots, beets, parsnips, and onions, were planted in drills two feet apart. I weeded them, but the men cultivated them. Well, Puck and Beavers, I will close for now, wishing you good success.

WILLIAM C. GARLAND (age 15).
Dwyer Hill, Ont.

MY GARDEN.

My father gave me a piece of ground (about ten feet by twelve feet) as soon as it was ready to work in. The first thing I had to do was to get it worked up. I loosened it up first with a hoe, then I took a rake and made it very fine before I levelled it off.

I took a little more than half for my flowers, and had the rest for my vegetables.

First I dug a trench along the back for my sweet peas, and just kept filling the earth in around them as they grew. I put all my flowers in first, then my vegetables. I planted the seeds on May 11th. It did not take them long to come up, because there was plenty of rain, but they got a little too much rain, and it washed the seeds, so that they did not come up the way I had them planned.

My six kinds of flowers are sweet peas, asters, zinnias, stocks, carnations, and Japanese chrysanthemums; and the vegetables are beets, carrots, and parsnips. My first vegetables were ready to use in July, and the flowers began to bud about the same time. Some places they were too thick, so when they were large enough I took some out of where they were thicker and put them in where there were not so many.

I wasn't bothered with any harmful insects or grubs of any kind, because there were plenty of birds to destroy them. Two kinds of birds particularly visited my garden, the phoebes and canaries. The phoebes had their nest up at the end of the garden, and the canaries had theirs in an apple tree right by my garden. I kept a dish of water on a big flat stone beside my garden for them to bathe in and drink out of, and I fed them crumbs and scraps from the table. I also saw three or four toads hopping around my garden.

CLARA McKNIGHT

(Age 12, past my entrance).
Rockton, Ont.

The so-called "canaries" of this country are really American goldfinches; another name for them is "thistle-bird." . . . Next time, try putting in your beets and parsnips before any of your flowers, except the sweet peas. I do not refer, of course, to those flowers which are started in the house.

A BOY'S GARDEN.

(Written September 26th.)

Dear Puck and Beavers All,—My garden is not very large, being 9 x 6 feet. It is just a plot staked off in our vegetable garden, between the house and barn. The plot was plowed and manured last fall, and I began working it on April 13th, and made it into drills.

On the following Saturday I planted my vegetables, one drill of each, parsnips, beets and carrots. The beet seed was rough, without much shape. I planted them about one inch deep. They came up in about two weeks, with two red leaves. The carrots came next, in about five weeks, with small, feathery leaves. About the same time, the par-

sniips appeared, with sharp-pointed leaves, followed by one broad, flat-scalloped leaf.

On the west side I planted sweet peas, a dark, round seed, smaller than a field pea. I planted them in a trench about six inches deep, in a double row, alternately. I first noticed them on May 26th. Then I sprinkled the ground with lime. I watered the vines each week with soapuds to keep down green lice. They began to flower on July 2nd.

On the north side I made an arch six feet high and planted morning-glories and wild cucumbers. On July 20th, the arch was a solid mass of vines, with plenty of flowers. Next to the vegetables I

Now, Beavers, you have a description of my garden. I am enclosing a snapshot.

CHARLIE A. McLEAN

(Age 13, Sr. IV.).

Snelgrove, Ont.

OUR JUNIOR BEAVERS.

[For all pupils from the First Book to Junior Third, inclusive.]

What Did You Get?

(By Sarah Cleghorn.)

"What did you get in yours,
Jim and Eddie?"

"Look what I've got in mine,



Evah Leigh and Her Garden.

planted balsams (a small, round, dark seed), on April 27th. They soon came up, with two small, flat leaves, and grew to fully nineteen inches, with flowers in four different colors. In the row next to the balsams was mignonette, with an abundance of bloom and as there was so much rain, I enjoyed the perfume when passing to the barn.

The next row was made up of asters, and they grew great, some of the flowers measuring 3½ inches across. They were very full, with great long stems. They were mostly red.

Next row was marigolds, great big yellow flowers, and perfectly double.

Tom and Freddie!"
"A box of candied dates—"
"Gee whiz! A pair of skates—"
"An engine, cars, and track—"
"Oh, the poor jumping-jack,
Broken already!"

"What did you get in yours,
Jessie—Molly?"
"Look what I found in mine!
A talking dolly!"
"I'll show you how she cries,"
"Oh, look! She shuts her eyes!"
"Mittens—and slumber socks—"
"Tea-set—and building blocks—"
"Goody, how jolly!"



Lillian Garland's Flower Garden in Spring.

Every person that saw my garden said I certainly need not be ashamed of it.

The weeds I found hardest to keep out of my garden were groundsel, lambs-quarters, milkweed, and an odd thistle. To cultivate my garden I used a hoe and weeder.

I noticed the monarch butterfly sitting on a marigold, and bees on the marigolds, asters, and balsams. I supposed they were extracting honey.

The birds I noticed were humming-birds, robins which came to steal cherries in a tree nearby, bob-o-links that sang in an apple tree at the bottom of the garden, and some sparrows that came chirping around.

"What did you find in yours,
Grown-up brother?"

"Why not look in your own,
Little Mother?"

(Mother and Father say
They'd rather watch than play:
Presents enough, they trust,
They've got in having just
Us, and each other!)

Junior Beavers' Letter Box

As my father has taken this paper for two years, I thought that I would send this engine for you to put in the paper, as I have seen a lot of drawings in.

My name is Clarence Simpson, I am 8

years old, and I drew this engine. My father's name is George Simpson. Yours truly,
CLARENCE SIMPSON.

Vanneck, Ont.
Your engine was very well drawn, Clarence, for so little a boy, but it was partly colored red, so we can't put it in the paper.

Dear Puck and Beavers,—I want to tell you something about my trip to Marlette, Mich., at Christmas last year. We boarded the G. T. R. train at 11 o'clock at Garves, then on to St. Thomas, where we had to wait two hours, then on the Pere Marquette to London, where we had to wait five hours for a Grand Trunk train to Port Huron. We arrived there after eleven at night. We had to stay at an hotel until morning, when we took the Pere Marquette for Clifford, where my uncle awaited us with his horse and buggy to take us to his home. Aunt Sarah had a fine fat gobbler for Christmas dinner. I had a fine time with Uncle Will's dog, "Sailor," and went hunting rabbits with my Cousin Homer. The day after New Year's we started for home. It was great fun coming through the St. Clair tunnel. We arrived home the same day. Hoping this will miss the waste-paper basket, as this is my first letter.

CHARLIE ANDERSON (Book II.).
Nanticoke, Haldimand Co., Ont.

Dear Puck and Beavers,—This is my first letter to your Circle, but I have been an anxious waiter for "The Farmer's Advocate's" arrival every Saturday night. The first thing is the Beaver Circle, and I enjoy reading the letters very much. I am going to tell you about a bird my brother saw when he was plowing.

Its wings were about five or six feet wide; its head about the size of a dog's head, and was a blue-gray color.

My brother had a team of colts which were very frightened, they very nearly ran away, then it flew across the field, and we have never seen it since. I would like very much if you could tell me what kind of a bird it was, if I have described it fully enough, as I am anxious to know the names of all the birds. I like to know all about birds. I think birds are very interesting. I love to hear them sing. I am a lover of birds, but I don't know whether I should fancy this fellow. Canaries, robins and wrens sing nicely, I think. The canaries like to be in the beets in the garden. I guess they eat the leaves. I never catch birds and keep them in a cage, as I think it cruel to keep them from their freedom. Don't you think it is, Puck? From a little Beaver who wishes the Circle success.

BETH ARMSTRONG (age 8, Bk. III.).
Shawville, Pontiac Co., Que.

The bird must have been an eagle, Beth. I am glad you love birds.

Dear Puck and Beavers,—I thought you would like to have a letter from Argenteuil County. There are many boys and girls around here, but I never see a letter from any of them. I will tell the Beavers about a nice S.-S. Convention I went to in our school-house. The delegates were taken around to different houses for tea. There was a very fine speaker, and some music.

I was at a wedding not very long ago, and at our exhibition. Your sincere little friend.

ELEANOR FRANCIS BRADLEY.
(Age 8, Book II.).

Beech Ridge, Que.

Dear Puck and Beavers,—We have taken "The Farmer's Advocate" for a long time and enjoy reading it. I am in the Junior Third Class, and my teacher's name is Mr. Leitch. I live a mile from Corunna, and go to school every day.

We have a little Shetland pony. We used to drive, but now we live closer than we did then.

We have seven horses, and twenty-one pigs.

Our farm has one hundred and fifty-seven acres.

In summer, resorters are here, and it is quite a lively place. Stay Island is opposite Corunna, and many people come there also. There is a dancing pavillion on it, and it is a very pretty place. It is seven miles from Sarnia.

MILDRED SELBY.
Corunna, Ont.

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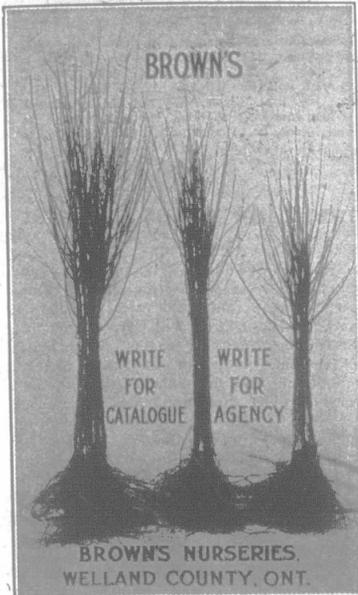
CINCIS BRADLEY.
(Age 8, Book II.).

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MILDRED SELBY.



Dear Puck and Junior Beavers,—I have often thought of writing to "The Farmer's Advocate," which we have taken for a great many years. I live on the Prescott and Ottawa road, on which there are many autos during the summer days. The intention is to build a road especially for autos. We live on a farm of 150 acres, on which we have a herd of Holstein cattle, 18 milch cows and 13 head of young cattle. We have a jet-black colt. We call her Birdie. My father had a half-day's threshing, and we had 600 bushels of oats off a 12-acre field, and still a day's threshing in the barn. We have our silo filled to the top. I have one sister; her name is Eleanor. She is six years old, and she likes going to school. I have seven cats, and they get their milk in the byre, and between milking-time they are around the house. We have one favorite, which we call Billy. He knows his name, and is very cute. He is marked like a tiger. I think I will close now to leave room for other letters from my Beaver friends.

GORDON ALLEN (age 9 years).
West Osgoode, Ont.

Hope's Quiet Hour.

Greeting.

I wish you A Happy Christmas,
A joy no one understands
But GOD, Who stoops down from Heaven
With gifts in His outstretched hands.
From Him will come for our using
Each day, unsullied and new;
We leave the Past in His keeping
And 'gladly our way pursue.
The Future belongs to our Father:
With joy-lit eyes He is here
To share in The Family greetings
And give us A Happy New Year.

DORA FARNCOMB.

Following the Star.

I, JESUS, am the bright and morning star.—Rev. xxii: 16.

The beautiful Christmas story of the wise men, who followed the star until they found their King, is very familiar to us all. But the excitement of Christmas soon passes, and the glad New Year loses its youth very quickly. Soon the daily routine of life becomes monotonous, and perhaps a little commonplace. Why, then, has the title of this Quiet Hour such a Christmassy sound? Simply because Christmas is not only a day, but it is a spirit. The spirit of Christmas is intended to brighten the whole year, and we—like the other wise light-followers—should keep our eyes on the bright and morning Star, until the Sun of Righteousness arise with healing in His wings.

We greet our friends joyously and hopefully, wishing them a happy New Year. Hope is the key-note of the New Year season, as Love was the key-note of the Christmas season. With Love and Hope as our constant companions, springing from Faith in the Unseen LOVE beside us, we cannot fail to find Joy every morning.

Troubles may have to be faced during the coming year—life would be very poor in growth if we passed through it painlessly—but troubles can never crush down joy, if our eyes are fixed on Him Whose last beautiful name for Himself is "The Morning Star."

If it were not dark we should not need, could not see, the star. I once heard a missionary say that many of the lepers in China thanked God for their awful disease, because, through it, they came to the Christians for help, and found the light of Christ's dear love.

If you have not yet set out to follow the Light of the world, begin the great

quest now. Don't waste any time, for—when you have found Him—you will regret every year that you have wasted in other pursuits. But perhaps you may object: "I can't make myself believe. I can't make myself love." The King Himself has said that anyone who is fully determined to "do" His will shall know whether it is Divine (S. John vii: 17). Make up your mind to follow the light of goodness, even though it may lead to a cross of agony and shame, and persist in that determined purpose. In God's good time you will discover that the light of highest ideals springs from JESUS. In nearly two thousand years of progress we can imagine no higher ideal of life than He preached, and all other leaders shrink into insignificance when their lives and followers are measured with His. Seek with unflinching earnestness for a light which shall lead you safely through the temptations and dangers of life, for a leader who will never lead you wrong, and you will find JESUS—the bright and morning Star.

There is a story told of a young man who wanted to enter Balliol College, and who told Professor Jowett that he could find no signs of God. The answer he received was: "Young man, I will give you until just five o'clock to find God or leave this college." He sought, and found.

"Remember thy Creator now," said the preacher of old, "now, in the days of thy youth." It is a beautiful thing to lay a young and unstained life, like a pearl of great price, in the hand of God. If He calls His angels to rejoice with Him over a stained soul that is purified and repentant; how much more He must rejoice over a dear and loving child who has never brought shame and disgrace on his Father's Name by a life of wilful sin. A tiny baby, is pure and innocent, smiling in its mother's arms, with the dew of its baptism sparkling on its brow; but—how can it help being innocent? It has not chosen purity, has not loved and followed holiness, but has simply received it unconsciously as a gift from the Father. If that kind of unconscious innocence should go for twenty or thirty years, we should say sadly: "The man is an idiot." When God gives us mind and free-will, we must fight our way upward, day after day—or sink downward.

