

SEPTEMBER 30, 1920

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE SUCCEED

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

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1917.

LV.

LONDON, ONTARIO, OCTOBER 7, 1920.

No. 1463



BACK AGAIN

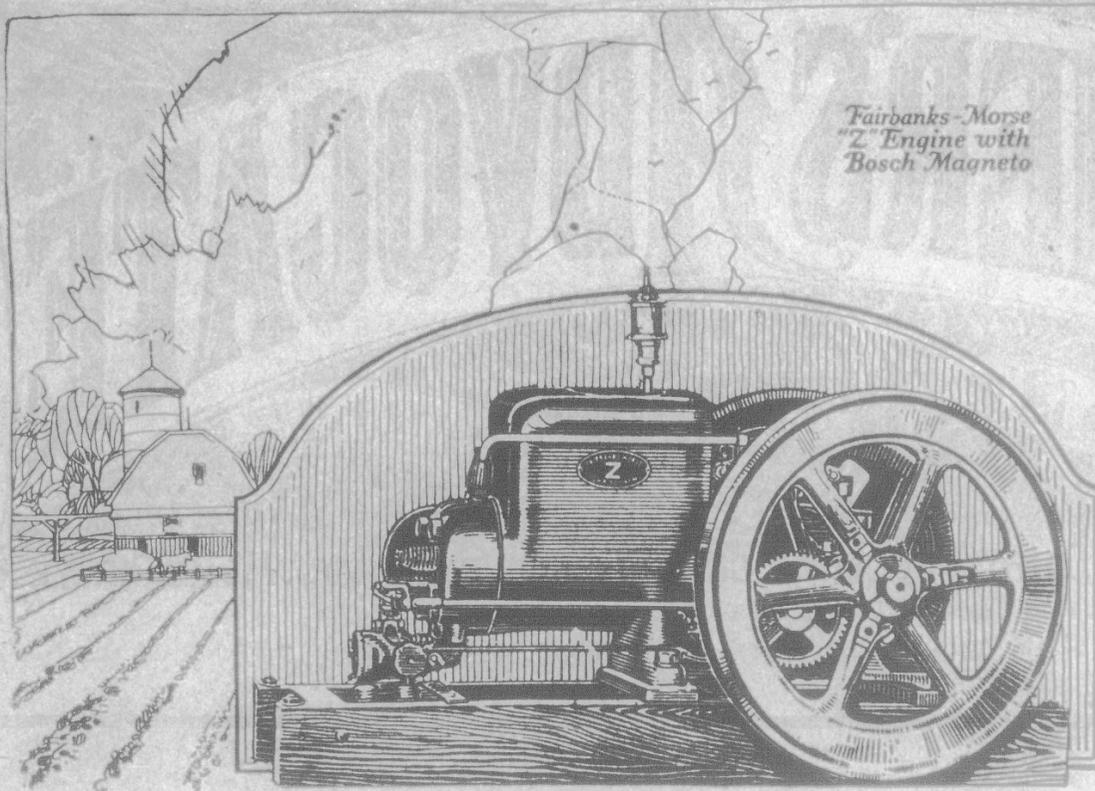
THE removal of government control of milling brings to your table once more the delicious white bread, the light, white cakes and flaky pastry of pre-war days and now possible when you use---

"HIGH PATENT"

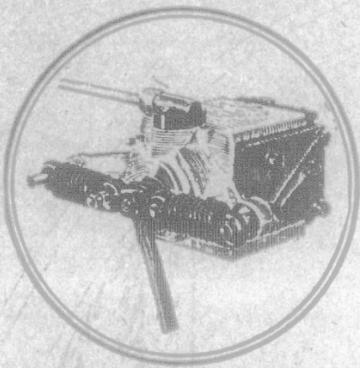
PURITY FLOUR

For All Your Baking

Western Canada Flour Mills Co., Limited



Fairbanks-Morse
"Z" Engine with
Bosch Magneto



SINCE the "Z" was put on the market, over 250,000 farmer buyers have pronounced it the greatest farm engine value. We felt the same way about it. But following our policy to improve our product whenever possible, we are highly pleased to announce a new FAIRBANKS-MORSE "Z" WITH BOSCH MAGNETO—high-tension ignition which adds the one possible betterment. Call on the "Z"

dealer near you—see this world's greatest engine—understand the full meaning for you of the engine service which all Bosch Service Stations throughout Canada give, in co-operation with every "Z" dealer, to every "Z" Engine buyer.

MADE IN TORONTO, CANADA, BY

The Canadian Fairbanks-Morse Co., Limited.

Halifax St. John's Quebec Montreal Ottawa Toronto
Hamilton Windsor Vancouver Winnipeg Saskatoon

GILSON SILO FILLERS

THE GILSON SILO FILLER is the one blower which can be successfully operated with as little power as 4 h.p. There is a Gilson Silo Filler for every purpose—for the individual farmer, for the syndicate, and our large capacity machine for the custom jobber.

We guarantee every Gilson Silo Filler to cut and elevate more ensilage with the same power than any other blower cutter.

Will Silo Filling Time find you ready?

Write for catalogue to-day.

Gilson Mfg. Co. Ltd.
300 York St., Guelph, Ont.



FARMERS!

Baled Shavings

Ask for delivered price your station. BUY NOW.

John B. Smith & Sons Limited, Toronto
Established 1851

SAVE DOLLARS WITH A GILSON FEED GRINDING OUTFIT

DON'T throw away your Dollars by feeding whole grain. Get a GILSON 100% SERVICE FEED GRINDING OUTFIT. It will pay for itself in one season. Investigate the Gilson before you buy. Made in Canada. Buy direct from the Manufacturer. We are not jobbers or middlemen. All sizes for every requirement. Special Introductory Offer to the first purchaser in every locality. Write us for large catalog and full particulars to-day.



GILSON MFG. CO. Ltd.
919 York St., GUELPH, ONT.

Northern Ontario

The Great Clay Belt of Northern Ontario lies one degree south of Winnipeg, and contains millions of acres of virgin soil fit for mixed farming, which may be had by return soldiers and sailors free; to others, 18 years and over, 50 cents an acre. Here, right at the door of Old Ontario, a home awaits you. For free information write:

HON. MANNING DOHERTY
Minister of Agriculture

H. A. MACDONELL
Director of Colonization

Parliament Buildings, TORONTO

THIRTY-SEVENTH ANNUAL
ONTARIO PROVINCIAL

Winter Fair

GUELPH

Dec. 3-9, 1920

\$30,000 in prizes for
Horses, Cattle, Sheep,
Swine, Seeds, Poultry
and
Judging Competition

Prize lists and entry forms may be secured from the secretary.

PRESIDENT:

John Gardhouse, Weston

SECRETARY:

J. E. RETTIE,

Parliament Buildings,
TORONTO, Ont.

TOWERS FISH BRAND REFLEX LONG COATS

"Takes the Wet Out of Rain."

Fish Brand Reflex Long Coats

THIS is a coat suitable for freight handlers, delivery men and all outside workers. Made of heavy material—double throughout, finished with corduroy lined collar—has inner cuffs in sleeves and inner breast piece. Made with the celebrated Reflex Edges, so that when the coat is buttoned, rain is prevented from running in at the front.



TOWERS FISH BRAND

Tower Canadian Limited
Toronto, Halifax, Vancouver

Cost to Coast Service

GRAND TRUNK RAILWAY SYSTEM

The Double Track Route

BETWEEN MONTREAL, TORONTO, DETROIT AND CHICAGO

Unexcelled Dining Car Service

Sleeping Cars on Night Trains and Parlor Cars on Principle Day Trains.

Full information from any Grand Trunk Ticket Agents or C. E. Horning, District Passenger Agent, Toronto.



BOOK ON DOG DISEASES, And How to Feed

Mailed free to any address by the Author,

America's

Pioneer

Dog

Remedies

H. Clay Glover Co. Inc.

118 West 31st Street, New York, U.S.A.

SEVENTH ANNUAL
TARIO PROVINCIAL

Winter Fair
GUELPH

Dec. 3-9, 1920

0,000 in prizes for
Cattle, Sheep,
Poultry
and
Judging Competition

Lists and entry forms may be
secured from the secretary.