But, if youth is past and we are only just beginning to follow the guiding Star, is there still a glad hope for the New Year? Hope? of course there is hope! We are putting ourselves in the hands of One Who made us and Who is able to restore us. The song of David: "He restoreth my soul!" may be our glad thought every morning. Every day is the beginning of a new year. The stains, which make us ashamed to examine our past, may all be washed away in the Fountain God has opened for sin and for uncleanness. The wasted years "that the locust hath eaten," may be restored.—Joel ii: 25. God's glory is that He is constantly making all things new, constantly giving us a fresh start. We failed to come anywhere near our ideals last year. Let us ask God's ready forgiveness, and then give up fretting over past mistakes and sins. With eyes turned away from ourselves, upward towards the Light of the world, let us go forward in joyous hope. NOW is the only time we possess—just this moment. The past—a moment ago—has slipped swiftly out of our hands. The future has not yet been given to us. We can't handle it until it arrives, so we only injure ourselves in body, mind, and spirit, by fretting or worrying over its possible dangers and troubles.

God has given us plenty of parables to teach trustfulness. Year after year we see the flowers fade and the trees grow bare and apparently lifeless. The song of the birds and streams can no longer give us pleasure, the earth is frozen and unable to provide food for us. All seems hopeless; but we have lived through many winters, and the gloomy desolation was always conquered by the fresh beauty of spring. As it has been before, so it will be again. We had to bear

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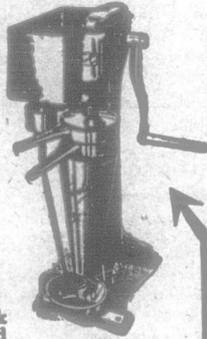
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**SHARPLES
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Many of them who formerly shipped their milk are now selling the cream and feeding the skimmed milk to the calves, pigs and chickens.

The high price of veal, pork and poultry pays them well to do this—and they're making more money than ever before.

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Dorset, Me., March 12, 1912.
G. R. FOSTER.

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One of our customers wrote us the other day that his No. 4 Tubular in twelve years had cost him 20 cents for repairs. Some record, that—and worth remembering when you buy a Cream Separator.

It isn't the price you pay for a separator that counts, but how much EXTRA profit it will make for you.

Sharples Tubulars make extra profits. We offer you a Free Trial—and then guarantee the Separator not only for one year, or two years, or five, but FOREVER.

Write for our interesting Tubular A Catalog No. 123 today. It suggests ways to make more money from your cows.

The SHARPLES SEPARATOR CO.
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There is a Rumely Product for every farm power need. Every machine is a cost cutter—a saving, not an expense.

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			Rumely-Olds Engines
			Oil Turn Engines
			Clover Hullers
			Automatic Baler
			Feed Mill
			Saw Mill
			Grain Grader
			Steam Tractors
			Cream Separators
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BEST RESULTS ARE OBTAINED FROM ADS. IN "ADVOCATE."

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.]

Something about Amherst Island.

Dear Junie,—I am enclosing for your corner a few extracts (if suitable and not too long), condensed from "Amherst Island," written by Thos. W. Casey, in The Napanee Beaver, some years ago, thinking that some of the Ingle Nook friends might find pleasure in reading the ancient lore of Amherst Island.
STELLA.

La Salle, the great French explorer and pioneer, appears to have been the first white proprietor of Amherst Island. It may as well be stated here that he was the first white land proprietor in all Upper Canada. There is not space here to enter into the details of the career of that great French adventurer. He was a native of Rouen, France. The family name was Rouen Robert Cavalier, but he is best known in history as La Salle, a name apparently derived from the family estate in France. He came to Canada, or New France, as it was then called, when a young man of twenty-two years, and spent all his long and active life in adventures and explorations in America, then as all but unknown and unexplored country. He was the first white man to discover the Ohio and Illinois rivers, and to trace the Mississippi to its mouth in the Gulf of Mexico. He became a fast friend and business partner of Frontenac, who was at that time Governor of New France. Frontenac had previously, in July, 1763, built a small, wooden fort where the city of Kingston now stands, for the double purpose of catching the Indian fur trade from the West, and of preventing the Iroquois and other hostile Indians from controlling the navigation of the St. Lawrence River. By mutual agreement, La Salle was to obtain from Louis XIV., King of France, a grant of land covering the site of Fort Frontenac, and ten miles of territory along the shore of the mainland west, by 1 1/2 miles deep, also two islands with unpronounceable Indian names, now known as Amherst and Wolf Islands, together with the small islets among and around them. This grant was made by the King, on May 13th, 1675. Thus was created the first French Seigniorship in what is now the Province of Ontario, with La Salle the first Seignior.

On the 18th of November, 1678, La Salle launched the first sailing vessel ever floated on the waters of Lake Ontario.

Henri de Tonti, after whom Amherst Island appears to have received its first French name, Isle Tonti, was for many years the fast and faithful friend of La Salle. He was an Italian officer. His father went to France because of political disturbances. It is said he was a noted financier, and invented a form of life insurance which is still popularly called "the Tontine." We do not see that Tonti ever settled on the Island to which his name was given, or that he had any special interests there. The name appears to have been an honorary matter.

Its name was changed at an early time after this Province became a British possession, to Amherst Island, in honor of one of the British Generals of that name who earned for himself a distinguished place in the history of our nation.

According to the report (1900) of the Ontario Bureau of Statistics, there are 14,652 acres of assessed land in the municipality, the total assessed value being \$349,080.

Sir William Johnson at one time owned Isle Tonti, and here is a story often told and generally credited, of how he came in possession of it. He was very popular and influential with the Indians, with whom he came so largely in contact. It is said that one of the leading chiefs, who had seen the splendid

pain and trouble many years ago. Where have those heavy sorrows gone now? The darkness comes down on us like a thick veil every night, and the sun seems to have gone out; but we know he is shining still, and we shall come out into the brightness again all the better for the rest and quiet of night.

The winter will soon be over, and that hope makes it easy to bear dark days for a little while; but each year brings us nearer to that mysterious change which we call "Death," and to the new light which will come after it. It is utter folly to live as if this earthly condition of things were going to last for ever, to live as if the present pleasure were the only thing of any importance. What will it matter next year even if we have a little pain to bear to-day? It will matter a great deal to us whether that pain be endured bravely or not. We shall grow stronger or weaker to-day—the choice lies with ourselves. Pain is only a passing incident, but it will leave us lastingly stronger or weaker. Our Leader accepted the cross held out to Him, saying with quite courage: "The cup which My Father hath given Me, shall I not drink it?" If we are really following the leading of the Morning Star, we also shall accept trustfully all that the New Year has been told to bring us—both the sorrow and the joy, both the duty and the disappointment.

If we constantly look up to the Light, we shall see light and shall miss a great deal of darkness. What a pity it is that we spend so much energy in thinking and talking about the faults of our friends and relations, instead of searching for their good points. They have faults—so have we—is it fair to us when people criticise our failings constantly, and never try to discover our good points? Constant praise may weaken character, but continuous fault-finding is apt to make a weary struggler after righteousness give up the fight in hopeless despair. Besides, it is very bad for the critic. One sensitive critic, who found little or nothing on earth to admire, died; and the sarcastic remark was made about him: "Poor Matt! he is in heaven, but he won't like God."

There were many people who did not like God when He walked visibly amongst men. It is not a high-minded hatred of sin which makes us dislike anyone. Our Lord's burning rebukes of sin were terrible, and yet one of the glorious taunts hurled at Him was that He was the Friend of sinners. Following the Morning Star we are not, unless we also are glad to find good in our brothers, and sorry to find evil. Our Master did not talk about people's faults behind their backs, but straight to their faces. He loved sinners, and spoke sternly when it was necessary, because He wanted to open their eyes to their danger that plain-speaking cost Him His life; but it was the flaming expression of His love towards them.

Christ is not only the Morning Star, He is also the Sun of Righteousness. We are looking forward with ever-growing hope towards the brightness of His rising. We are marching eastward, watching eagerly for the breaking of that day when "the earth shall be filled with the knowledge of the glory of the LORD, as the waters cover the sea." When this tent in which we live shall be laid to rest, our faces will still be turned towards the east, watching for the dawn of the last great Easter Day.

Socrates, the great and good heathen philosopher, met death bravely. He went out into the unknown, hoping that there might possibly be light on the other side of darkness. But the day-star has driven away the darkness of groping heathenism. We know that our Father and Elder Brother will welcome us home, and that the Holy Strengthening will pillow our drooping heads as we make the short, dark passage into light. Following the Star we shall find the King in His beauty and behold the land of far distances.

"JESU, perfect my trust,
Strengthen the grasp of my faith;
Let me feel Thee near when I stand
On the edge of the shore of death;
Feel Thee near when my feet
Are slipping over the brink;
For it may be I am nearer home,
Nearer now than I think."

DORA FARNCOMB.

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Always the cookbook says:
"Sift Your Flour."
No lumps, you see. *Aerates* the flour,
making it lighter.
Put FIVE ROSES in your sifter.
Never soft and sticky — never lumpy,
musty, woolly.
Never coarse.
Milled superfine from *Manitoba's* grandest
wheat.
Fine, granular, very dry.
Nothing remains in the sifter—FIVE ROSES
is free, heavy.
And your bread is more porous, more
yielding, more appetizing.
And more Digestible.
Because the particles are finer, easier to
get at by the stomach juices.
Use this very fine flour—*superfine*.
FIVE ROSES.

Five Roses Flour

Not Bleached



Not Blended

LAKE OF THE WOODS MILLING COMPANY, LIMITED, MONTREAL

red uniform and gold lace and trimmings of Sir William, came to him one morning and, looking very grave and serious, said: "Me had great big dream last night. Me dream you gave me great red coat like yours." "Well," said Sir William, "if you dream all that, I suppose you must have it." And so a splendid uniform was procured and presented to the chief, who became the admired of all his companions.

It was not many weeks after, however, before Sir William went to the same chief, looking very grave and solemn. "I had a great big dream last night. I dreamed you gave me the island" (meaning Amherst Island). Now the serious turn came, but the chief rose to the occasion. He replied: "If you dream all that, I suppose you must have it. But me no dream you again." And so the island was transferred to Sir William.

Since that time it has passed from the Johnson family to the Earl of Mount Cashell (in Ireland), who held it for years, renting it to the occupants. It changed hands several times, and the story is that a wealthy lady in Ireland at one time owned a large portion of the island. One night while gambling with cards, she staked the island on the game and lost.

After a time it came to be the property of Mr. Maxwell, County Down, Ireland, who still owns it.

[This is most interesting, Stella.—J.]

STAIN ON TABLE—FRUIT CAKE.

Dear Junia,—I have never written to you before, but have been for several years an interested reader of Ingle Nook, and have received some valuable information, and am now going to ask a question myself.

A short time ago a warm flatiron was carelessly placed on a mahogany dining-table which was covered with a thick

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T. M. WATSON, Principal.

cloth. It left a slight blister, and the cloth having stuck to the table, makes it worse. It has spoiled the polish top of table, and I would be very glad if you can tell me what to do to remove the mark.

In return, I will give my recipe for fruit cake without eggs, and perhaps some of the readers will try it and like it as well as we do.

Fruit Cake.—One lb. raisins, 1 lb. currants, 1/2 lb. sugar, 6 ounces butter, 3

tablespoons blackstrap, 1 quart flour, 1 pint new milk, 1/2 lb. lemon peel, 1/2 lb. citron peel, 2 teaspoons soda. Boil half of the milk and add soda to hot milk, and beat. Cocoa and other spices to taste.

JANET.

Middlesex Co., Ont.

The following, from Scientific American, may be what you want: "To remove heat stains from polished wood: Fold a sheet of blotting paper a couple of times (making four thicknesses of paper), cover the place with it, and put a hot smoothing-iron thereon. Have ready at hand some bits of flannel, also folded, and made quite hot. As soon as the iron has made the surface of the wood quite warm, remove the paper, etc., and go over the spot with a piece of paraffine, rubbing it hard enough to leave a coating of the substance. Now, with one of the hot pieces of flannel, rub the injured surface. Continue the rubbing, using freshly-warmed cloths, until the whiteness leaves the varnish or polish. The operation may have to be repeated."

STENCILLING.

"Mount Misery," Perth Co., Ont., wrote some weeks ago asking for directions for stencilling, and I am afraid she is "miserable" still, so far as those Christmas presents of which she speaks are concerned, for an unfortunate thing happened. Her letter became "lost" among a mass of papers, and has just now been recovered. It is too late for the Christmas presents, but, as she says, the work is nice for long, winter evenings, so here are the directions once more. About two years ago they appeared repeatedly in these columns.

To stencil one must have:

(1) Suitable Material.—Crash, burlap, scrim, factory cotton, denim, art-canvas, and cheesecloth, are all suitable.

(2) The "stencil," a piece of paste-



Progressive Jones Says:
**"Be Certain You Use
the Proper Fertilizer"**

THOSE who have made an exhaustive study of plant life state that to get best results it is of the utmost importance to select the correct fertilizer for the particular crop you intend to grow, and to use the right amount to suit the condition of your soil. There are 14 different

FREE GUIDE

Write The Harris Abattoir Co. for a copy of their booklet and complete guide to correct fertilization. The correct fertilizer for each particular crop, and the amounts to use, are clearly shown.

**Harab
FERTILIZERS**

prepared from tested, absolutely reliable formulae. The fertilizers are mixed with the greatest of care and exactness. I've seen them being made myself, and I ought to know. You know, friend, that unless the different parts are thoroughly mixed, fertilizers only give partial results.

Now, friend, all you have to do is to order Harab Fertilizers by number. No. 1 is for potatoes, No. 5 for apples, No. 6 for wheat, and so on. Use them according to directions and I know the results—the bumper crops—will make you smile with satisfaction.

Yours for best results
Progressive Jones



The Harris Abattoir Co., Limited, Toronto, Canada

board or stencil-paper upon which the pattern has been traced, then cut out. If one makes one's own stencil, the cutting out is done by placing the pattern over glass and cutting out the pattern with a sharp knife; afterwards, the corners, etc., may be trimmed off with small, sharp-scissors. If pasteboard, or heavy, ordinary paper, is used, it is necessary, after the pattern has been cut out, to shellac the stencil on both sides so that the liquid used later will not sink in. When prepared stencils or stencil-papers are used, this is not necessary.

(3) The stencil-mixture.—This may be made of tube paint, thinned with turpentine, but ordinary dye may be used. An excellent stencil-mixture is said to be made as follows: Mix tube paint with 1 pint turpentine, 1 ounce acetic acid, 1 ounce oil of wintergreen. The amount of tube paint used must, of course, be arrived at by testing.

(4) Several large sheets of blotting-paper.