PRESIDENT:
John Gardhouse, Weston
SECRETARY:
RETTIE,
Parliament Buildings,
TORONTO, Ont.

ERS FISH BRAND
EX LONG COATS

akes the Wet Out of Rain."
Grand Reflex Long Coats

is a coat suitable
weight handiera,
ery men and all
orkers. Made of
aterial—double
ut, finished with
ined collar—
cuts in sleeves
t breast piece
h the celebrated
ies, so that
coat is but
in its pro-
in run-
the



Canadian
imited
o, Halifax,
ancouver

ND TRUNK RAILWAY
SYSTEM

ne Double
ack Route

WEEN MONTREAL
RONTO, DETROIT
AND CHICAGO

led Dining Car Service
ng Cars on Night Trains
or Cars on Principle Day

Information from any Grand
Ticket Agents or C. E.
District Passenger Agent,

BOOK ON
DOG DISEASES
And How to Feed

Mailed free to any
address by the
Author,

H. Clay Glover Co.
Inc.
118 West 31st Street,
New York, U.S.A.



O.V. BRAND
OTTAWA VALLEY BRAND
TRADE-MARK
Wool

Pure Wool Underwear

ALWAYS strong and durable—soft and com-
fortable. A favorite for fifteen years with
the active out-door worker. Made in medium
and heavy weights and every garment sold with
a satisfaction guarantee.

O.V. Underwear can be had in combination or
two-piece suits at moderate prices. Ask for it by
name and enquire about **Velvoknit**, the super-
fine pure wool O.V. line with the **flat-lock** seam.

Your dealer has O.V. Brand or can secure
it without difficulty from his wholesaler.

MADE IN CANADA

(3)



Westco
Tankless
Water System

Means Water for the Farm Kitchen

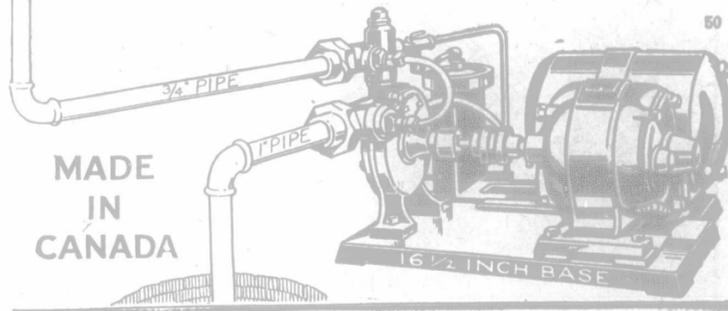
What could be more convenient than running
water in the kitchen of a farm or rural home?
Turn the faucet over the sink—the pump starts,
and at once you have a vigorous flow of fresh
water right from the cistern or other source of
supply. Turn the tap off, and at once the pump
stops!

For farms and rural homes with electricity available,
whether from farm light plant or from central station
the Westco is unquestionably the most economical to buy,
install, maintain, and operate.

It requires no storage tank, and has no belt, no valves,
no gears. The pump has only one moving part, is self-
lubricating, vibrationless, noiseless. Write us to-night for
particulars.

Made in larger sizes for special requirements.

Westco Pumps, Limited
707 Yonge Street Toronto



MADE
IN
CANADA



**Are You Getting
the Most out of
Your Tractor
?**

You are not, unless you have
perfect lubrication. A smooth-
running motor means more
power and longer use.

En-ar-co
SCIENTIFIC REFINING

The Oil of a Million Tests

gives that perfect lubrication that en-
ables your tractor to give you its best.
Thousands of farmers are finding it a
real friend and money saver.

White Rose Gasoline
Clean...Uniform...Powerful
National Light Oil
For Tractors, Lamps, Stoves
En-ar-co Motor Grease
For Differentials, Gears, Transmissions
Black Beauty Axle Grease
Removes the Grind and Squeak

Order En-ar-co Products from your local dealer.
If he hasn't got them, write us direct.

Send for FREE AUTO GAME

A fascinating game in which autos
compete in a cross country race.
Sent FREE to any auto, tractor,
motor boat or engine owner who will
fill out the attached coupon and
mail it to us.

CANADIAN OIL COMPANIES
Limited

Branches in 35 Cities.
General Offices: Toronto, Ont.

**CANADIAN
OIL COMPANIES
LIMITED**

1557 Excelsior Life Bldg.
Toronto, Ontario

Send me En-ar-co Auto Game
free. Enclosed find three cent
stamp for postage. Also give
nearest shipping point and
quote prices on items marked.

I use.....gals. Gasoline per yr.
I use.....gals. Motor Oil per yr.
I use.....gals. Kerosene per yr.
I use.....gals. Tractor Oil per yr.
I use.....lbs. Motor Grease per yr.
I use.....lbs. Axle Grease per yr.

Name.....
Post Office.....
Range.....Section.....Tp.....
County.....Province.....

I own.....(make of auto,
tractor or motor boat.)
(Be sure to give make of auto, tractor or motor
boat, or game will not be sent.)

Am at present using.....Motor Oil.
I will be in the market again for more oil about
.....and you may
quote me on.....gals. En-ar-co Motor Oil.

"Marathon"
STEEL RANGES



A high-class modern range. Body of
extra heavy polished steel and protected
with sheets of 1/8" asbestos mill board.

Hand-riveted throughout, to insure
tight-fitting joints. Regulating oven
with balanced drop door.

The bottom is strengthened by
braces to avoid buckling or warp-
ing. Can be used for wood or coal.

An attractive, efficient range
Guaranteed Davidson durability

The Tho Davidson Mfg Co Limited

Head Office: Montreal
Branches: Toronto & Winnipeg
Steel Foundry Division:
Lachine Canal, Turcot



DAVIDSON

Price sept 1914 \$30.45
 Price sept 1920 \$31.05
 Increase 1 9/10%

GOODYEAR 30 x 3 1/2 HEAVY TOURIST

One of the chief sources of the additional value offered in Goodyear Tires is the savings effected through Goodyear's system of distribution.

It is a system made possible by the enormous sale of Goodyear Tires.

To several thousand selected Canadian dealers Goodyear sells tires direct, and the money that would go as profit to jobber is largely saved.

Shipments to distributing points are so large that we make the saving of carload freight rates. Orders from dealers are large enough to reduce clerical expense to a small factor.

Such efficiency in practice and the resulting increased business has reduced expense-per-tire to a minimum.

The saving-per-tire between fac-

tory and dealer is *approximately* \$2.00.

In total this saving represents hundreds of thousands of dollars turned back into the product to heighten quality and keep prices down.

So a 30 x 3 1/2 Goodyear All-weather Tread Tire with Goodyear Heavy Tourist Tube costs you to-day only \$31.05. Six years ago it cost you \$30.45. An increase of only 1.9 per cent, while most commodities and labor increased over 100 per cent.

And Goodyear Service Station Dealers help you get all the mileage that is built into the tires.

The resulting low cost-per-mile of Goodyear Tires has built the largest tire sales in the world.

The Goodyear Tire & Rubber Co.
 of Canada, Limited.

GOODYEAR
 MADE IN CANADA

DELCO-LIGHT

"Electricity for every Farm"

WHEN Canadian farmers buy an automobile, a truck, a tractor—any piece of farm equipment—they naturally look behind the product.

They want to know something about the institution that sponsors it.

We gladly invite you to judge Delco-Light by that same standard.

The Delco-Light institution has grown to vast proportions.

**Valve-in-head Motor
Runs on Kerosene**

Delco-Light factories cover over thirty acres of floor space. In four years the Delco-Light pay-roll has grown to over three millions of dollars annually. Each year has seen the number of our employees almost doubled. A tremendous investment is involved in plant and modern machinery.

Delco-Light sales and service organizations cover the continent. In every important centre there is a Delco-Light representative—over 2,000 in Canada and the United States.