(5) Some stubby brushes, preferably rather small.

(6) Thumb-tacks, or push-pins.

The Process.—Place a sheet of blotting-paper over an old table or a broad board, lay the material on top, and smooth down nicely. Now place the stencil on the required spot and tack it down firmly with the thumb-tacks or push-pins. Next, dip the brush into the mixture, drip it off a little on a sheet of blotting-paper (so that it will not run), and paint "through the hole" of the stencil, scrubbing the color in well so that it will appear to be part of the texture. Be very careful about the edges, as much of the beauty of the work will depend upon a clear, firm outline. When two or more colors are used, it is well to have a brush for each color.

When the pattern has been painted on in one spot, raise the thumb-tacks and lift the stencil off very carefully. Wipe it with a clean cloth, then lay it down on the next spot and repeat the process.

HANG NAILS.

To the Ingle Nook member who inquired recently in regard to a cure for hang-nails, I may give the following method, which I have heard of since her question was asked. Keep the skin pressed back from about the base of the nails by using an orange-stick (to be bought from a druggist) very gently, every day, and rub the nails frequently with lemon juice.

What to Serve with Poultry.

Roast Chicken.—Bread sauce and brown gravy, and a little toasted bacon.

Boiled Chicken.—Egg sauce, toasted

bacon.

Roast Duck.—Sage and onion stuffing, gravy, orange salad.

Roast Goose.—Apple sauce, sage and onion stuffing, brown gravy.

Roast Turkey.—Bread, sausage, or chestnut stuffing, cranberry sauce, fried sausages.

The Scrap Bag.

TO CLEAN LINOLEUM.

Wash the linoleum, then polish it with a mixture made of equal parts of linseed oil and vinegar. Rub well on the linoleum, and polish with a clean, dry cloth. This polish does not make the linoleum slippery as do many of the wax polishes.

TO KEEP LEMONS.

Lemons may be kept firm and fresh for a considerable time in cold water, changed every day. If half a lemon is left, place it on a plate and cover with an inverted tumbler.

A HOME REMEDY FOR BURNS.

Add lime-water to pure olive oil until a creamy emulsion is formed, and keep the mixture in a bottle to be used when necessary. Shake well before applying.

FRYING PANCAKES.

When frying pancakes, be sure that the grease in which they are cooked is smoking hot before you put on the batter, or the pancakes are likely to stick.

Clothes Make the Man

—or at least give him a good start over his fellow-worker.

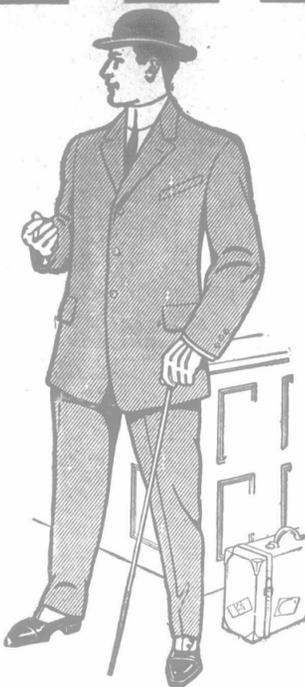
Dress never meant so much in life as it does now.

**All Successful Men
are careful to be
well dressed**

And hundreds of these same successful men buy their clothes from Catesby in London—because

**They can buy better
clothes direct from
London for half of
what the same quality
goods would cost
them in Canada.**

The reason is that they buy on the successful Catesby "made-to-measure" plan.



The "Burlington" English Model—This shows the most popular style of suit worn by well-dressed men in England. Prices are as follows: \$16.50, \$18.50, \$21.50. Duty free and Carriage Paid Right to your Door.

READ THIS UNCONDITIONAL FREE OFFER

Send us your name and address, and we will mail you absolutely free of cost a package containing 72 patterns of the finest West of England and Yorkshire suitings and overcoatings that you ever saw.

With the patterns will come a booklet telling you all about the remarkably successful Catesby system of "made-to-measure" clothing.

Read it, and you'll understand why hundreds of shrewd, well-dressed Canadians buy their clothes direct from London, and save half of what they would otherwise have to pay their local tailor.

DON'T PUT THIS MATTER OFF—you'll soon be needing a suit or an overcoat. Send now, while the thought is in your mind. Remember, every price quoted in the booklet includes the payment of all carriage and duty charges by us. And that every suit and every overcoat is guaranteed to give absolute satisfaction.

Your order will be shipped five days after we receive it in London.

Address our nearest Canadian Office.

Catesby's LTD.
Dept. "A"

119 W. Wellington St., Toronto.
Coronation Building, Montreal.
160 Princess St., Winnipeg.

Or write direct to CATESBY'S Ltd., Tottenham Court Road, London, England

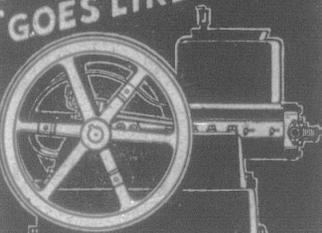
HERE'S A GREAT TEST:

When you get your patterns, take one to your local tailor. Ask him what he will charge you to make a suit of such an imported cloth. Then compare his price with that asked by Catesby.

A quiet dependable Gasoline Engine of mighty power. Improved cooling, and ignition systems. Perfect, economical carburetor. The Gilson Engine is approved by the foremost authorities and mechanical engineers. All sizes. Write for catalogue. Founded 1850.

GILSON MFG. CO. LTD.
29 York St., Guelph.

GILSON ENGINE
"GOES LIKE SIXTY"



BUILT low, especially for farm use, a T-A Handy Farm Wagon saves much hard work. It is easier to load and unload, and will haul bigger loads without tiring horses, more than a small load.



T-A Wide-Tire Steel Wheels & Handy Farm Wagons

T-A Wide-Tire Steel Wheels are lighter, stronger, cheaper, and better in every way than ordinary wooden wheels. Make your old wagons new by fitting them up with these superb wheels.

Our free booklet (which please ask for), tells how you can make farm work easier and more profitable.

Tudhope-Anderson Co., Ltd.
Orillia, Ontario

TELEPHONES

For INFORMATION and ESTIMATES for local telephone systems;

For guaranteed construction material and telephone equipment

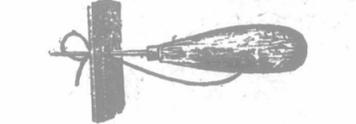
Write:

Canadian Independent Telephone Co., Limited

20 Duncan Street
TORONTO - ONTARIO

ASK FOR NO. 3 BULLETIN

Harness Repairing Outfit



We have the best Automatic Shoe and Harness Repairing Outfit on the market. We want farmers and farmers' sons to take the agency in their district. The outfit consists of the Automatic Awl, Collar Awl, Needles, Linen Thread, Wax, Stitching Horse; also an extra bobbin and full directions are given. Outfit complete sells for \$1.50. Liberal commission. Write to-day to

THE BERLIN SPECIALTY COMPANY
Berlin, Ontario

PRESIDENT SUSPENDER
NONE SO EASY

SORE THROAT.
Gargle frequently with salty water, and use a bandage of cotton cloth saturated with listerine and bound about the throat with woollen cloth.

PUTTING OUT CLOTHES.
A great deal of comfort when putting out clothes in cold weather may be secured by paying attention to the following details: Put on a warm coat and hood for the work, also a pair of mittens, kept for the purpose; these may be made from old woollen underwear, and should have a "first-finger" separate. Heat the clothes-pins in the oven before using them, and put a jar of hot water in the basket containing the wet clothes.

IN CASE OF FIRE.
In case of fire, when it is necessary to enter a room filled with smoke, tie a wet-silk handkerchief over the face. This will prevent suffocation. If there is not time to do this, throw a woollen blanket over the head and keep the head as near the floor as possible, as the air there is likely to be clearer.

TO REMOVE A FISH BONE.
If a fish bone sticks in the throat and cannot be removed otherwise, swallow a raw egg. This will usually dislodge it.

KEEPING HONEY.
Keep honey in a warm, dry place, not in a damp, cold cellar.

TO WASH WOOLLEN DRESSES.
Get five cents' worth of soap bark at the drug store; tie it in a cloth, and put in a gallon of rain water. Let it come to a boil, then add two more gallons of rain water, and wash the dress, rubbing with the hands. Rinse in warm, soft water, and hang up, but do not let completely dry. Iron on the wrong side while still damp enough to get all the wrinkles out.

The Mending Basket

Again we have been obliged to condense some of the letters sent upon that subject which has aroused so much interest, viz., "Woman's Work on the Farm." Did we not do so, the discussion, apparently, never would come to an end, and it must make way for another topic soon.

"Brown Betty," in an account in detail of her daily work, suggests as a "patch" for the overworked that they never attempt to do more than they can get through with, reasonably, in a day. She finds Tuesday much more satisfactory than Monday for wash-day; Wednesday she makes a sort of rest-day; on Thursday she irons; Friday is set apart as sweeping-day, and Saturday for general getting ready for Sunday. She buys ready-made clothing as far as possible, makes very little "fussy" cookery, but takes care to have abundance of fresh air in the house, and plenty of papers and magazines. "Never sacrifice a visit or a good trip to housework," she says. "Go when you can; the work will always be there when you get back."

"Mrs. M.," who lives in one of the Northern districts, asks for a "patch." She tells a rather sad story of her experiences on a farm, but her letter is so intensely personal that we hesitate to publish it. Where there are many children and a father apparently without ambition or even system in his work, it is hard to say what can be done to improve matters. We have read this letter many times, and can suggest no patch but patience. The children will soon be grown up, and, if properly trained by the mother, are sure, then, to bring about better conditions. . . . As for there being no pleasure on account of living so far from town or station,—we cannot quite understand that. There are surely the pleasures of having one's children about; the interest of working on a farm should be a pleasure in itself; many people find that they can derive keen pleasure from studying birds and wild-flowers, and books on these subjects are not prohibitive in price; then there are surely neighbors within reach. There is no church nor Sunday-school?—Then why not start a Sunday-school?—And, if social advantages are few, why not start a Women's Institute? If there are half a dozen neighbors these, at least, may be managed. . . . The part

ANNUAL COMBINATION SALE

High-class, Registered
SHROPSHIRE
and
SOUTHDOWN
SHEEP

Contributed by the undermentioned breeders:
H. N. GIBSON, C. HODGSON, J. LLOYD JONES and J. G. HANMER

75 Yearling Ewes, 40 Ewe Lambs and 20 Rams

Will be sold by public auction at the Agricultural Park, Burford, on
January 14th, 1913, at 1 o'clock p.m.

TERMS—Eight months' credit on approved security.

W. ALMAS, Auctioneer. **J. G. HANMER,** Secretary, Burford, Ont.

FREE-FARM ACCOUNT BOOK

Know How Much You Make This Year

No one shall pay a cent for *Bickmore's Farm Account Book*. It will be sent free to any farmer who will be good enough to tell who and where he is. The cost of a crop never demanded closer attention. Business farming puts money in the bank. This book is arranged to keep all accounts in simple form—more simple, and certainly more practical, than trying to remember them; shows what to charge against crop production; has a laborer's time record and section for personal accounts. *62 pages for ink or pencil.* Not a cheap affair. It is meant for business. Its quality is in keeping with



BICKMORE'S GALL CURE

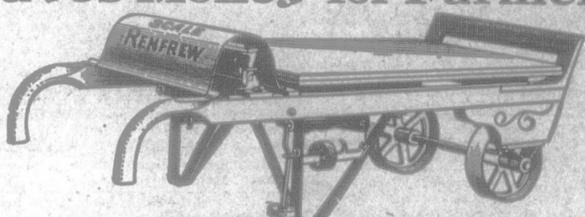
a remedy that cures, and the horse works all the time. Users keep it in their stables the year round—they believe in it. It is always ready for Harem or Saddle Galls, Chaps, Rope Burns, Cuts, Scratches, Grease Heel, etc. In cows use it for Sore Teats. Don't buy a substitute. For the sake of your horse's health, be sure to ask for *Bickmore's Gall Cure* at the store. But write now for *Bickmore's Farm Account Book*—it is ready for you. No cost. No obligation. Send your name and address—that's all.

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Canadian Dist'rs, 600 Notre Dame St. W., Montreal, Canada

Send us your name and we will mail you a free copy of *Bickmore's Farm Account Book*.

BICKMORE'S FARM ACCOUNT BOOK
Published by **BICKMORE GALL CURE CO.**
OLD TOWN, MAINE, U.S.A.

The Farm Scale that Saves Money for Farmers



The RENFREW Handy Two-Wheel Truck Scale

- The RENFREW saves every cent of profit for the farmer on everything he sells by weight, because of its absolute accuracy.
- It saves for him time and labor—simply wheel the RENFREW to what you want to weigh.
- It saves for him because it is built to last, and weighs anything from one pound to 2,000 pounds.
- Does your scale do these things? If not, it is time to buy a RENFREW—the farm scale built to meet your requirements.

Mail Coupon Now for this Free Booklet, "The Profit on the Last Ounce." It tells interestingly about the business side of farming—and how money is saved with a "RENFREW" Handy Two-Wheel Truck Scale.

THE RENFREW SCALE CO.
Renfrew, Ontario

AGENTS:

SASKATOON—Western Distributing Agency.
CALGARY—Reynolds & Jackson
EDMONTON—Race, Hunt & Giddy
MANITOBA—Clare & Brockest, Winnipeg

Mail New Coupon

Please send me free of charge the booklet, "The Profit on the Last Ounce."

Name.....
Address.....
THE RENFREW SCALE CO.
Renfrew, Ontario

Oat Feed, Feed Meal Barley Meal

We can ship you the above in mixed carloads

— or —

FEED WHEAT, CORN, BARLEY and OATS
in straight carloads

If your dealer does not handle the
ARCHIBALD BRAND, write us direct
for samples and prices. It will pay you.

ARCHIBALD CEREAL COMPANY
LIMITED
WOODSTOCK ONTARIO



ALL kinds of Farms—Fruit Farms a specialty.
W. B. Calder, Grimsby.

CREAM WANTED—We guarantee highest prices, correct weights, accurate tests, prompt returns. Write for free cans and try a few shipments. Toronto Creamery Co., Limited, Toronto.

FARM for Sale—Either 100 acres, 150 or 200 acres; good grain farm, thoroughly drained and good buildings. Joseph Robson, Vanneck, Ont.

FARM for Sale—100 acres first-class farm land inside corporation of Village of Exeter, Huron Co. Well drained and fenced. 2-story brick house, full cellar, 8 rooms, heated. Ideal coal furnace, one barn on wall, 48x50; one barn, adjoining, on wall, 36x60; hog-pen, brick, 30x20; drive shed, 30x20; never-falling well, windmill attached; hard and soft water in house and well water all through barns. Ideal location for dairy farm. Good opening for selling milk in the town. Address C. J. Dow, Exeter, or Gladman Stanbury, Exeter.

PRACTICAL, experienced men, married couples and managers require positions. Farm Employment Agency, 140 Victoria St., Toronto.

VANCOUVER ISLAND, BRITISH COLUMBIA, offers sunshiny, mild climate; good profits for men with small capital in fruit-growing, poultry, mixed farming, timber, manufacturing, fisheries, new towns. Good chances for the boys. Investments safe at 6 per cent. For reliable information, free booklets, write Vancouver Island Development League, Room A, 23 Broughton St., Victoria, British Columbia.

WANTED—Cash paid for Military Land Grants in Northern Ontario. Please state price and location. Box 88, Brantford.

WANTED—A good Hardwood Bush, 500 acres or more. Prefer about one thousand to fifteen hundred acres. State all particulars and price for cash. Box 55, Farmer's Advocate, London.

WANTED—Young man, single, to care for stock; steady work for right man. Joseph Robson, Vanneck, Ont.

WANTED—Man and wife without children, for farm work. Man who thoroughly understands farming, care of stock etc.; must be able to milk; one who understands poultry preferred. Wife to do cooking, etc., also help to milk. My farm is right in a live village of about two thousand population. C. P. R. and G. T. R. service. Good home for the right parties. Address, staling salary required: James Bonfield, Eganville, Ont.

WANTED—CUSTOM TANNING—Send me your cattle and horse hides, and have them tanned and made into robes and coats. Deerskins tanned for buckskin, also made into mitts and gloves. We tan all kinds of hides, skins and furs. Send them to me and have them dressed right. B. F. BELL, DELHI, ONT.

I can supply
BEECH AND MAPLE SAWN TIMBER
up to 37 feet long, suitable for barns, etc. Send for prices. Also hemlock lumber. Chatsworth, Ont.
Saw, Shingle and Mangol Roller Mill.

Young Men

FOR ONTARIO FARMS
Arriving February, March, April. Apply:
BOYS' FARMER LEAGUE,
Drawer 126. Winona, Ont.

Girls Wanted

for Biscuit Departments. Wages to start five dollars per week and over. When experienced can make big wages. We can give a large number of girls employment. This is a good opportunity for girls from the country to start work, and by spring will be making from eight to twelve dollars per week. Apply
The McCORMICK MFG. CO., London, Ont.



POULTRY AND EGGS
Condensed advertisements will be inserted under this heading at 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 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 50 cents.

BRONZE Turkeys for Sale—Won seven prizes at Winter Fair, Guelph, 1912, on ten entries. Young toms weighing 23 to 26 lbs., pullets 15 to 17 lbs. each. Chas. Gould, Glencoe, Ont.

BARRED Rocks and White Wyandottes, single birds, pairs, trios or breeding pens; carefully mated. Prices low; satisfaction guaranteed. Write for particulars. John Pringle, London, Ont.

CHOICE Indian Runner drakes, one-fifty each. H. Newell, Flamboro Centre, Ont.

CHOICE Rhode Island Reds, White Wyandottes, S. C. Brown Leghorns. Wm. Bunn, Birt, Ont.

CHOICE WHITE WYANDOTTE Cocks, Cockerels. Hens not related. Rose Comb Red, Cocks, Cockerels. Satisfaction guaranteed. D. McTavish, Chesley, Ont.

L'AMBDEN AND TOULOUSE geese, Pekin ducks, White and Barred Rocks, S. C. White, Brown, Buff Leghorns, Black Minorcas, White Wyandottes, Rhode Island Reds, Blue Andalusian, White and Buff Orpingtons, and Pearl Guineas, Pigeons. Walter Wright, Coburg, Ont.

EXTRA Choice S.-C. Brown Leghorn cockerels (Becker strain), \$2 each. David A. Ashworth, Maple Grove, Ont.

FOR SALE—Single-comb White Leghorn cockerels and pullets. Good birds, \$2 a pair and up. Eggs for hatching. R. Hughes, Ideal Poultry Yards, Collingwood, Ont.

FOR SALE—Turkeys—Pure Bred Bronze, vigorous young stock, bred from prize-winners. Also Pure Bred Barred Rock Cockerels, combination of Kosh, Pringle and Millard strains. If quality is desired, write me. W. T. Ferguson, Spencerville, Ontario.

GRAND YOUNG STOCK for sale in Bronze Turkeys bred from my Champion male at Guelph Winter Fair last December. Address: W. J. Bell, Angus, Ont.

INDIAN Runners and White Wyandottes. W. D. Monkman, Newmarket, Ont.

WE again lead with the best egg-producing strain of Barred Rocks. A grand lot of cockerels for sale. Central Ontario Poultry Yards, Colborne, Ont.

WHITE Orpingtons—Winners at leading shows, greatest layers known. Stock for sale at reasonable prices. Eggs in season. Write me to-day. L. A. Glessman, Conneautville, Penna.

One Shorthorn Bull for sale—Also heifer calf of superior quality and breeding; their dams have been hand milked. Prices right.
STEWART M. GRAHAM, Port Perry, Ont.

Butter! Butter!! Butter!!!

Why make butter during the winter months when you can ship your cream weekly, and get the highest market price? If within one hundred miles of London we can guarantee you, for your butter-fat for December at least 30c. per pound f.o.b. your nearest express office, and supply cans for shipment (6, 8 or 10-gallon to suit your requirements). We remit immediately each shipment is tested. A postcard will bring a can (specify size suitable), and enable you to give this system a fair trial. See our ad. for poultry and eggs in this issue.

SILVERWOODS - LIMITED
Successors to Flavell-Silverwood, Ltd.
LONDON ONTARIO

PLEASE MENTION THE ADVOCATE.

of Mrs. M.'s letter referring to the school-teacher is reserved for later discussion.

"Berenice Broomstick," Dundas Co., Ont., writes as follows:

"Having read all the items on 'Man's Work Around the House,' I shall send in my 'say.' Man was certainly not intended for housework. Therefore, why must he indulge in it? I agree with 'Another Wolf' when she says there is danger of making him a 'sissy.' I can recall to mind too many instances where men who were always ready to help with the 'household duties' were put down as being 'worthless.' Of course, there are times when perhaps the help of the 'superior sex' is necessary. But any woman who manages her work properly can avoid asking 'hubby' to help her even in house-cleaning time.

"On the other hand, women were never intended to work around the 'barn.' If a man has the same affection for his wife after the 'marriage ties' are worn off as he had before, modesty will forbid him to even think of asking the 'fair sex' to share with these duties. Perhaps you will think I have dealt too strongly with this subject, but I believe in 'fair play.' Who will agree with me?"

"Gravenhurst," Muskoka District, gives vent to his opinion thus:

"Sir,—Having read with much interest the different expressions of opinion, printed in these columns from time to time, regarding 'Man's Duty About the House,' 'Regarding Woman's Work,' etc., etc., I have noticed that some talented and deep-thinking persons were writing, and that your readers could scarcely help being instructed and benefited thereby.

"In a recent issue, Adeline gives her experience of potato-digging time. Strenuous? Yes. Unusual?—Decidedly so; only a day and a half out of the whole year. Now, I have seen women out in the potato field in this section sometimes, but not often. But Adeline says, 'But why can't the men appreciate the fact that we do help willingly?' Well, now, don't we? Of course, some men are backward about expressing their thanks. Certainly, a man appreciates the help, if sometimes the appreciation is unexpressed, unless he be one of the species described by Sherard McLeay, who, at least, told us of a woman who, I suppose, had a husband. And those unthinkable conditions described by Sherard McLeay, S. E. W. thinks may exist in the back-woods. Where do you mean, S. E. W., Muskoka? When we lived 'out front' we called Muskoka the 'Back-woods.' So if you mean this district, I assure you that species of manhood, and the conditions he is supposed to create, do not exist here, nor anywhere else, I believe, except in S. McL.'s imagination. Therefore, I think it would be as well to take his little story cum grano salis. But to return again to man's appreciation of his wife's service, rendered in love and affection. I admit that we men are prone to think it childish to express our praise and commendation of our wives. We often withhold the cheery consideration and sympathy which women so value, and which does really lighten their labor in the home. There we are at fault, so we might as well admit it, Brother Farmers, and remedy the defect before we are found out personally. GRAVENHURST, Muskoka District.

An Irishman recently went before a judge to be naturalized.

"Have you read the Declaration of Independence?" the Court asked.

"I hov not."

The judge looked sternly at the applicant and asked:

"Have you read the Constitution of the United States?"

"I hov not, yer Honor."

"What have you read?"

Pat hesitated but a fraction of a second before replying, "I have red hairs on me neck, yer Honor."

CONFIDENTIAL.

"Say, what was that story about Elvira?"

"Well, can you keep a secret?"

"Sure."

"So can I."

Guelph Fat Stock Club

The Annual Sale of

Pure-bred Cattle

BEEF BREEDS

Will be Held in the

Winter Fair Building, Guelph,

on

Wed., March 5, 1913

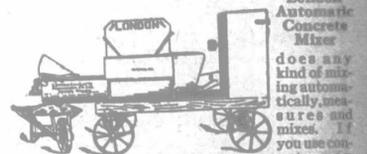
Entries close 10th January, 1913.

For further particulars address:

A. E. MEYER, J. M. DUFF,
President, Secretary, Guelph.

ISLAND OATS

If the farmers of the Maritime Provinces, Quebec and Ontario want to make sure of getting the highest possible grade of seed oats for the spring of 1913, apply to us at once. To prevent a repetition of the disaster that befell so many farmers last year by sowing devalitized grain, we have stored at Point Du Chene and Pictou 50,000 bushels of large, selected, separated white seed oats, true to name and free from noxious weed seeds. It will be the farmers' own fault if they do not procure good seed, as the extra yield of these oats pays twice over the cost of the seed. Our firm name is stencilled on every bag. Do not allow the dealers to give you other than Read's oats for seed.
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London Automatic Concrete Mixer does any kind of mixing automatically, measures and mixes. If you use concrete you better write us for price of this machine. We have the largest line of concrete machinery of any firm in the world. Tell us your requirements. London Concrete Machinery Co., Dept. B, London, Ont.

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Rebecca of Sunnybrook Farm.

By Kate Douglas Wiggin.

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CHAPTER XI.

"THE STIRRING OF THE FLOWERS."

Rebecca's visit to Milltown was all that her glowing fancy had painted it, except that recent readings about Rome and Venice disposed her to believe that those cities might have an advantage over Milltown in the matter of mere pictorial beauty. So soon does the soul outgrow its mansions that after once seeing Milltown her fancy ran out to the future sight of Portland; for that, having Islands and a harbour and two public monuments, must be far more beautiful than Milltown, which would, she felt, take its proud place among the cities of the earth, by reason of its tremendous business activity rather than by any irresistible appeal to the imagination.

It would be impossible for two children to see more, do more, walk more, talk more, eat more, or ask more questions than Rebecca and Emma Jane did on that eventful Wednesday.

"She's the best company I ever see in all my life," said Mrs. Cobb to her husband that evening. "We ain't had a dull minute this day. She's well-mannered, too; she didn't ask for anything, and was thankful for whatever she got. Did you watch her face when we went into that tent where they was actin' out Uncle Tom's Cabin? And did you take notice of the way she told us about the book when we sat down to have our ice cream? I tell you Harriet Beecher Stowe herself couldn't 'a' done it better justice."

"I took it all in," responded Mr. Cobb, who was pleased that "mother" agreed with him about Rebecca. "I ain't sure but she's goin' to turn out somethin' remarkable,—a singer, or a writer, or a lady doctor like that Miss Parks up to Cornish."

"Lady doctors are always home'paths, ain't they?" asked Mrs. Cobb, who, it is needless to say, was distinctly of the old school in medicine.

"Land, no, mother; there ain't no home'path 'bout Miss Parks—she drives all over the country."

"I can't see Rebecca as a lady doctor, somehow," mused Mrs. Cobb. Her gift o' gab is what's goin' to be the makin' of her; mebbe she'll lecture, or recite pieces, like that Portland elocutionist that come out here to the harvest supper."

"I guess she'll be able to write down her own pieces," said Mr. Cobb confidently; she could make 'em up faster 'n she could read 'em out of a book."

"It's a pity she's so plain looking," remarked Mrs. Cobb, blowing out the candle.

"Plain looking, mother?" exclaimed her husband in astonishment. "Look at the eyes of her; look at the hair of her, an' the smile, an' that there dimple! Look at Alice Robinson, that's called the prettiest child on the river, an' see how Rebecca shines her r' down out o' sight! I hope Mirandy'll favor her comin' over to see us real often, for she'll let off some of her steam here, an' the brick house'll be consid'able safer for everybody concerned. We've known what it is to hev children, even if 't was more 'n thirty years ago, an' we can make allowances."

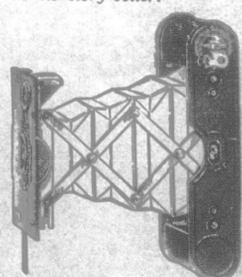
Notwithstanding the encomiums of Mr. and Mrs. Cobb, Rebecca made a poor hand at composition writing at this time. Miss Dearborn gave her every sort of subject that she had ever been given herself: Cloud Pictures; Abraham Lincoln; Nature; Philanthropy; Slavery; Intemperance; Joy and Duty; Solitude; but with none of them did Rebecca seem to grapple satisfactorily.

"Write as you talk, Rebecca," insisted poor Miss Dearborn, who secretly knew that she could never manage a good composition herself.

"But gracious me, Miss Dearborn! I dont talk about nature and slavery. I can't write unless I have something to say, can I?"