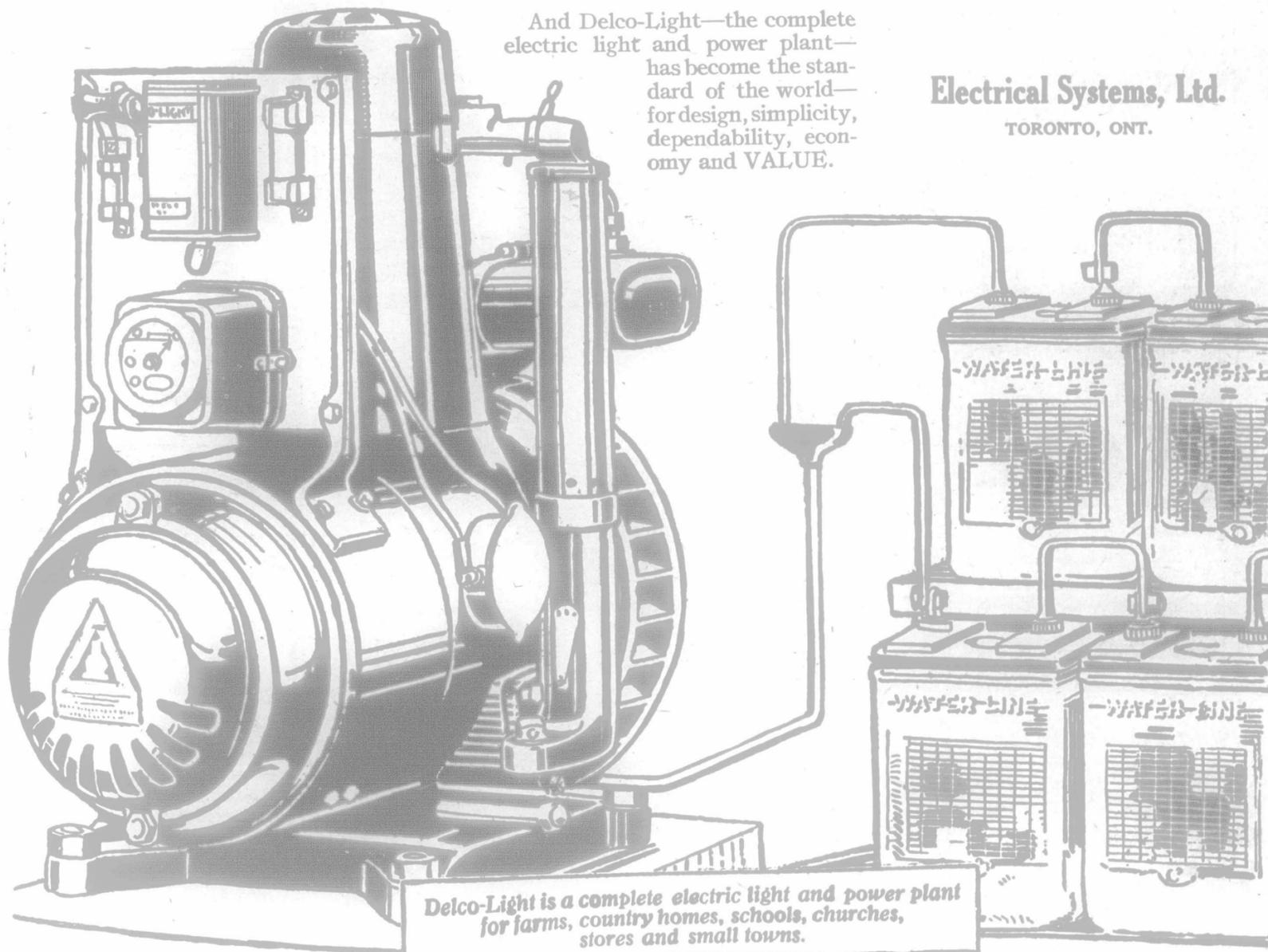
And Delco-Light—the complete electric light and power plant—has become the standard of the world—for design, simplicity, dependability, economy and VALUE.

100,000 satisfied users endorse and recommend it in all parts of the world.

Therein lies your guarantee of the quality built into this world-famed plant—the reason for its amazing value.

Big production has enabled us to bring—through Delco-Light—the convenience, economy, and SAFETY of electricity for light and POWER to every rural home.

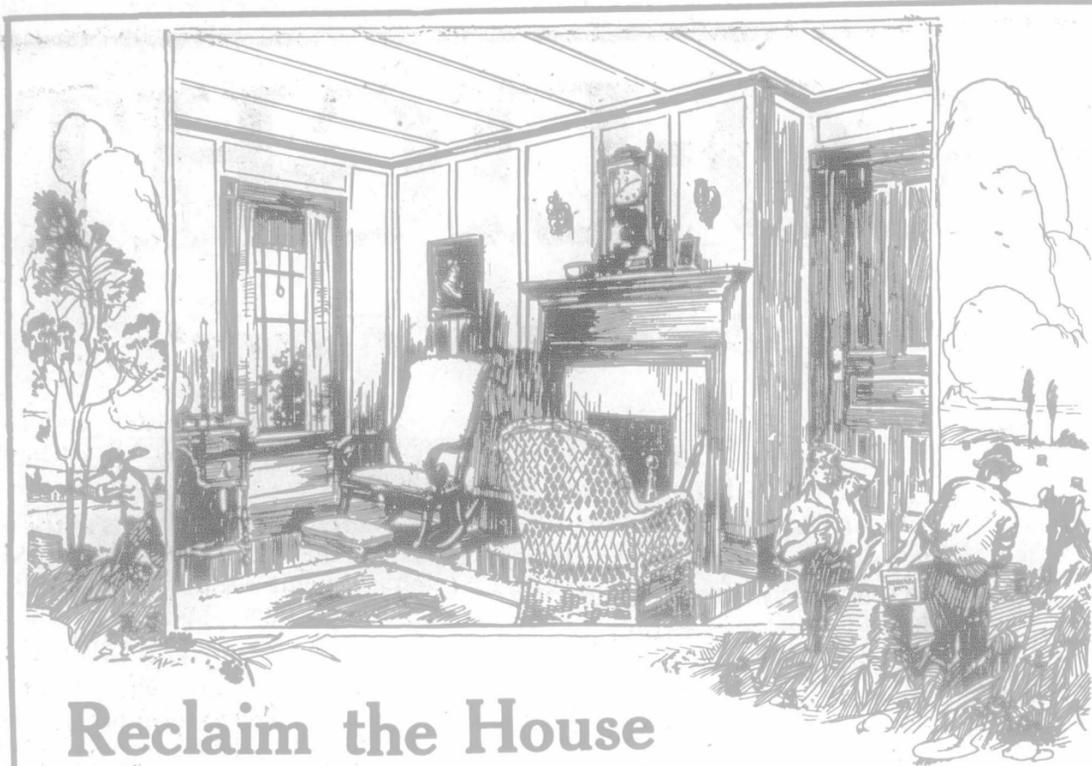
Write for catalog, prices and further interesting Delco-Light details.



Delco-Light is a complete electric light and power plant for farms, country homes, schools, churches, stores and small towns.

Electrical Systems, Ltd.
TORONTO, ONT.

DELCO-LIGHT COMPANY, Makers of Delco-Light Products, DAYTON,



Reclaim the House as well as the Land

While you're reclaiming the land don't neglect the house. One is as important as the other.

Reclaim the plastered walls and ceilings. They show the first signs of deterioration. They are sure to crack and just as sure to fall.

Cover them up completely with Beaver Board, the kind of wall and ceiling material that never needs replacing. Beaver Board is made in large, flawless panels that are nailed directly over the old surfaces. Its application is so simple that you can easily do the work yourself. You can reclaim waste spaces about the house too. New

houses and additions take the same treatment because Beaver Board can be nailed to new studding as well as to old walls.

Beaver Board is a true lumber product. It is built up into large, flawless panels from fibres of white spruce. It's as easy to get as it is easy to use. Your nearest lumber yard will deliver it or you can take it out on your next trip.

Just look for the Beaver Board trademark plainly printed on the back of every panel. Write to-day for a free copy of our helpful book, "Beaver Board and Its Uses."

THE BEAVER COMPANY, LIMITED
505 Beaver Road, Thorold, Ont.