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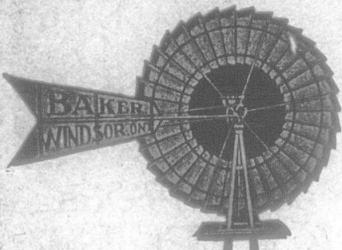
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returned Miss Dearborn doubtfully: "to make you have things to say. Now in your last one, on solitude, you haven't said anything very interesting, and you've made it too common and everyday to sound well. There are too many 'yours' and 'yours' in it; you ought to say 'one' now and then, to make it seem more like good writing. 'One opens a favorite book; 'One's thoughts are a great comfort in solitude,' and so on."

"I don't know any more about solitude this week than I did about joy and duty last week," grumbled Rebecca.

"You tried to be funny about joy and duty," said Miss Dearborn reprovingly: "so of course you didn't succeed."

"I didn't know you were going to make us read the things out aloud," said Rebecca with an embarrassed smile of recollection.

"Joy and Duty" had been the inspiring subject given to the older children for a theme to be written in five minutes.

Rebecca had wrestled, struggled, perspired in vain. When her turn came to read she was obliged to confess she had written nothing.

"You have at least two lines, Rebecca," insisted the teacher, "for I see them on your slate."

"I'd rather not read them, please; they are not good," pleaded Rebecca.

"Read what you have, good or bad, little or much; I am excusing nobody." Rebecca rose, overcome with secret laughter, dread, and mortification; then in a low voice she read the couplet:—

When Joy and Duty clash
Let Duty go to smash.

Dick Carter's head disappeared under the desk, while Living Perkins choked with laughter.

Miss Dearborn laughed too; she was little more than a girl, and the training of the young idea seldom appealed to the sense of humor.

"You must stay after school and try again, Rebecca," she said, but she said it smilingly. "Your poetry hasn't a very nice idea in it for a good, little girl who ought to love duty."

"It wasn't my idea," said Rebecca apologetically. "I had only made the first line when I saw you were going to ring the bell and say the time was up. I had 'clash' written, and I couldn't think of anything but 'hash' or 'rash' or 'smash.' I'll change it to this:—

When Joy and Duty clash,
'T is Joy must go to smash."

"That is better," Miss Dearborn answered, "though I cannot think 'going to smash' is a pretty expression for poetry."

Having been instructed in the use of the indefinite pronoun "one" as giving a refined and elegant touch to literary efforts, Rebecca painstakingly rewrote her composition on solitude, giving it all the benefit of Miss Dearborn's suggestion. It then appeared in the following form, which hardly satisfied either teacher or pupil:—

SOLITUDE

It would be false to say that one could ever be alone when one has lovely thoughts to comfort one. One sits by one's self, it is true, but one thinks; one opens one's favorite book and reads one's favorite story; one speaks to one's aunt or one's brother, fondles one's cat, or looks at one's photograph album. There is one's work also: what a joy it is to one, if one happens to like work. All one's little household tasks keep one from being lonely. Does one ever feel bereft when one picks up one's chips to light one's fire for one's evening meal? Or when one washes one's milk pail before milking one's cow. One would fancy not.

R. R. R.
"It is perfectly dreadful," sighed Rebecca when she read it aloud after school. "Putting in 'one' all the time doesn't make it sound any more like a book, and it looks silly besides."

"You say such queer things," objected Miss Dearborn. "I don't see what makes you do it. Why did you put in anything so common as picking up chips?"

"Because I was talking about 'household tasks' in the sentence before, and it is one of my household tasks. Don't you think calling supper 'one's evening meal' is pretty? and isn't 'bereft a nice word'?"

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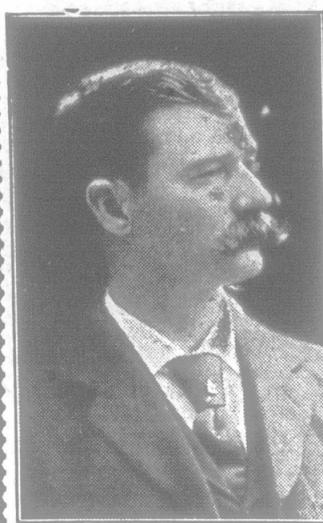
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PLEASE MENTION THIS PAPER.

"Yes that part of it does very well. It is the cat, the chips, and the milk pail that I don't like."

"All right!" sighed Rebecca. "Out they go! Does the cow go to?"

"Yes, I don't like a cow in a composition," said the difficult Miss Dearborn.

The Milltown trip had not been without its tragic consequences of a small sort; for the next week Minnie Smellie's mother told Miranda Sawyer that she'd better look after Rebecca, for she was given to "swearing and profane language;" that she had been heard saying something dreadful that very afternoon, saying it before Emma Jane and Living Perkins, who only laughed and got down on all fours and chased her.

Rebecca, on being confronted and charged with the crime, denied it indignantly, and aunt Jane believed her.

"Search your memory, Rebecca, and try to think what Minnie overheard you say," she pleaded. "Don't be ugly and obstinate, but think real hard. When did they chase you up the road, and what were you doing?"

"A sudden light broke upon Rebecca's darkness.

"Oh! I see it now," she exclaimed. "It had rained hard all the morning, you know, and the road was full of puddles. Emma Jane, Living, and I were walking along, and I was ahead. I saw the water streaming over the road towards the ditch, and it reminded me of Uncle Tom's Cabin at Milltown, when Eliza took her baby and ran across the Mississippi on the ice blocks, pursued by the bloodhounds. We couldn't keep from laughing after we came out of the tent because they were acting on such a small platform that Eliza had to run round and round, and part of the time the one dog they had pursued her, and part of the time she had to pursue the dog. I knew Living would remember, too, so I took off my waterproof and wrapped it around my books for a baby; then I shouted, 'My God! the river!' just like that—the same as Eliza did in the play; then I leaped from puddle to puddle, and Living and Emma Jane pursued me like the bloodhounds. It's just like that stupid Minnie Smellie who doesn't know a game when she sees one. And Eliza wasn't swearing when she said 'My God! the river!' It was more like praying."

"Well you've got no call to be prayin', any more than swearin', in the middle of the road," said Miranda; "but I'm thankful it's no worse. You're born to trouble as the sparks fly upward, an' I'm afraid you allers will be till you learn to bridle your unruly tongue."

"I wish sometimes that I could bridle Minnie's," murmured Rebecca, as she went to set the table for supper.

"I declare she is the beatin'est child!" said Miranda, taking off her spectacles and laying down her mending. "You don't think she's a leetle mite crazy, do you, Jane?"

"I don't think she's like the rest of us," responded Jane thoughtfully and with some anxiety in her pleasant face; "but whether it's for the better or the worse I can't hardly tell till she grows up. She's got the making of 'most anything in her, Rebecca has; but I feel sometimes as if we were not fitted to cope with her."

"Stuff an' nonsense!" said Miranda. "Speak for yourself. I feel fitted to cope with any child that ever was born int' the world!"

"I know you do, Mirandy; but that don't make you so," returned Jane with a smile.

The habit of speaking her mind freely was certainly growing on Jane to an altogether terrifying extent.

(To be continued.)

IMP. CLYDESDALES
AND PERCHERONS.

I have 65 head of Clydesdales and Percherons in my barns to choose from, a great many of them are prizewinners in Canada, Scotland and France, and other extra show horses that have not yet been shown. I have never had so many good horses at one time before. Intending purchasers would do well to see through my barns before buying. My horses are all for sale and at right prices.

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Bigger and better than ever before is our 1912 importation just arrived. Stallions with size character, quality and breeding. Fillies of high-class breeding and quality for show or breeding purposes. Come and see them. Terms and prices right. JOHN A. BROAD & SON, Queen'sville P.O. and Station Toronto to Sault Electric Line. L.-D. Phone.

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We have lately landed a shipment of Clyde stallions and fillies, several Scotch winners among them. Their breeding is unsurpassed. Comparison with any others in the country will make you a buyer from us. Our prices are as low as the lowest. L.-D. Phone. **GOODFELLOW BROS., MACVILLE P. O., ONT.; BOLTON STATION, C. P. R.**

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They have arrived—my third importation for 1912, stallions and fillies. I have now the biggest selection in Canada, and a few toppers in stallions. High-class breeding and high-class quality and low prices.

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Stallions and fillies of either breed. Over forty head to select from. Draft horses in reality as well as in name. Highest types of the breeds. Come and see them. Terms and prices to suit.

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I have a big importation of Clyde stallions and fillies just landed; a lot that cannot be duplicated to-day in Scotland and never was in Canada. Let me know your wants.

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We have some very choice young stock for sale, both sexes, Clydesdales and Hackneys from champion sire and well bred dams, at reasonable prices.

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We have stallions and fillies of our 1912 importation that have won many first prizes and championships. This type, quality and breeding is unexcelled. Prices as low as any, and terms the best.

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OUR Stallion Policies, covering against loss by Death through Accident or Disease, are more liberal and afford more protection to owners than any issued by Competing Company. They contain no vexatious clauses, having been drafted to cover the special conditions met with in this Country. They cover the horse no matter where he might be and not merely in his own stable, as certain Companies do. This is very important during the Breeding Season as the horse might die while being on the road. Do not take any chances by insuring with others, insure with us; The insurance premium represents only a small proportion of the service fees earned. Better risk the loss of the premium than the purchase price of your beast if it dies without insurance. Better have and not need than need and not have.

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Quality
stown, P. Que.
es with imported fillies,
as Hiawatha, Sir Hugo,
eighteen of the best are
price than superiority.
McEACHRAN.

QUESTIONS AND ANSWERS.
Veterinary.

RATION FOR COLT — COUGH.

1. What would make a good ration for a four-months-old colt?
2. The dam has been coughing for two weeks, and now I notice a discharge from her nostril. The colt seems to be taking the same trouble. J. C. McV.

Ans.—1. Give all the good clover hay it will eat. Mix a little cut hay and one pint each of rolled oats and bran in a pail, pour a little boiling water on it, cover, and let stand for a few hours before feeding. Give this mixture night and morning, and a quart of rolled oats at noon. Also give a carrot or two at noon. If you can spare a daily ration of sweet milk, the grain ration may be somewhat reduced. See that it gets daily exercise.

2. Rub the throat well with mustard, mixed with equal parts warm water and oil of turpentine. Wrap well with flannel bandages, and keep wrapped until better. Give her three times daily, two drams chlorate of potassium and forty grains quinine, and keep comfortable. Treat the colt the same way, but give only about one-tenth of the dose. V.

MISCELLANEOUS.

1. Cow has been lame for two months. No cause could be seen, but now I can notice a shrinking away of the flesh between the hip bone and tail.
2. Pregnant mare has a rough coat and seems dull.
3. One quarter of cow's udder is enlarged and hardened. I had trouble with it in the summer. She is now dry, and will be due to calve soon. P. M.

Ans.—1. The symptoms indicate a severe sprain of the muscles of the pelvis, or possibly fracture of one of the bones. Keep her as quiet as possible in a comfortable box stall, and nature will probably effect a cure. Blister the shrunken muscles once monthly with two drams each of biniodide of mercury and cartharides, mixed with two ounces vaseline, well rubbed in, and after two days apply sweet oil daily.

2. The less drugs given to pregnant mares the better. Feed liberally on rolled oats and bran, with an occasional meal of boiled oats and bran, a few roots daily, and good hay, and give regular exercise.
3. Get a liniment made of four drams each of iodine and iodide of potassium, and four ounces each of alcohol and glycerine, and rub some well in once daily. V.

UNTHRIFTY MARE—FEEDING SULPHUR.

1. I worked a three-year-old mare all summer. This fall her coat became rough and she became dull. I purged her with linseed oil, but she is not doing as well as she should. When she drinks cold water her lips tremble, and she jerks her jaw, but this passes off in a few minutes.
2. Will feeding sulphur to calves cure ringworm, or if not, what will? A. H.

Ans.—1. The mare has no doubt done more work than a three-year-old should, losing the third molar in each row, and and this has weakened her. She is as a consequence the gums are tender, and this accounts for the symptoms noted when she drinks. Time will correct this. Feed her a reasonable amount of good hay, give her a heaped gallon of rolled oats three times daily, and a few roots in addition at noon. (Feed hay only night and morning.) Give her a feed of bran once or twice weekly, and give her regular exercise or light work, and she will gradually improve in condition. If her appetite is not good, give a tablespoonful of equal parts of sulphate of iron, gentian, ginger and nux vomica, three times daily.

2. No drugs given internally will cure ringworm. It requires local treatment. Moisten the scales with sweet oil, remove them, and then dress daily with tincture of iodine until cured. As the disease is very contagious, isolate all that are diseased and whitewash the premises. V.



Making Beef Economically

The business of the steer-raising farmer is to turn feed into beef at the lowest cost and in the shortest time. But the fattening steer wastes a good portion of his ration, which is the reason why you let your hogs follow the steers to get the whole grain which they pass off as waste.

The cause of this waste is poor digestion—the inability of the animal to extract from its ration, in proportion to the large amount consumed, those nutrients which make for beef, blood and muscle. Tonics are needed to strengthen and invigorate the digestive organs of the steer—to sharpen its appetite and keep the system generally toned up.

DR. HESS STOCK TONIC

Prepared by Dr. Hess (M. D., D. V. S.) is a scientific preparation which will produce these results. Its actions are manifold. By acting directly on the digestive organs it helps the steer turn more food into flesh. It helps the animal to vigorous maturity and wards off disease germs. The U. S. Dispensary remarks on the ingredients of Dr. Hess Stock Tonic, printed to the right, speak volumes for this guaranteed flesh and milk producer. Now read

Our proposition: Procure of your dealer Dr. Hess Stock Tonic. Use it all winter and spring. 25-lb. pail \$2.25; 100 lbs. \$7.00 (duty paid). If it does not pay you and pay you well, get your money back. Every pound sold on this guarantee. If your dealer can't supply you, we will.

FREE. Dr. Hess (M. D., D. V. S.) will at any time prescribe for your ailing animals free of charge if you will send him full details. Mention this paper and send 2c stamp. 96-page Veterinary Book also free.

DR. HESS & CLARK, Ashland, Ohio.

Dr. Hess Stock Tonic contains:
Nux Vomica, Digestive and Nerve Tonic.
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Sulphate of Iron, Blood Builder and General Tonic.
Sulphate of Soda, Laxative and Liver Tonic.
Common Salt, Appetizer, Cleanser.
Epsom Salts, Laxative.
Borate of Potash, Stimulates kidneys.
Charcoal, Prevents Noxious Gases.
Fenugreek, Tonic and Aromatic.
The above is carefully compounded by Dr. Hess (M. D., D. V. S.), with just enough cereal meal to make a perfect mixture.