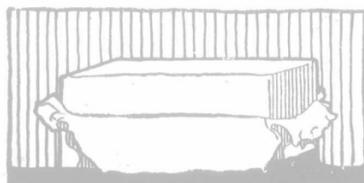
Timber Operations at Frederickhouse and Charlton, Ont.
Mills and Plants at Thorold and Ottawa, Ont.
Distributors and Dealers Everywhere.

BEAVER BOARD

You can't expect Beaver Board results unless this trademark is on the back of the board you buy.



FOR BETTER WALLS & CEILINGS MADE IN CANADA

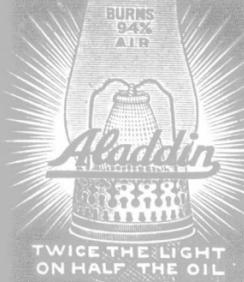


Good butter is assured with

Windsor Dairy Salt
Made in Canada
THE CANADIAN SALT CO., LIMITED

C315

WHITE LIGHT FROM COAL OIL Beats Gas or Electric



Agents Wanted

Make your home bright and cheerful, saving one-half on oil. Government and leading University tests prove this wonderful new Aladdin nearly five times as efficient as best round wick open-flame lamps. Burns 70 hours on one gallon common kerosene (coal-oil). No odor, smoke or noise, no pumping up, easy to operate, won't explode. WON GOLD MEDAL. GUARANTEED. Prove for yourself, without risk, by

TEN NIGHTS FREE TRIAL that Aladdin has no equal as a white light. If not satisfied, return at our expense, \$1000 given anyone showing us an oil lamp equal in every way to this NEW MODEL ALADDIN.

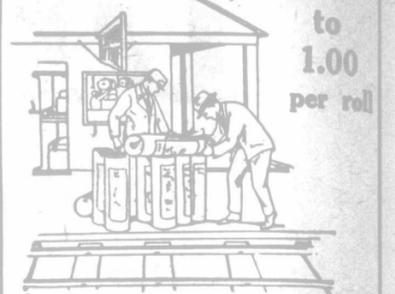
GET YOURS FREE! We want one user whom customers can be referred. In that way you may get your own without cost. Be the first and write us quick for 10 DAY FREE TRIAL OFFER and learn how to get one FREE.

MANTLE LAMP CO., 233 Aladdin Building, Montreal or LARGEST COAL OIL MANTLE LAMP HOUSE IN THE WORLD Winnipeg. Make big money spare or full time. Our easy selling plan makes experience unnecessary. We start you without money. Sample sent for 10 days trial and GIVEN FREE when you become a distributor.

PATENT SOLICITORS—Fetherstonhaugh & Co. The old-established firm. Patents everywhere. Head Office: Royal Bank Buildings, Toronto, Ottawa Office: 5 Elgin Street. Offices throughout Canada. Booklet free.

PATENTS Canadian, Foreign, Booklets Free. EGERTON R. CASE, M.C.I.P.A. (Lond.) 10 Adelaide East TORONTO

ROOFING SAVE 50c to 1.00 per roll



YOURSELF THE JUDGE

We ship on approval to any station where there is an agent. We save you 50c to \$1.00 a roll on Ready Roofings of guaranteed quality, yourself to be the judge after inspecting the Roofing at our risk. Samples free by mail, also free catalogue with prices and full information. Send letter or post card, "Send me free samples and price of Ready Roofing and particulars of Free Delivery Offer."

THE HALLIDAY COMPANY, Limited,
Factory Distributors,
HAMILTON, CANADA.

FREE

Get FREE sample of this marvelous bait—only bait successfully holding scent under water and snow. Brings larger catches. Thousands will say Silberman and Silberman Wonder Bait the greatest friend a trapper ever had. SILBERMAN will pay highest prices again this year. 54 years satisfying customers brought us international fame as the House with a Million Friends and Trappers Seal of Approval. FREE Sample of Bait, Secrets of the Woods, Bargains for Hunters and Trappers. Also latest price list. Just send postal. **S. SILBERMAN & SONS** Leading House in the Best Market 141 Silberman Bldg., Chicago, Ill.



BAIT

DE LAVAL CREAM SEPARATORS

98% of the separators used in the world's creameries are De Laval. The only separator the creameryman can afford to use is surely the only one the farmer can afford to buy. The De Laval Company, Ltd. Montreal Peterboro Winnipeg Edmonton Vancouver

Steel Rails

For Reinforcing Bridges and Barn Driveways. Cut any Length. **JNO. J. GARTSHORE** 58 Front Street, West - TORONTO

FOUNDED 1866

ROOFING
SAVE 50c
to
1.00
per roll



BE THE JUDGE

an approval to any station
is an agent. We save you
a roll on Ready Roofings
of guaranteed quality,
yourself to be the judge
after inspecting the Roof-
ing at our risk. Samples
free by mail, also free
prices and full informa-
letter or post card. Send
amples and price of Ready
particulars of Free De-

DAY COMPANY, Limited,
ory Distributors,
ON, CANADA.

EE

E sample of
us bait — only
fully holding
r water and
larger catches.
will say Silber-
erman Wonder
atest friend a
ad.

A N will pay
again this year.
ing customers
ernational fame
with a Million
rappers Seal of

of Bait, Secrets of
ds, Bargains for
ppers. Also latest
send postal.

AN & SONS
the Best Market
Chicago, Ill.



LAVAL
CREAM
SEPARATORS

of these separators used
in the world's cream-
eries are De Laval.
nly separator the
ryman can afford to
urely the only one the
can afford to buy.
e Laval Company, Ltd.,
Peterboro Winnipeg
nton Vancouver

el Rails
reinforcing Bridges
Barn Driveways.
Cut any Length
J. GARTSHORE
street, West - TORONTO

The Farmer's Advocate and Home Magazine

PERSEVERE
AND
SUCCEED

ESTABLISHED
1866

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875

LV.

LONDON, ONTARIO, OCTOBER 7, 1920.

1463

EDITORIAL.

Save the brood sows. Canada is already short of breeding stock.

Select a flock-header early and be satisfied with nothing but the best.

Freight and passenger rates are the exception nowadays. They are going up when other things are coming down.

Before putting the laying flock into winter quarters clean the poultry house thoroughly and spray or wash with a good disinfectant.

Early-hatched pullets should now be in winter-laying quarters to get them accustomed to their new surroundings before they begin laying.

If the Board of Commerce can bring down the cost of purchased feeds to the dairymen it will then be more logical to discuss decreased cost of milk for consumers.

Do not forget the two big plowing matches that are to be held at Hamilton and Macdonald College, Que., this month. Every Quebec and Ontario farmer should, if possible, attend one of these big plowing and farm machinery demonstrations.

A pen of ten Barred Plymouth Rocks in the egg-laying contest at the Dominion Experimental Farm, Ottawa, laid 1,693 eggs in 44 weeks ending September 3. Higher egg yields from the farm flock will reduce the cost of production and increase the profits.

There is no pest that cannot be controlled if properly combated, and the European corn borer is no exception. However, the borer is a very undesirable visitor, and every effort should be put forth to make its stay brief and its damage slight.

The milk producers of Minneapolis and St. Paul, base the price of the milk they supply to their cities on the prices of butter and cheese, adding to the average prices of these products a differential which varies with each month of the year. This method of determining milk prices is more fully discussed in another column of this issue.

Oxford County will become famous for young judges as well as for dairying. The recent championship judging competition, held at Woodstock and reported in the School Department of this issue, is a feature worthy of wide application. This early training cannot help but develop good live stock judges and live stock husbandmen.

Growers of fruit in the tender-fruit areas of Ontario deserve more consideration at the hands of the railroads than they have yet received this year. Fruit such as peaches, when harvested should get to market as quickly as possible. In many instances this year growers have been forced to take fruit home from the shipping station for lack of cars. Consumers hear of this and blame the farmer for wasting fruit.

Representative Britishers while with the Imperial Press Party in Canada, boldly admitted that it was competition for the feeder cattle of England and Ireland that they feared more than disease in Canadian cattle. This was brought out in response to a request for a removal of the restrictions against Canadian store cattle. When the facts are made known a solution of the problem will be more easily accomplished.