DR. HESS POULTRY PAN-A-CE-A makes busy hens in January. It tones up the dormant egg organs, brings back the scratch and cackle, takes the hens out of the loafer and puts them into the layer class, and you will plainly see the results of feeding Pan-a-ce-a in the egg basket. The cost is hardly worth considering—a penny's worth feeds thirty fowls. Sold on the same money-back guarantee as Dr. Hess Stock Tonic. 1½ lbs. 35c; 5 lbs. 85c; 12 lbs. \$1.75; 25-lb. pail \$3.50 (duty paid). If your dealer cannot supply you, we will. Send 2c for Dr. Hess Poultry Book, Free.

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Take your worst horse, the one that eats its head off and yet doesn't gain flesh, feed it for a month with

MOLASSINE MEAL

cut down the oats by half and replace that half with MOLASSINE MEAL, well mixed with the oats. Do this regularly 3 times a day for a month and see what a change it will make. Try it on your cattle in the same way.

Milch cows will give more milk and for a longer period. Pigs will be ready for the market three weeks earlier than when fed on any other food.

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There are a number of good washing machines on the market. But there's one that runs easier, one with more conveniences than ordinary washers. It's The Connor Ball-Bearing Washer. You don't have to walk around The Connor Ball-Bearing Washer when washing

or wringing clothes. The handle for operating the tub, the wringer handle, and the screw-wheel for throwing wringer forward out of the way when raising cover or locking into upright position over tub for wringing, all are on the same side.

CONNOR BALL-BEARING WASHER

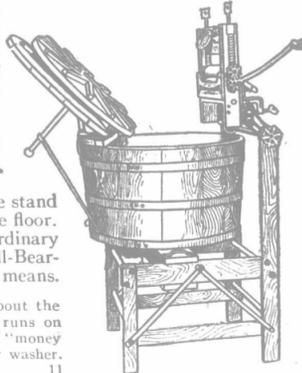
You don't have to lift the lid off the washer and place it on the floor to leave a puddle of soapy water for you to mop up. The lid on the Connor Ball-Bearing Washer is hinged. When raised it rests on the tub handle and drains into the tub. When closed it fits over the tub, not into it. And it is held down firmly, so no water can slop out when machine is going full speed, or any steam escape. There is no centre post in the tub to take up room or for

the clothes to wind around and tear. The stand is substantial, too. It rests solidly on the floor. It doesn't slip along the floor as do the ordinary stool-like stands. You see, The Connor Ball-Bearing Washer is no ordinary washer by any means.

But write to-day for our booklet. Read all about the Connor Ball-Bearing Washer—the washer that runs on ball-bearings, that's sold with a straightforward "money back if not satisfactory" guarantee tag on every washer. Let us tell you where you can see one. 11

J. H. CONNOR & SON, LIMITED, OTTAWA, ONTARIO

Write for Booklet



COUGH. good ration

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Household Economy

How to Have the Best Cough Syrup and Save \$2, by Making It at Home.

Cough medicines, as a rule, contain a large quantity of plain syrup. If you take two cups of granulated sugar, add one cup of warm water and stir about 2 minutes, you have as good syrup as money could buy.

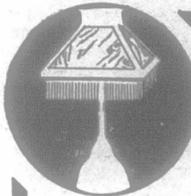
If you will then put 2 1/2 ounces of Pinex (50 cents worth) in a 16-ounce bottle, and fill it up with the Sugar Syrup, you will have as much cough syrup as you could buy ready made for \$2.50. It keeps perfectly. Any housewife can easily prepare it in five minutes.

And you will find it the best cough syrup you ever used—even in whooping cough. You can feel it take hold—usually stops the most severe cough in 24 hours. It is just laxative enough, has a good tonic effect, and taste is pleasant. Take a teaspoonful every one, two or three hours.

It is a splendid remedy, too, for whooping cough, croup, hoarseness, asthma, chest pains, etc. Pinex is the most valuable concentrated compound of Norway white pine extract, rich in gualacol and all the healing pine elements. No other preparation will work in this formula.

This recipe for making cough remedy with Pinex and Sugar Syrup is now used and prized in thousands of homes in the United States and Canada. The plan has often been imitated, but never successfully.

A guaranty of absolute satisfaction or money promptly refunded goes with this recipe. If the genuine Pinex is used. Your druggist has Pinex, or will get it for you, if you ask him. If not, send to The Pinex Co., Toronto, Ont.



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SPRING VALLEY SHORTHORNS Herd headed by the two imported bulls, Newton Ringleader, =73783, and Scottish Pride, =36106. The females are of the best Scottish families Young stock of both sexes for sale at reasonable prices. Telephone connection.

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Aberdeen-Angus of Show Form and Quality. For this season my offering in young bulls and heifers, are toppers, every one. Show-ring form and quality, and bred from show winners. T. B. BROAD-FOOT, Fergus, Ont., G. T. R. and C. P. R.

QUESTIONS AND ANSWERS. Veterinary.

DIGESTIVE TROUBLE.

What can I give my mare to keep her urine regular. My mare is troubled that way, and when she takes it, she eats like a horse with colic. When I give her saltpetre regularly, she is not troubled. A. McC.

Ans.—Horses are not subject to any urinary trouble that produces symptoms of colic. Your mare suffers from repeated attacks of indigestion. Purge her with eight drams aloes and two drams ginger. Mix equal parts of gentian, ginger, nux vomica, and bicarbonate of soda, and give her a dessertspoonful three times daily. Feed only moderate quantities of good hay and rolled oats and bran, with a carrot or two daily, and give regular exercise or light work. V.

ABSCESS—NON-APPEARANCE OF OESTRUM.

1. Mare bruised her breast on the manger. An abscess formed and was opened. Now there is a loose sac of skin hanging down. O. W. N.

Ans.—1. If there be serum still in the sac it should be opened freely, and the cavity flushed out twice daily until healed, with a four-per-cent. solution of carbolic acid. If there be no fluid present, the sac should be opened and an elliptical portion of the skin (just as much as there is too much skin) removed, the wound stitched, and then dressed three times daily with the above lotion until healed. It will require a veterinarian to operate.

2. When nature fails to act in these cases, drugs often also fail. Try giving her two drams of nux vomica three times daily. V.

WARTS—LINIMENT.

1. I have noticed inquiries about the removal of warts. I have had good success with strong vinegar applied twice daily for a couple of weeks.

2. Give prescription for a liniment to be used for sprains. W. B.

Ans.—1. Any caustic has a good effect in the removal of warts. Vinegar is dilute acetic acid, and acetic acid is a caustic, hence your treatment might give good results if continued long enough. In many cases, especially when there is a crop of small, whitish warts, above the lips and muzzle of animals, they disappear spontaneously without treatment, and in other cases where dressing has been used, and the warts disappear, the dressing gets credit for what nature performed.

2. One ounce oil of turpentine, 1 ounce tincture of iodine, 1 ounce tincture of arnica, 1/2 ounce gum camphor, 2 ounces extract witch hazel, and wood alcohol to make a pint. V.

LAME MARE.

An incompetent horseshoer shod my mare a year ago. He cut the heel of fore foot too low, and she has been lame ever since. The heel seems to be slightly inflamed, and the foot contracting. S. R.

Ans.—Horseshoers are often blamed for causing permanent lameness when they are totally innocent. It is highly improbable that the manner in which he pared the hoof a year ago is responsible for the trouble. The symptoms indicate navicular disease, and, of course, it should have been treated a year ago when it first appeared. It has now become chronic, and it is probable that alteration of structure has taken place in the joint, and if so a cure can not be effected, but at all events treatment will lessen the symptoms, and possibly cure. Take her shoes off, pare the heels well down. Clip the hair off for two inches high all around the hoof. Get a blister made of two drams each of biniodide of mercury and cantharides, mixed with two ounces vaseline. Tie her so that she cannot bite the parts. Rub well with the blister once daily for two days. On the third day apply sweet oil. Turn loose in a box stall now and oil every day. As soon as the scale comes off tie up and blister again, and after this blister every four weeks until spring. V.

THE DEMAND

Is increasing enormously Can we tell you the Reason Why?

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CEYLON TEAS "ARE DELICIOUS TEAS"

BLACK, MIXED OR NATURAL GREEN SEALED PACKAGES ONLY REFUSE SUBSTITUTES

Pure OIL CAKE Meal

DIGESTIBILITY is the TRUE TEST

What the animals digest will produce flesh and milk. USE J. & J. LIVINGSTON BRAND OIL CAKE made by the old process.

Fine Ground, Coarse Ground and Pea Size. Also Linseed Meal and Flax Seed.

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Increased prizes and classes for HORSES, DAIRY and BEEF CATTLE, SHEEP, SWINE, SEEDS and POULTRY.

\$12,000 IN PRIZES

Practical Lectures will be given by prominent men on subjects relating to the various Live Stock classes, also Seeds, Poultry and Field Crops.

SINGLE FARE RATES ON ALL RAILROADS.

For programme of judging and lectures, apply to Secretary.

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DAIRYMEN'S ASSOCIATION of WESTERN ONTARIO The 46th Annual Convention & Winter Dairy Exhibition WOODSTOCK, ONTARIO

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D. A. DEMPSEY, President, SPECIAL RAILWAY RATES—COME FRANK HERNS, Sec.-Treas., Stratford, Ont. London, Ont.

The Auld Herd and Pleasant Valley Shorthorns

Bulls like "Meadow Signet = 86823 = " are not easy to find. We have him and several others for sale. Those looking for bulls should make us a visit or at least write. Prospective buyers met at either Guelph or Rockwood.

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Orchard-Grove Herefords I have lately made a big importation of Bulls, Heifers and Mature Cows from the leading herds of Illinois. In my herd you now have 25 Bulls to select from; a big range of Heifers and Cows. High-class show and breeding stock a specialty. L. O. CLIFFORD, Oshawa, Ontario, G.T.R. and C.N.R.

Willow Bank Stock Farm—Shorthorns and Leicesters

Herd established 1855, flock 1948, have a special good lot of Shorthorns of either sex to offer of various ages; also grand lot of Leicester sheep of either sex—a few imported ones to offer. JAMES DOUGLAS, Caledonia, Ont.

MEADOW LAWN SHORTHORNS of richest and most fashionable Scotch breeding, and of high-class type and condition. I can supply young bulls and heifers—Clarets, Roan Ladys, Mildreds, Stamfords, etc. F. W. EWING, SALEM, ONTARIO L.-D. Phone. Elora Station.

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For sale: 5 yearling bulls, 12 bull calves, cows, heifers and heifer calves. In Cotswolds: Lambs and shearing ewes. Will book a few orders for Berkshires, Fall Hitters.

Chas. E. Bensycaeste,
 P. O. AND STA., CAMP BELLFORD, ONT.

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Have the best lot of young Shorthorn bulls ever in herd at one time. Several from cows that give 50 lbs. milk per day, and sired by "Senator Lavender." A few excellent Leicester ewes and rams for sale.

A. W. SMITH, Maple Lodge, Ont.
 Lucan Crossing, G.T.Ry., one Mile.

Fletcher's Shorthorns Our herd of Shorthorns (Imp.) or direct from imported stock, is headed by the grandly-bred Bruce Mayflower bull, Royal Bruce (Imp.) = 55098 = (89909) 273863. Choice young stock for sale.

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OAKLAND 50 SHORTHORNS
 Present offering is eight bulls, including our champion stock bull, Scotch Grey, 72692; all rams and reds. Also a goodly number of females, all of the dual-purpose strain. Good cattle and no big prices.

JNO. ELDER & SON, HENSALL, ONTARIO

Shorthorns of both sexes at all times for sale at very reasonable prices.

ROBERT NICHOL & SONS
 Hagersville, Ontario.

CEARDALE SHORTHORNS—To make room for newcomers, I am now offering some rare value in Scotch-bred cows and heifers, beautifully bred and high-class in type; also 1 yearling bull, Dr. T. S. Sproule, Markdale, Ont.

Spruce Lodge Shorthorns & Leicesters
 Present offering: Young bulls and heifers from grand milking dams. Also a choice lot of Leicester rams and ewe lambs, and ewes of all ages bred to imp. rams. W. A. Douglas, Tuscarora, Ont.

Clover Dell Shorthorns

Choice young stock of both sexes. Dual purpose, a specialty. L. A. WAKELY, BOLTON, ONT., Bolton Station C. P. R.

SHORTHORNS & POLAND-CHINAS
 Am offering choice young bulls 8 to 14 months, and heifers of all ages. Fall pigs by Victorious Invader and Missouri Meddler, the best of the breed. Pairs not akin Geo. G. Gould, Edgar's Mills, Ont.

A gentleman who was asked to illustrate the difference between "sit" and "set" recently, answered, "The British Empire is a country on which the sun never sets, and the rest of the world never sits."

A porter was coming out of a railway station with a terrier under his arm, when he was thus accosted by a passenger—"Hallo! And where is this fine little fellow bound for?" The porter scowled disagreeably. "You don't know where's 'e's goin'," he said sullenly; "I dunno where's he's goin'; nobody don't know where's he goin'. He's bin and et his label!"

Chapped Hands
 Won't Bother
 You

You

if instead of soap you use SNAP, the original hand cleaner.

SNAP contains no lye or acids, but glycerine and neutral oils which keep the skin smooth and in splendid condition.

Try SNAP for a week and notice the difference. 47

S N A P

Order from your dealer to-day. Save coupons.



GOSSIP.

Good prices for Berkshire swine were obtained at an auction sale on November 28th, from the noted herd of N. Benjafield, Motcombe, Dorsetshire. A representative of His Majesty the King took the prizewinning sow, Motcombe Queen, at \$220, and her own brother brought the same price. Another went to the Royal Farm, at \$160.

The photogravure on another page in this issue of the Shorthorn bull, Senator Lavender, at head of the herd of A. W. Smith, Maple Lodge, Ont., does less than justice to the massive proportions and exceptionally level lines of this very superior animal. The rear flank, for instance, is, in reality, much lower than would appear from the reproduction, he being uncommonly good in this, as well as all other points. He was got by College Senator, out of Imp. Lavender Thyme 7th, and he is giving great satisfaction; his calves now coming a year old being of excellent type and very uniform, as his breeding and character would warrant.