The European Corn Borer.

The European corn borer, which is an exceedingly serious pest in the land of its origin, has secretly invaded Ontario, and the infestation in some of the Lake townships is quite severe. Welland County and Elgin County have apparently provided the gateways for its entrance, but townships more inland have a slight spattering of these undesirable foreigners. Whether the European corn borer becomes a very great menace to corn production in Ontario depends altogether upon the effort made to combat or suppress it. The United States is spending thousands of dollars in order to keep the European corn borer confined to a couple of the Eastern States, and bar it from the great fields of the corn belt. It would be not only serious for us but serious for the whole continent should the borer get beyond control here and leap over the border to the corn fields of the Union. Farmers and all engaged in agriculture, either in a practical or professional way, should be on the watch for the pest, and our Governments should not deal in a niggardly manner with the job they now have on their hands. It would be a serious blow to the prestige of our entomological service should they not be able to curtail the ravages of this pest and prevent its further distribution. In order to handle the European corn borer and protect the corn-growing industry in Ontario, it requires prompt and energetic action combined with investigational and research work of the highest and most advanced character. This matter should be taken seriously by all, and the Provincial Department of Agriculture should do its part in educating growers as to the nature and seriousness of this pest.

Harmony in the Home.

Harmony among workers, harmony in industry, harmony in all the multitudinous branches of society is one of the best assets a nation can have, but in no sphere of human activity is harmony more necessary or desirable than in the home. It is only a home in name where parents do not make confidants of each other, and where parents, sons and daughters are not involved in a frank, harmonious, human partnership. There is a tendency in some farm homes to be rather cynical with the boys and girls, even after they have approached manhood and womanhood, and this is just the time when parents should be complaisant, frank in their discussions, kind in their requirements, and above all reasonable and considerate. Parents should not cease to command the respect of their children, nor are we advocating that ill-advised sort of leniency which encourages youth in wrong-doing. Parents should remain, at all times, masters of the situation, but a kind, though stern, reprimand will accomplish far more than an acrimonious rebuke. Bitter, sarcastic words cut to the heart and leave a wound that is hard to heal, while remonstrations tempered with kindness engender respect and, in the majority of cases, are rewarded with loyalty and obedience.

Many a promising partnership of father and son has been wrecked because of harsh expressions or ill-tempered words. Hard work and long hours do not conduce to a smooth and amiable temperament, and many people through excessive toil develop a nervous irritability that is unpleasant, to say the least. The younger member of the firm may endure the work and retain the complaisant outlook on life more easily than the parent, and for this reason the son should overlook an occasional unpleasant remark. Nevertheless, young and old alike should endeavor to restrain themselves and remember that "Kind words are more than coronets."

Very frequently parents make enormous sacrifices, and labor almost to the breaking point, in order to leave their sons comfortably provided for, or established on a farm of their own. The motives are the very

highest and conceived in parental love and anxiety for their children, but the outcome is too commonly disappointing. Long hours for both young and old rob the parents of needed rest and the sons of the pleasure and recreation to which every young person is entitled. The incessant toil engenders irritability or moroseness, alienates affections and undermines the happiness and well-being of the home. Under just such circumstances as these many young men become sour toward farm life and migrate to the city, when the unpleasantness of it all grew out of a determined and almost super-human effort on the parents' part to provide generously for their heirs.

Farm life at its best is strenuous and exacting, but it can be made almost unbearably so by unremittingly banishing pleasure and worshipping the god of toil. Youth, as a rule, enjoys work and finds pleasure in it, but the young man and the young woman require sport and recreation to take the rough edges off of life. When farm life is made a grind it is only reasonable that the boy should develop a dislike for it. No better heritage can be left to a son than a sound mind in a sound body, a love for work in general and his own occupation in particular, and fond remembrances of a happy home, the like of which he himself shall strive to duplicate.

The Price Peak Reached.

If the signs of the times are not misleading, the peak of high prices has been reached and they shall soon, no doubt, be sliding down the other side of the hill at a speed which only future conditions can regulate. The automobile business has become a fairly good index to industrial conditions generally. Several large manufacturers in this line have reduced their prices, but manufacturers and distributors of necessities are apparently making a desperate effort to keep prices up when conditions demand that they be reduced. It is repeatedly rumored that in many lines goods are not moving as rapidly as their makers would like to have them do, especially as large stocks are on hand and the banks are rather rigid in regard to loans.

It has been customary to attribute much of the high cost of living to the prices of food materials. Now that these have dropped considerably it will probably be in order for labor to ease up in its demands, which will undermine the manufacturers' arguments about the high cost of production. Food which farmers have to sell and the raw material they have to dispose of is plentiful and is now moving, in many instances, far below the cost of production. If the other half of the social organization will reciprocate and put prices down where they belong it will be far better for all.

Letting Markets Slip.

It would seem that we have the wrong perspective regarding markets for our live stock products. Farmers in Canada have focussed on the production end of their business, and to a great extent have neglected to get the proper perspective, at least, of the great market organizations and requirements of the world. We as growers are inclined to ignore the future and accept a few cents now, which may mean dollars lost next season or the season after. This is particularly true in regard to swine production in Canada. The marketing of bacon has been more or less disturbed by price control in Britain, and many farmers have become discouraged, selling their breeding stock and ceasing to produce hogs. Owing to the unfavorable circumstances which surrounded hog production in 1919, it was to be expected that a considerable number of brood sows would be sacrificed, but unfortunately brood sows are being liquidated continuously and at an alarming rate. According to the Live Stock Commissioner the percentage of sows marketed at Toronto, Montreal, Winni-

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.—80 cents per line, agate, flat. Live-stock advertising rates given on application.
4. THE FARMER'S ADVOCATE is sent to subscribers until the explicit order is received for its discontinuance. All payment of arrearages must be made as required by law.
5. THE LAW IS, that all subscribers to newspapers are held responsible until all arrearages are paid, and their paper ordered to be discontinued.
6. REMITTANCES should be made direct to us, either by Money Order, Postal Note, Express 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. ADDRESSES OF CORRESPONDENTS ARE CONSIDERED AS CONFIDENTIAL and will not be forwarded.
14. 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.

peg, Calgary and Edmonton, from January 1 to September 1, 1920, amounted to 18,178, or 3.9 per cent. of the total offerings of hogs. During the month of August, 1920, 8.5 per cent. of the total hog offering were sows. It is peculiar indeed that there should be so little interest taken in swine breeding when the outlook is good, as it is at present. There is a vast market overseas for Canadian bacon, which in the years to come would mean millions of dollars to Canada and thousands of dollars to each individual grower. We are allowing this market to slip away, because if we do not supply it some other country will. We are obscuring ourselves in the eyes of the world, and at the present time there is no good practical reason for this lethargy in hog production. Sows should be bred rather than slaughtered and an effort made to get back into the hog business in earnest.

Nature's Diary.

BY A. BROOKER KLUGH, M. A.
THE ATLANTIC SALMON.

There are many fish which are extremely important commercially, such as the Cod, Haddock and Herring, and there are others which are considered as being premier game fish, as the Brook Trout and Bass, but there are few which are accorded first rank from both standpoints. Such a fish, however, is the Atlantic Salmon, *Salmo salar*. This species, which occurs on both sides of the Atlantic and ascends streams both of Europe and America, is regarded in both countries as a superb game fish, and in some of the rivers of our Maritime Provinces, such as the Miramichi, Restigouche, and St. John, it is of great commercial importance. To realize the importance of the Salmon one must be at some port along one of these rivers during the season. From the little village of Loggieville, New Brunswick, on the Miramichi, I saw three freight cars packed full of boxes of salmon, shipped out as the result of one evening's landing, and Loggieville is only one of several landing-places along the Miramichi. The run of Salmon, as they are taken on the Miramichi, average 20 pounds each with striking uniformity. They are taken in trap-nests, which jut out from the shores of the Miramichi, from its wide mouth to many miles up the stream.

In the early days of settlement the Salmon were abundant in most of the rivers of New England and the Maritime Provinces, and this species was a common item of diet among the inhabitants along the coasts. But the dams erected in many of the New England rivers, and the pollution of their waters by the waste from factories, has precluded the breeding of this species in nearly all these rivers. The same has been

true of some of our rivers, but we still have many streams, such as those mentioned above, which are important breeding-grounds.

A good deal has been done in the investigation of the life-history of this important species, and the main facts are as follows:—

The Salmon spawns only in fresh water, both the eggs and the young, while in the parr stage, being destroyed by contact with salt water.

The eggs are deposited in gravelly shallows, where they hatch in from eighty to one hundred and forty days, depending on the temperature of the water. The eggs are deposited and impregnated in grooves dug out in the gravel by the fish, and are then covered over by them.

The fry remain one, two, or sometimes three years as parr before going down to the sea, about half taking their departure at one year, and nearly all the others at two years.

All the young salmon fry are marked with bluish bars on the sides, (called parr marks), until shortly before their migration to the sea. They then invariably assume a more or less complete covering of silvery scales, and are then termed smolts. Unless the young fish put on their smolt dress in May or early June, and thereupon go down to the sea, they remain as parrs another year, and without the smolt scales they cannot exist in salt water.

The length of the parr at six weeks old is about an inch and a half to two inches.

Many of these parr which migrate to the sea in August or September, weighing then but from one to two ounces, return to the stream as grise within ten months, and then weigh from two to ten pounds. This surprisingly rapid growth has been definitely proven by marked fish, and it has been found that one salmon, hatched in April and marked when going to the sea in the summer of the next year, was caught the following year and weighed twenty-two pounds.

The young salmon, when it returns for the first time to fresh water is called a grise (usually pronounced "gril-sy"), and may be distinguished from an older salmon by the following points: The scales are smaller, and more loosely set, the fins are relatively longer and larger, the tail is more forked, and the diameter of the base of the tail is relatively less. The proportion of grise to adult salmon varies a good deal with different streams. Dean Sage says that the proportion of grise in the Restigouche is 8.4 per cent.

The grise and the adult salmon return to the same stream, and often to the identical spot in which they were hatched, to spawn, unless they are prevented by artificial obstructions. If they are prevented from thus returning the Atlantic Salmon will apparently ascend some other stream, and in this respect they differ from the Pacific Salmon, which will try to overcome the obstacle until they become exhausted and die, but will not descend and seek another stream. It seems to be well established that a certain proportion of the Salmon of all rivers remain in the sea during each year.

The habits of the Atlantic Salmon in ascending streams differ considerably with different rivers. In some there is a run of large fish, entirely females, which enter the fresh water as soon as the ice is out and go straight through to the head-waters of the river, this being followed by a run of smaller fish, and then by a run of grise. On other rivers no fish come in until about the first of July, large and small coming together.

Is Pure-Bred Live Stock a Gamble?

BY ALLAN McDIARMID.

A number of years ago I got into the game of pure-bred stock-raising in a small way and ever since I have been wanting to say a few words on the subject to farmers in general, possibly for their benefit but more likely for the sake of relieving my own feelings. When a man can share his troubles with some friend or neighbor the natural tendency is to take advantage of the opportunity.

The other day I ran across the following paragraph in one of our eastern farm papers:

"When farmers and others, begin to call any branch of pure-bred stock-raising a 'game', a 'gamble', or a 'graft', it is time for the real friends of the industry to indulge in plain speaking and prompt and effective action."

Now I don't want to make any unwarranted charges or insinuations, but the old saying that "where there's smoke there must be fire" has generally been found to be true, and when a man calls anything a "gamble" or a "graft" it's usually because he has been taken in by somebody. Of course a person may lose money in the pure-bred-stock business through his own carelessness, but I happen to know that all losses cannot be accounted for in that way.

One of my first ventures was in the purchase of a couple of pure-bred mares, one of them being only about six months old. The oldest one proved to be subject to an itchy-ness of the legs which, I believe, she recovered from after the man I sold her to had taken her out West. The younger mare developed a case of what the "Vet" said was "periodic ophthalmia" and at four years of age she was stone blind. To this she had the added misfortune of a skin that wouldn't stand the collar. In spite of all we could do her shoulders would become raw in a day or two after she began work. In the final scene of the play in which she figured, a man with a rifle was the most prominent actor and all the good money I had paid for her, and spent on her, had to be charged up to experience.

In the above case I'm not blaming particularly

the man who sold me the mares. The trouble lay in the fact, I think, that many generations of unnatural conditions and surroundings, and a lot of what one might call "babying," had brought on a sort of degeneration and lowering of vitality, with the result that was to be expected. They had become subject to all sorts of diseases and injuries. Hardy plants are never developed in a hot-house and vigorous live stock are the results of the out-door life and exercise. The pedigree papers should give a guarantee of constitution as well as furnishing the names of the ancestors of an animal.

But I've had a little more to do with pure-bred cattle than I have had with horses. One of my first experiences was in the buying of a heifer calf which I paid a fancy price for and which I found out later was only sold to me because her dam was "not so good as the other cows in the stable." She turned out to be practically worthless, as was to be expected. Here is where the weakness of the pure-bred business lies. Nearly all the young stock that comes is raised and the poorest individuals, as well as those with the poorest ancestry, are sold to beginners in the game, who have to pocket the loss and console themselves with the thought of the knowledge of human nature that they have acquired. In this connection I call to mind a case where a calf was sold as a pure-bred whose only claim to the title lay in the fact that it had been born the same night as one that actually was pure-bred and the owner thought it desirable to change them, the real pure-bred being of the the masculine persuasion. I have also happened to witness other little mix-ups of a similar nature, such as pure-bred Holstein cows that had been sold by auction in the fall giving birth, the next spring, to calves that looked more like the descendants of a red Shorthorn than anything else. Buying from a breeder of that class might well, I think, be termed a "gamble" and the whole thing a "graft."

Another thing, it seems to me that too many breeders are, what might be called, trading on a name. One of the cows in their herd has made a great record and, at once, the price of every individual in that herd jumps a few hundreds or thousands of dollars, as the case may be. And not one of them is actually worth any more than they were. The owner has simply seen the chance to get it. The word "graft" seems to apply even better in this case. These cows have what I have heard called a "fictitious value." In other words, their price is above their actual value as money-makers.

But, as I have said, the great weakness in the business is this tendency to raise everything that comes, be it good or bad, and to retain it in the herd or to sell it for breeding purposes. I believe there are more actual culls in the pure-bred herds of the country than there are in the herds that are known as "grades". There is not the same temptation to raise a poor grade calf, or one from a poor dam, for the reason that there is no chance of selling it at once for a fancy price. Some of the best cows I ever knew were members of a grade herd and were developed just by the process of selection; weeding out the culls and retaining the "firsts."

I'm not trying in any way to discourage the pure-bred cattle industry. What I want is to see it built up on a solid foundation and the only means to this end that I know of is for the leaders of our different Associations to start a campaign of education among their members, that will lead them, through time, to the point where they would as soon put their hand in their neighbor's pocket as sell him a pure-bred "cull" calf, and where the cow that hasn't made good will go to the butcher rather than to some young farmer who is trying to build up a herd without "going broke" in the process.

Some have the idea that farmers are not very susceptible to education, especially where the result of it might be to decrease their income, but I think that when it is seen that there are things in the present system that tend to hurt business the average breeder will try to do what he can to rectify matters and to make the raising of pure-bred live stock the honorable as well as profitable industry that it has generally been in the past. Some men have never thought of certain practices as being "crooked". Calling their attention to the fact is all that is required to work a reformation. A little education may be "a dangerous thing," as we have been told, but it isn't likely that it would do any great harm in this case, where the morals and reputation of the men in one of our greatest industries are concerned.

If all hogs were marketed systematically on an open market there would be some chance of obtaining payment according to quality, for which producers have long been clamoring, and to which end little has been done. Furthermore, we should distribute our offerings of hogs more evenly over the season, and not make spring and fall seasons of surpluses, while summers and winters are periods of scarcity. Here is where seasonal conditions exert a powerful influence, but successful farmers are those who branch off occasionally from the beaten paths and run, perhaps, when others walk.