HOLSTEINS AT AUCTION.

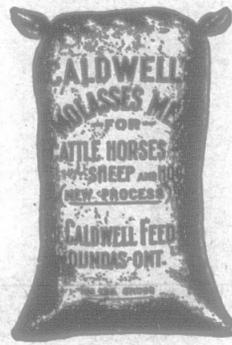
The attention of breeders and dairy farmers is called to the advertisement in this issue of the dispersion auction sale, on January 15th, of 37 head of registered and high-grade Holstein cattle, the property of D. Campbell, Komoka, ten miles from London, G. T. R. and C. P. R. Nearly thirty of the cows and heifers are bred, and safe in calf to the richly-bred three-year-old bull, Paul Sarcastic Lad, the herd-header included in the sale, and several are due to calve before or about the time of the sale. A bull calf, sired by the herd-header, dam Dinah Bell (10737), whose sire was Calamity Queen's Butter Baron, is also included. The cows and heifers are an excellent lot, in good condition, and heavy milkers.

The Dorset ewes that I am offering just now, writes R. H. Harding, of Thorndale, Ont., are of splendid quality, well covered, and uniform. "I have been breeding Dorsets twenty-two years, and have succeeded (by judicious mating with rams of the best all-round conformation and covering, and by sending to the shambles anything bordering upon second-class) in building up one of the most uniform flocks of the early-lamb raisers in America, and have increased their shearing capacity fully one pound annually per head. Anyone wanting a genuine start in these money-makers will make no mistake in sending in an order, or, better still, come and select for themselves. The Chester White boars are also choice goods, and only a few are left."

John A. Boag & Son, the well-known horse-breeders and importers, of Queensville, Ont., inform us that there was a slight mistake in our report of the two-year-old Clydesdale stallions at Guelph, their Hindward Crest getting second; Baillie Boy third, and Jewel Keeper fifth, whereas our report read Jewel Keeper second; Hindward Crest third, and Baillie Boy fifth. As all belonged to the same owner, no serious damage was done, but we always like to be correct, and took this placing according to the numbers carried by the men holding the horses at the time the placing was made. There must have been a mistake in the numbers carried, or the men holding the horses must have changed places in order to move them to better advantage, for we notice that a contemporary, whose special correspondent was in the ring at the time, reported them in the same order in which we had done. Too much care cannot be taken in distributing the numbers, and where the holders change horses without changing numbers, it makes it difficult to get the awards correct. However, we are glad to make necessary corrections.

CALDWELL'S MOLASSES MEAL

is the only convenient form in which Pure Cane Molasses can be fed to animals. The meal is dry to the touch—has an appetizing, provoking odor, and is greatly relished by animals.



Caldwell's Molasses Meal is a very economical as well as a highly efficient feed. It practically costs nothing, because it takes the place of an equal amount of other feed. It also makes other feed more palatable, digestible, and hence more nourishing, and is an excellent preventive and eradicator of worms.

It puts spirit into horses—makes them look better, feel better, live longer and worth more at any stage. The Meal keeps cows fat and contented—hence they give more milk. By all odds the best "conditioner" for steers, sheep,

lambs and hogs—brings them to maturity, their highest market value, very quickly.

Guaranteed by the firm and used by all the larger feeders.

Caldwell's Molasses Meal cuts general forage bills by a handsome margin. You can buy the Meal cheaper from us direct, or from your feed store, than you can buy the raw molasses alone. Write for money-saving facts. Clip out coupon, mail to us, and we will send you full particulars.

LONDON FARMER'S ADVOCATE
 Please send me booklet and full particulars as to cost, etc., of Molasses Meal.

Name

Post Office

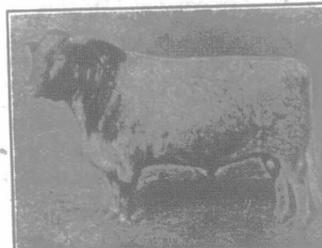
Province

The CALDWELL FEED CO., Ltd., Dundas, Ont.

SCOTCH SHORTHORNS FOR SALE

Two high-class imported yearling bulls. Eighteen bull calves, 8 to 14 months old, by the imported sires Bandsman and Village Duke. Forty heifers and young cows of best Scotch families, bred to imported sires. Some Toronto and London prizewinners, both sexes; also some imp. yearling heifers.

MITCHELL BROS.
 Burlington, Ontario
 Farm 1/4-mile from Burlington Junction Station.



SHORTHORNS!

Have now a choice lot of young bulls to offer; also with something nice in heifers. Catalogue of herd and list of young animals on application. H. Cargill & Son, Props., John Clancy, Manager. Cargill, Ont., Bruce Co.



I Have SHORTHORN Bulls and Heifers, SHROPSHIRE and COTSWOLD Rams and Ewes, CLYDESDALE Fillies and Colts

that are as good as I have ever had, and that I will sell for prices within the reach of all. We have been in the business 75 years, always in the front rank, and propose to keep that position. You cannot afford to buy without writing us for prices. **ROBERT MILLER, STOUFFVILLE, ONTARIO**

1861 Irvine-Side Shorthorns 1912

Offering for sale young bulls and heifers that are the result of over 50 years successful breeding. Pure Scotch, and carrying the best blood of the breed. Few good Oxford Down rams. **John Watt & Son, Sa'em P. O., Ont. Elora Station, G T. and C. P. R.**

10 SHORTHORN BULLS 10

If in need of a bull those that we are offering should interest you. They range from 8 to 14 months old, and are nearly all bred direct from imported stock. We also have females of all ages. Bell phone. Burlington Junction, G. T. R. **W. G. PETTIT & SONS, Freeman, Ontario.**

SCOTCH SHORTHORNS At prices that defy competition. I am offering a big choice and royally-bred selection of females from calves up. Also a few right good herd headers, including my great stock bull, Lord Lavendar. **A.J.HOWDEN, COLUMBUS P.O., ONT. Brooklin Sta., G.T.R.; Myrtle Sta., C.P.R.**

Shorthorns of breeding and quality—Our offering this year in young bulls and heifers, out of Scotch cow, and sired by our great Mildred Royal, are put up on show lines, and strictly first-class. **GEO. GIER & SON, Grand Valley, Ont., P.O. and Sta.**

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 minute application—occasionally two required. Cures Bone Spavin, Ringbone and Sidebone, new and old cases alike. Write for detailed information and a free copy of Fleming's Vest-Pocket Veterinary Adviser.

Ministry pages, durably bound, indexed and illustrated. Covers over one hundred veterinary subjects. Read this book before you treat any kind of lameness in horses.

FLEMING BROS., Chemists,
75 Church Street, Toronto, Ont.

Maple Grove, Crescent Ridge and Welcome Stock Farms—
Motto: Richest breeding, superior individuals, representing the famous Tidy Abbeker's, the Mercena's also granddaughters of Pietertje Hengerveld's Count De Kol, and Pontiac Korndyke and other rich producers; 100 head to select from. King Lyons Hengerveld and two grandsons of Pontiac Korndyke head the herds.

H. BOLLERT, Tavistock, Ontario
R. R. No. 1.



FULL-BRED REGISTERED Holstein Cattle
The most profitable dairy breed, greatest in size, milk, butter-fat and in vitality. Send for FREE illustrated descriptive booklet.

HOLSTEIN - FRIESIAN ASSOCIATION,
F. L. Houghton, Sec., Box 127, Battletown, Vt.

Holsteins of Quality

Write us to-day for our proposition, telling us how any good dairyman may own a registered Holstein bull from a Record-of-Performance cow without investing a cent for him.

MONRO & LAWLESS, "Elmdale Farm"
Thorold, Ontario

The Maples Holsteins
I am now offering for sale 10 young bulls, official record backing on both sire's and dam's side. They are good enough for service, and my prices should soon sell them.

WALBURN RIVERS, Foldens, Ont.
Oxford County.

Ridgedale Farm Holsteins—We have four bull calves left for sale, from high-testing dams; sired by Imperial Pauline De Kol, whose 15 nearest dams average 26.20 lbs. butter in 7 days. Shipping stations: Port Perry, G. T. R., and Myrtle, C. P. R., Ontario County.

R. W. WALKER Utica, Ont.

Glenwood Stock Farm 5 BULL CALVES for service, out of big milking strains, at low figure for quick sale. **THOS. B. CARLAW & SON, WARKWORTH, ONT.,** Campbellford Sta.

DON JERSEY HERD
Offers young bulls and heifers for sale; heifers bred to Eminent Royal Fern.

D. DUNCAN, DON, ONTARIO
Phone L.-D. Agincourt. Duncan Stn., C. N. R.

Balaphorene Farm Jerseys Present offerings: Choice bull calves from three to sixteen months, at very reasonable prices for quick sale. **JOSEPH SEABROOK,** Havelock, Ontario.

City View Ayrshires—Bonnie Messers, at head of herd, both dam and gr. dam R. O. P. cows. One yearling bull a dam of either sex. Will sell a few cows. **JAMES BEGG, R. R. No. 1 St. Thomas** One and a half miles from all stations.

Hillcrest Ayrshires—At head of herd is Ivanhoe of Tanglewild, a son of the champion Ayrshire cow, Primrose of Tanglewild, R. O. P. test 16.193 lbs. milk and 625.6 lbs. fat; 60 head to select from. Inspection invited.

F. H. HARRIS Mt. Elgin, Ont.

ARE YOU GOING TO THE SHANTY THIS WINTER?
Write at once for "SHANTY SPECIAL MEDICINE" for horses.

National Stock Food Company, Ottawa, Ont.

Ayrshires of production, type and quality. I can supply Ayrshires that will please the most exacting critic. Young bulls or females of any age, the kind that swell the bank account. **R. M. Howden, St. Louis Sta., Que.** L.-D. Phone.

High-class Ayrshires—If you are wanting a richly-bred young bull out of a 50-lb. a day and over cow, imported or Canadian-bred dam and sire, write me. Females all ages. Prices are easy.

D. A. MACFARLANE, Kelseo, Que.

Maple Hill Holstein-Friesians Special offering: Bulls from 1 to 15 months old. The growthy kind that will give good service. One from a son of Evergreen March, and all from Record of Merit dams. Write for particulars. **G. W. CLEMONS, St. George, Ont.** Bell telephone.

QUESTIONS AND ANSWERS. Veterinary.

LAME HORSE.

Twelve-year-old horse went lame in hind leg. In a short time a swelling was noticed on the hock, and I was told that it was a spavin. I applied caustic balsam without result. S. W.

Ans.—If this really is a bone spavin it should be fired and blistered by a veterinarian. In horses of this age blisters seldom effect a cure, and in some cases even firing fails. The symptoms given are not sufficiently definite to enable a person to diagnose. It will be wise to have him examined by a veterinarian, and treat according to his advice. V.

SPINAL TROUBLE.

Colt was castrated in June, and in August he took distemper. Now he has peculiar action. When walking, he throws his hind legs around in a peculiar manner. First one, and after a few steps, the other. P. A.

Ans.—This action is due to disease of the spine. Some cases make a complete recovery, others do not. In mostly all cases recovery is slow, it requiring several months. Put him in a roomy, comfortable box stall, and keep him quiet. Purge with four drams aloes and two drams ginger, and follow up with one dram nuxvomica three times daily. If this causes muscular twitching and excitement, reduce the dose to forty grains or less. Feed on easily-digested, laxative food. Feed only sufficient to keep him in moderate condition. Do not try to get him fat. V.

WARTS.

Heifer is a mass of warts all over her shoulder and neck. They are in big clusters, and about the size of burs. I used caustic potash without results. G. McC.

Ans.—The treatment that we recommend for the removal of warts is to cut off all with constricted necks, and to others apply butter of antimony once daily until they disappear. Any active caustic, as acetic acid, nitric acid, sulphuric acid, caustic potash, caustic soda, or butter of antimony, if repeatedly applied, should destroy the warts. When caustic potash fails, we cannot see how other dressings would be effective. We recommend butter of antimony because it is safer for the average man to use than the more active ones. Of course, each day before the caustic is applied the corroded portion of the warts should be picked off. B. W., who asks a question this week, says that he had good results from strong vinegar applied twice daily. Some say that the repeated application of castor oil will give the desired results, but our experience has taught us to rely upon the knife or shears, or an active caustic. When warts exist in clusters, they are hard to treat, and the advisability of dissection is worthy of consideration. It would probably be wise to call your veterinarian in. V.

Miscellaneous.

PLAN OF REINS WANTED.

I would thank you to ask some of the readers of "The Farmer's Advocate" to give me a plan and description of an overdraw and reins combined, for a "puller." I saw an arrangement of that kind some years ago, but did not take much notice of it at the time. D. F. M.

Ans.—Can any of our readers give this information?

WEIGHT OF OILS.

What is the Standard weight of a gallon of gasoline, also coal oil? W. E.

Ans.—According to the Act respecting the inspection of petroleum and naphtha, Section 2, Sub-sections B and C, petroleum (including coal oil), means and includes all the refined products by distillation of rock or mineral oil, coal, coal tar, or any other mineral substance, and having a specific gravity of not less than seven pounds and seventy-five hundredths of a pound. Naphtha (including gasoline) includes all the refined products by distillation of rock or mineral oil, coal, coal tar, or any other mineral substance, and having a specific gravity of less than seven pounds and seventy-five hundredths of a pound.

37 HEAD DISPERSION SALE 37 HEAD

HOLSTEIN FRIESIAN CATTLE

at Hillview Farm, Komoka, 10 miles west of London, on the C.P.R. and G.T.R. (C.P.R. Station on farm. G.T.R. Station 1 mile.)

Wednesday, Jan. 15, 1913, at 1 o'clock sharp **STORM OR FAIR**

16 High Grade Cows, from two to eight years old, bred and safe in calf to Paul Sarcastic Lad, No. 7335, the herd header, which is included in this sale.

4 heifers, rising three years old, due to calve about the time of sale.

8 heifers, rising two years old, sired by Paul Sarcastic Lad, and safe in calf to Homestead King Colantha Abbeker 10467.

7 heifer calves, sired by Paul Sarcastic Lad and 1 bull calf sired by the herd header and out of Dinah Bell, No. 10737.

There will also be offered 1 yearling heavy draft stallion colt, sired by Masterpiece imp. [7930] dam Holdenby Housewife (imp) [325] (vol. 29 E.)