Since the railroads faired so bounteously at the hands of the Railway Board, the Bell Telephone Company will, no doubt, await the result of their requests with a great deal of confidence. To them that hath (the big corporations) shall be given, and from them that hath not (the people) shall be taken away even that which they seemeth to have.

THE HORSE.

The Age of the Horse.

BY DR. G. H. CONN.

Of all the many features connected with the care and management of the horse, that of age has always given the average individual the greatest concern. There is scarcely a single person that has had any experience to speak of with horses but that has had a desire to learn how to tell the age of the horse, especially from the appearance of the teeth. While this is not the only method practiced yet it is the one around which more or less mystery seems to remain. We quite well remember from our early youth how wonderful it must be to just open a horse's mouth and look at his teeth and be able to tell how old he was. Since that time we have spent several years in a line of work that enabled us to follow up that earlier inclination, but after practicing our knowledge on several thousand animals we are more firmly convinced than ever of the truth of our early day belief.

It is not uncommon to find some of our old pioneers who can tell the age of the horse by feeling of the ribs; others tell it by counting small nodules under the skin on the under side of the dock; and a few other ways. We were never sufficiently interested enough in these methods to make the attempt to acquire the art. In our judgment their best value to the practical horseman is in being quickly forgotten.

The person with limited experience is the one who, through thick and thin, has unbiased faith in man's ability to determine a horse's age by his teeth without a possible chance of error. It is this lack of experience that produces this certainty of judgment for the reason that he has not had the opportunity of determining these special features, that will prove the fallacy of such belief.

When we find an individual who can tell any horse's age to a certainty, as many of them claim to be able to do, we put him down at once as a man without much experience with horses. If we had the desire to "put across a good one" on anybody, this would be the type of man we would want to find. Any man who thinks he can tell the age of any horse or of all horses up to a certain age, is devoid of good common sense. There is only one way to definitely tell the age of a horse, and that is to learn the date it was foaled. However, there are several things that indicate a horse's age, with a fair degree of accuracy. In fact, they are constant enough that the average man can rely on them for all practical purposes. To the thinking man, the facts that we are going to give you will be proof enough of the correctness of our assertions.

IRREGULARITIES OF HORSES' TEETH.

We have all noticed in the members of the human family the great irregularity in the eruption or cutting of the teeth. In different individuals the same teeth will vary from several months to a year or even more; the same irregularity exists in the horse. The difference is not quite so great in the horse as the human, due no doubt to the great difference of the ages. It is possibly in proportion to the ratio between the average ages of the horse and man. We are personally aware of many cases in which the variation was at least a year.

The character of the composition of the teeth has also a marked influence. Some teeth are exceedingly hard. Others are correspondingly soft in structure. It would be unreasonable to suppose that with two horses having teeth with the above characteristics that they would present the same appearance and would indicate the same degree of wear. This one fact alone is of great importance. The animal with hard teeth, may, in some cases, be mistaken for a younger animal than he really is, and one with teeth that are soft in structure may be mistaken for an animal older than he really is.

The feeding habits and the class of feed, will also have a marked influence. Animals that are fed on good, tender blue-grass pasture would show very little wear of the teeth, while those fed on the coarse hard grass found in some of the sandy districts, may have teeth that are worn down smooth while yet quite young. This variation is quite marked. Animals that are fed on hard grains, such as flint corn and on tough, coarse hay, may also show this same condition, but not nearly so well marked. We have frequently inspected horses coming from the sand districts in the west, that had the greater part of the teeth worn away at a very early age, in some cases around six or seven years; these are known as "sand mouths."

The conformation of the animal's mouth may also have a great influence upon the appearance of the teeth. A horse with an over-shot or one with an under-shot jaw presents a mouth about which very little can be determined from looking at the teeth. This can very easily be accounted for since there is very little wear of the incisor teeth.

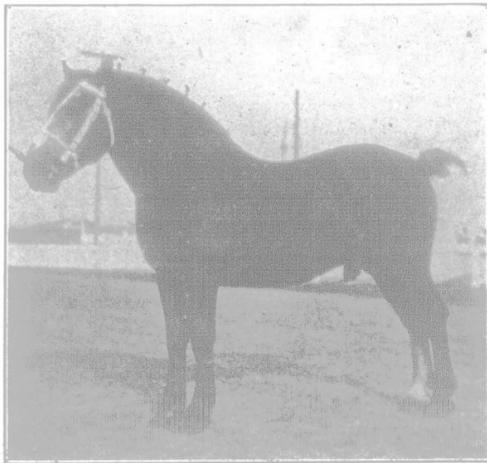
It is a well-known fact among horsemen that by the removal of a temporary tooth, the permanent one can usually be hastened several months in making its appearance. This fact is frequently taken advantage of, and many a horse is made to appear older than he really is.

There is still another practice that may be used to deceive one in determining the exact age of the horse, and we refer to "bishops." This consists in making the teeth of the animal appear as though belonging to a younger animal. The small cavity in the top of the tooth is known as a cup, and, as is well known, as the horse grows older the tooth wears and this cup disappears; it is the making of this artificial cup in the tooth that is known as "bishops." It is impossible to take

an old horse and make him appear several years younger from the appearance of the teeth in this manner and deceive the experienced horseman. It would be an easy matter, however, for an expert to take a young horse and make him appear one or two years younger, and would invariably deceive the majority of good horsemen.

The teeth of the horse under normal conditions are fairly regular in their eruption and the natural wear until the animal is eight or nine years of age. The animal should have a full mouth by the time he is five years old; however, this may vary a few months. After the animal has its permanent teeth, the age is then determined by the wear on the surface. For an individual to make any pretense of being able to determine an animal's age, with any degree of absolute certainty, is absurd. It is possible, in some cases, from the indications present to arrive at a decent estimate of the animal's age. If one is able to determine the difference at all times between an old horse and a young one, they have accomplished something that is of more than passing interest.

It might be well to remember that men who spend years in handling horses, and who handle many thousand each year, frequently feel that they have been mistaken in their judgment in ageing a horse. It would be folly for the individual who has a very limited experience to feel that he is an expert in this art. It requires an abundance of experience to acquire the art even as we have outlined it here.



Jasman.

First-prize three-year-old Percheron stallion at Toronto, 1920, Exhibited by Sir H. M. Pellatt, King City.

THE TEETH OF THE HORSE.

There are two complete sets of teeth in the horse; first comes the "temporary," "milk" or "foal" set. There is a marked difference in the two sets to the widely varying uses to which they are to be put. The temporary or milk tooth is small and white, and has a distinct neck and a short fang. These teeth are gradually pushed out of the jaw from the growth of the permanent teeth. The permanent teeth are larger, stronger and are browner in color; they have a long, stout fang, but no well-defined neck.

The part of the tooth that bites on the food or the opposite tooth is called the "table surface" or the "wearing surface." There is a blackened depression which is seen on this table surface and is known as the "mark" or the "cup." It is lined by a narrow white ring of enamel which can be easily felt with the finger. This mark is caused by the discoloration by the food. In young animals this cup is broad and deep, while in older ones it is narrow and shallow, gradually disappearing. It is the presence or absence of this cup in the various incisor teeth that is taken as an indication in arriving at the animal's age. The "crown" of the tooth is that part that is above the gum, and the "neck" is that part that is at the gum. The "fang" is that part within the jaw. The horse tooth continues to grow and to wear away until old age. The age of the draft horse is calculated from May 1.

By the term "rising" used in ageing a horse, we mean that he is nearly that age; that he will be that age soon, and on his next birthday. By "off" we mean that he has just passed that particular birthday.

THE NUMBER AND CLASS OF TEETH.

In the full-grown mare we have 36 permanent teeth, and in the male we find 40. This difference is due to the fact that in the male of the horse species "canine" teeth, or "tushes" usually appear at about five years of age; they are permanent teeth.

The teeth of the horse are known as "incisors" and "molars;" the molars are located on each side of the mouth, and are the grinding teeth; the incisors are located just behind the lips and are for biting purposes only.