This comprises one of the best lots of dairy heifers and young cows ever offered in Western Ontario. Each individual is right in every way, some having records as 2 year olds of over 40 lbs. of milk per day and matured cows as high as 70 lbs. per day. Every animal offered will positively be sold without reserve as the proprietor intends keeping in the future nothing but registered stock. (Lunch will be provided for those from a distance.)

Write for poster giving full particulars. **D. CAMPBELL, Proprietor, Komoka, P.O., Ont.** **R. H. LINDSAY, Aylmer, Auc. JNO. McPHERSON, Coldstream, Ont., Clerk.**

MALASOFAT A BALANCED FOOD

Wholesome, nutritious, palatable, digestible. Feed your milch cows "Malasofat" and increase your profits. "Malasofat" produces maximum results at a minimum cost. Ask your dealer, or send direct for information.

DAIRY MEAL

PARK FEED MILLING COMPANY, LIMITED
17 River Street Toronto, Ontario, Canada

LAKEVIEW HOLSTEINS

To make room for the coming crop of calves, we are offering bulls of the richest breeding at farmers' prices. Grandsons of Pietertje Hengerveld Count De Kol and of Colantha Johanna Lad, all out of Record-of-Merit dams. Come now and get your choice.



E. F. OSLER, BRONTE, ONTARIO

FAIRVIEW FARM'S HERD OFFERS sons of Pontiac Koradyke

25983, the greatest sire that ever lived, and the only bull that ever sired 12 daughters that have made 7-day records above 30 pounds each. Do you want your next bull to be a brother to such cows as Pontiac Lady Korndyke (38.02), Pontiac Pet (37.67), Pontiac Clothilde De Kol 2nd (37.21), Sadie Vale Korndyke (36.20), and eight others above 30 pounds? If you do, write me for price on a son of Pontiac Korndyke. I also have sons of Rag Apple Korndyke and Sir Johanna Colantha Gladi. **E. H. DOLLAR, HEUVELTON, NEW YORK, Near Prescott.**

Summer Hill Holsteins

Would you like your next bull to be from the same sire as the heifer that holds the world's record for yearly work, and the same sire as the Champion Cow of Canada in the seven day work, and the same sire as the Champion four-year-old of Canada in the thirty day work? We have bulls of this breeding to offer whose dams have records of over 27 lbs. We have also some extra choice heifers bred to our junior herd bull whose dam has a record of 34.60 lbs. butter in seven days and 111 lbs. milk a day. Yorkshires of all ages. **D. G. FLATT & SON, R. R. No. 2, Hamilton, Ont.**

HOLSTEINS AND YORKSHIRES Last year our Holsteins, out of 12 entries, won 10 firsts and 2 seconds. Our stock bull, King Peter Tenke, shown three times and won three firsts. We have 35 head, any of them are for sale. Some choice young cows.

A. Watson & Sons, R. R. No. 1, St. Thomas, Ont. L.-D. Phone.

HOLSTEINS OF HIGHEST QUALITY

Our Holsteins have won wherever shown. Our herd is away up in the official records. They are bred from the world's best producing blood; there are none better. Let us know your wants in either males or females.

M. L. & M. H. HALEY, Springford P.O. and Sta., G. T. R. L.-D. Phone.

Woodbine Holsteins Herd headed by King Segis Pontiac Lad, whose sire's dam is the champion cow of the world. Sire's sire is the only bull that has sired five four-year-olds that average 30 lbs. each. Dam's sire is the bull that has sired two 30-lb. three-year-olds. His two great grand sires are the only bulls in the world that have sired two 37-lb. cows. Bulls and bull calves for sale. **A. KENNEDY, AYR, ONT.**

Evergreen Stock Farm High-class Registered Holsteins

For sale: A few choice young bull calves and females, all ages; good enough for foundation stock

A. E. HULET, Norwich, Ontario.

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.

80 Imported and Canadian-bred Ayrshires

I am now offering by private sale my entire herd of 80 Ayrshires, imported, imp. in dam and Canadian-bred; big producers, show stock, high-class in quality, with best breeding.

L.-D. PHONE. DAVID HUNTER, MAXVILLE, ONTARIO

Stonehouse Ayrshires

Of choicest imported stock and with imp. sires and dams. I am offering young cows, 3, 4 and 5 years of age; a grand bunch of imp. yearling heifers, and a particularly good pair of young bulls.

L.-D. Phone. HECTOR GORDON, Howick, Que.

Ayrshires and Yorkshires—We now offer at bargain bull calves dropped in July, 1912. All bred from (imp.) sire and from either dams with good records, or their daughters either imported or home-bred. Some choice February pigs: a'so young pigs.

Alex. Hume & Co., Menie, Ont.

Please Mention The Advocate

Cattle and Sheep Labels

A cent spent now may be the means of saving you three calves next fall. Send your name and address for free sample and circular. It is no trouble, and you can judge them for yourself. Write to-day.

F. G. JAMES, Bowmanville, Ont.

Farnham Oxfords and Hampshires

FLOCK ESTABLISHED IN 1881.

Present offering: A lot of first-class ram lambs of both breeds, by imported champion rams. Also a number of yearling and older ewes and ewe lambs of both breeds. Prices reasonable.

Henry Arkell & Son, Arkell, Ontario.
Long-distance phone in house.

Dorset Ewes

In lamb. Ewe lambs. Chester White Boars about five months old. One Holstein bull 12 months old. All of the choicest breeding, and will be sold at a bargain to make room.

R. H. HARDING, THORNDALE, ONTARIO
Mapleview Farm.

ALLOWAY LODGE

Southdown Sheep

Aberdeen - Angus Cattle

A few young bulls and heifers that are right in breeding and quality, will go at farmer's prices.

ROBT. McEWEN, Byron P.O.
Phone. R.R. Stn. London.

SPRINGBANK FIFTEEN EWE LAMBS OXFORDS!

by imported sires. Prices right. Order quickly.

WILLIAM BARNET & SONS,
LIVING SPRINGS, ONTARIO.

Oxford Down Sheep, Shorthorn Cat Heads

Present offering: Lambs of either sex. For prices, etc., write to

John Cousins & Sons, Harriston, Ont.
Buena Vista Farm.

Quality Oxford Downs

Imp. and prize-winning stock. 1 and 2 shear rams and ewes, ram and ewe lambs; many winners among them, the highest types of the breed.

E. BARBOUR, Erin P.O. & Sta. L.D. Phone.

Maple Grove Yorkshires & Holsteins

Eight young boars fit for use; good, long, straight, growthy ones, and young pigs of various ages and both sexes, sired by S. H. Jack (28315) (imp.), for three years champion at Toronto. A few beautiful sows, big enough to breed.

One two-year-old Holstein bull—a show animal that has few equals—to be sold very cheaply; out of a heavy milking dam. One yearling Holstein bull, a good one, sired by Dutchland Olantha Sir Abbecker, and out of a grand young cow; also a heifer calf, just lately dropped, a beautiful, straight calf, out of the same dam; also grade heifer, calves and yearlings. All will be sold at bargain prices.

H. S. McDIARMID, Fingal, Ont.
Long-distance phone. Shedden Station.

Large White Yorkshires

Have a choice lot of sows in pig. Boar ready for service and young pigs of both sexes supplied not akin, at reasonable prices. All breeding stock imported, or from imported stock, from the best British herds. Write or call on

H. J. Davis, Woodstock, Ont.
C. P. R. and G. T. R. Long-distance phone.

Newcastle Tamworths and Shorthorns

Present offering: Seven boars from 6 to 10 months old; boars and sow pigs 6 weeks to 4 months; sows bred and others ready to breed, from such noted stock as Colwill's Choice, Canada's champion boar, 1904, '02, '03 and '05, and Imp. Cholderton Golden Secret. Also a few choice Shorthorn heifers in calf; beef and milk combined. Show stock a specialty. Prices right.

L.-D. Phone. A. A. Colwill Newcastle Ont.

Registered Tamworths.

We are offering boars ready for service, sows bred and ready to breed. Young pigs all ages, from six weeks up.

W. W. GEORGE, Crampton, Ont.

Duroc Jersey Swine AND JERSEY CATTLE.

Grand stock, either sex, constantly for sale. Price reasonable. MAC CAMPBELL & SONS, Northwood, Ontario.

Morrison Tamworths and Shorthorns

Present offering: Four dandy bull calves that will make show winners, from 6 to 10 months old.

Choice Tamworths, both sexes.

Chas. Currie, Morrison, Ontario.

"LACTOLINE" and "CEREAINE"

Best all round TONIC for every domestic animal. Have them direct from

THE NATIONAL STOCK FOOD COMPANY,
Ottawa, Ontario

SWINE OF ALL BREEDS FOR SALE.

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.

QUESTIONS AND ANSWERS.

Miscellaneous.

FLOUR OR OIL CAKE.

Which is of the better feeding value, low-grade flour or oil cake, both at \$1.70 per cwt.?

H. S.

Ans.—For pigs, low-grade flour is probably better value at the price quoted. For cows, we should prefer the oil cake, though, of course, a good deal depends upon the rest of the ration.

SCABBY COLT.

I would like to ask your advice in regard to a colt one year old last May. She has been on good pasture, and is in good condition, but her back is almost covered with small scabs. They are not very tight on the skin. The comb takes a good many of them off, but each one brings a small bunch of hair with it. What is the trouble, and what the cure? Would it be wise to clip her? She is in a fairly warm stable.

J. H.

Ans.—This may be eczema. See answer to S. C., "Itchy Mare," in this issue. Give a smaller dose of arsenic than is indicated in that answer; about one-half ounce.

ITCHY MARE.

Have a mare eight years old that is troubled with some skin disease. She rubs and bites herself in the stable. Was not apparently troubled with it while running out in pasture during the summer or fall. Last winter and spring she was afflicted with it, and now, since we have been stabling her, she is again in discomfort. She eats well, but does not thrive as I think she should. Will you give a remedy?

S. C.

Ans.—Are you sure the mare is not troubled with vermin. Examine her for this, and if lice are found, give a thorough treatment with one of the reliable insect powders. If no lice are present, the trouble is likely eczema. This is sometimes caused by too high feeding. Treatment consists in clipping and giving a thorough washing with warm, strong, soft-soap suds applied with a scrubbing brush, and rubbing with cloths until dry. Then dress well twice daily with a solution of corrosive sublimate 25 grains to a quart of water. Give her internally one ounce of Fowler's Solution of Arsenic twice daily every alternate week as long as necessary. Of course, the clipping and washing should be done in mild weather, and the mare should be kept in a warm stable and blanketed afterwards. Be sure to rub dry.

BUILDING A BARN.

I am intending to build a barn in the spring, and have the timber, in spruce, on the farm. What kind of a barn would you think is best and cheapest to build, a timber frame or plank, and what size of barn? I thought, from different ideas gleaned from farmers in this country who think they know, that perhaps the best size would be 40 x 40, and 18 feet high, or 40 feet long by 44 feet wide, 18-foot posts. I have been told that a barn 44 feet wide is a very handy barn for storing straw put in by threshing machine. My idea is not to build too large a barn in length just now, as I do not need it yet for some years, but the thing is, I want to be able to make a good barn out of it by adding to the length some day. If you think a plank barn would be the best, kindly give me a list, through your paper, of the material needed, and how many bents, and also the same in the timber barn, should you think it the best.

T. C. G.

Ans.—We are not in a position to state which is the best barn for you to construct. We do not know what kind of farming you follow, whether you keep stock or not, or how big you intend to make the barn in the end. From data given by A. A. Gilmore, on page 2103 of our December 5th issue, you will be able to figure on the requirements of a plank frame structure. Your carpenter or contractor, after you have explained the matter to him, will be in a far better position than we are to give you details. Either style of barn properly constructed should be satisfactory.

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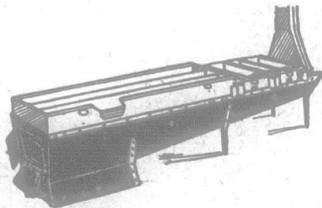
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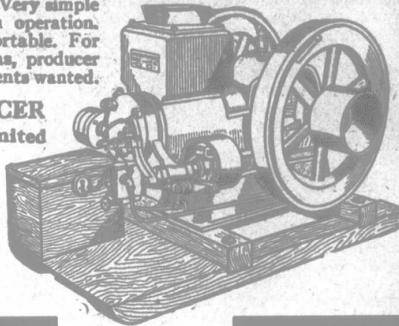
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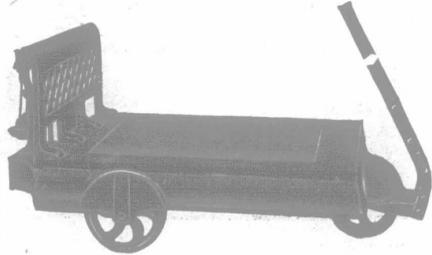
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is worth going after a good long ways."

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"This roof is so good that the Canadian Government Bernier Arctic Expedition used it for the Arctic regions. Here is immense cold and sweeping winds and ice and poor foundations to stand up under. The North-West Mounted Police use it. The Canadian Government has found no better roof for them. My roof is a good roof for the Arctic Circle. It is a still better roof for milder climates elsewhere."

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"Not only that, go down to South Africa. Go to the farms there. Go around Port Elizabeth, or Durban, or up in the Transvaal. You'll see my roof there. People will go around the world for my roof, because it is the best roof in the world. It will last 100 years. People use my roof in Japan—an earthquake country. They get it from me. They have searched the world for a roof that would stand earthquake straining. My roof will."

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get it. I stuck to it just as carefully as I had stuck to bettering my roof. And I got it at last. That's the metal I use to-day."

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"My roof will not rust to the leaking point within 100 years. It saves the barn and its product from the weather. It saves the barn from thaw-water and lodged ice, because the seams cannot be gouged apart. It saves the barn from fire, because sparks cannot burn it. A burning stick on the roof will not harm it, or harm the barn under it. Lightning cannot burn a barn with my roof on it. My roof is a perfect conductor of electricity. My roof has 'give' in it to defy heat and frost, and protects in winter and summer. It protects even though the rafters sag. Wind cannot blow my roof off a barn. This is because it is a ventilated roof. It keeps your barn ventilated and stands the heaviest winds safely."

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