There are six incisor teeth both in the temporary and permanent set; that is six in each jaw, both upper and lower, making 12 in all. The two middle incisors are known as "centrals," and the next pair as "laterals" while the outside pair are known as "corner" incisors. The "tush" that appears in the male at about five years of age is located just behind the "corner" incisors, about half way between the incisors and the molars. There are six molar teeth in each jaw, both upper and lower, and on both sides of the jaw; thus we have a

total of 24 molar teeth. In the temporary set of teeth we only have the first, second and third molar. The fourth, fifth and sixth are permanent teeth only. However, the molar teeth do not concern us, as indications of the animal's age. We depend solely upon the changes noticed in the incisor teeth for determining the age.

DETERMINING THE AGE.

The two thumbs are inserted in the horse's mouth just back of the incisor teeth; the fingers of the left hand rest on the animal's nose, while those of the right hand are closed about the horse's jaw. The grasp should be as firm as possible without annoying the horse. The operator should stand in front and a little to the side of the horse. By pressing down on the lower thumb the mouth can usually be opened very easily and a good view of the teeth can be had. Some horses do not permit this procedure without they are handled with care, and often it may be necessary to use the twitch or some other means of restraint. It is well to be always on the alert to prevent being injured.

In the young horse, the teeth meet in apposition. The surfaces are quite squarely brought together and the teeth leave the jaws at almost right angles. As the teeth are worn off and continue to grow outward they gradually assume more of a slope, and in very old horses they come together in the shape of a triangle. This is spoken of as the angle of the teeth.

The teeth of the young horse or until about six years of age, are much wider than they are thick. As the animal grows older, the shape gradually changes; they become circular in shape and in some very old horses they resemble a triangle to a great extent. This change first takes place in the central lower incisors and occurs at about six years of age. This change in shape is due to the wearing off of the table surface of the teeth and the pushing upward of the fang. The teeth in very old horses will be very small, and triangular or round on the table surface. For this reason it is impossible to "bishop" an old horse and deceive an expert horseman.

At about seven years of age, the rear corner of the upper "corner" incisor teeth shows a small projection as the rear of the tooth does not meet the lower tooth squarely; this is due to the wear on the tooth. It is a fairly accurate guiding mark, when it has not been removed. By some it has been called the "swallow tail."

At ten years a depression in the outer surface of the upper "corner incisor" appears at the junction of the gum and the tooth. This is about halfway down the tooth at 15 years of age, reaches to the bottom at about 20 years, is about half gone at 25 and has completely disappeared at 30. This is known as "Galvayne's" mark.

It is not uncommon to find many horses that have pastured in sandy country with heavy coarse grass to have teeth worn down so that no cups are to be seen. In some animals the teeth are very short, just reaching above the gums. The general shape of the contour of the tooth will indicate that the animal is quite young.

It is almost impossible to determine the age of a "crib-biter" with any accuracy, owing to the fact that the teeth are worn at such angle that the table surface of the teeth has been altered.

THE TEETH AT VARIOUS AGES.

In the young foal we usually find the two "central incisors" showing in each jaw at birth; if they are not present they appear within a very short time. The lateral incisors appear at about two months of age and the "corners" at from 6 to 8 months of age. Then at about eight months of age we would expect to find the foal with the temporary set of incisors. While they are all through the gums, they do not all show wear until about one year of age; at this age the corner incisor is usually showing some wear but the inner side is shelly in appearance, and has not grown down so that the tooth is in wear.

At from two to two and one-quarter years of age the central incisors begin to show evidence of being replaced by the permanent incisors. This usually takes place at about 2½ years, and by 3 years of age the teeth should be in wear. The "lateral" permanent incisors are cut at about 3½ years of age, and are in wear at 4 years. The "corner" permanent incisors are cut at about 4½ years and should be in wear by the 5th birthday.

The "tushes" are usually cut by the 5th birthday and are very sharp at first, but become quite rounded with age.

At six years of age the permanent incisor teeth should be in full wear. Looked at from the side, with the mouth closed, the teeth should appear upright and should meet each other squarely. However, the central teeth will show slightly more wear than the laterals and the laterals slightly more than the corners, as indicated by the contour of the table surface and the appearance of the cup.

CHANGES AFTER THE SIXTH YEAR.

At seven years of age the marks or cups in the central lower incisors have almost disappeared and those in the lateral incisors have shown considerable wear. The central incisors have changed considerably in shape, and have become more round. There is some little change in the shape of the "laterals" also.

At eight years of age the laterals have changed considerably in shape, losing much of their former elliptical shape and have almost lost their cups. The corners have begun to change and the cup has begun to disappear.

At nine years of age the cups in the upper central incisors have begun to disappear while they are almost gone from the corner lower incisors under normal conditions.

At ten years of age the lateral upper incisors show the

characteristic changes, and the appearance of the "Galvanee's Mark" is noticed on the outer surface of the corner upper incisor.

At eleven years of age the corner upper incisors show the characteristic changes but possibly not as well marked as in some of the rest. At this age the cups in all the incisor teeth will have disappeared under normal conditions.

We have noticed that the eruption of the teeth up until the permanent teeth were well established was somewhat regular and that the difference in the appearance of the teeth was about one year. We also noticed that the change in the appearance of the teeth after the sixth year occurs with more or less regularity, and that the changes occur at intervals of one year, about the same as in erupting them. This change occurs in the same order. It can be easily understood that if the composition of the teeth were always the same, the feeding always ideal, and the teeth not interfered with in any manner, that we could determine the age with a certain degree of sureness. As it is, however, our judgment will vary, due to those influencing factors that cannot be controlled by man.

LIVE STOCK.

Pure-bred breeders will do well to separate the bull calves from the heifers this month. It is dangerous to leave them together much longer. Many heifers are ruined each year by carelessness on the breeder's part in allowing the two sexes to run together too late in the fall.

Many farmers make a mistake at this time of the year of over feeding on new oats. If old oats are still available it would be wise to continue feeding them in preference to those that have just been threshed. If the supply of last year's is exhausted, start off gradually on the new ones—they are apt to cause digestive troubles.

The Governor-in-Council has passed the following additional regulation under the Animal Contagious Diseases Act: "No person shall deface, conceal, or take out, wholly or in part, any permanent mark which, under direction of the Veterinary Director General, has been applied to cattle reacting to the tuberculin test."

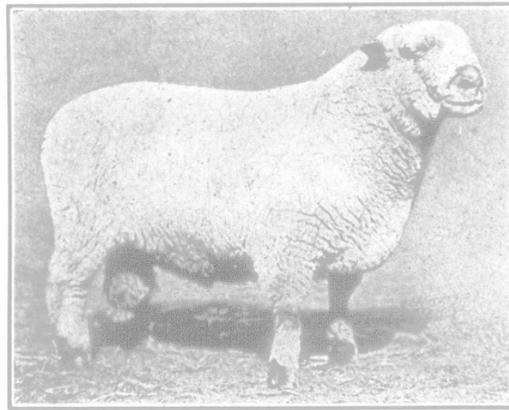
At this time of the year when the lambs are on rape and when the rest of the sheep are on the stubble, it pays to be on the lookout for any that may get on their backs in the furrow. There are few things more helpless than sheep in such a position, and they are not there long before they are past the stage where assistance is of much value.

Croup in Calves.

Young cattle varying in age from a few weeks to a few months, are subject, especially those kept in low, damp pastures, and more especially those pasturing near streams of water and during the fall of the year, to a form of inflammation of the throat, characterized by the formation of a fibrinous exudate or false membrane, usually of a greyish-white color, but sometimes brown or yellow, extending over the mucous membrane of the larynx and the windpipe, sometimes over the posterior portion of the mouth, and in some cases the bronchial tubes are involved. This condition is generally called croup. It differs from ordinary catarrhal laryngitis in a well-marked manner. In ordinary laryngitis there is always an increased secretion of mucous which is discharged as quickly as it is formed. In croup an exudate process attends the inflammation of the larynx and windpipe, which induces the formation of false membranes which vary in thickness and consistency; some of which are quite thick and opaque, others quite thin and transparent so that the mucous membrane can be seen through them. Some of them are so firm in consistency that they can be detached for a considerable length without tearing, while others have little consistency. They vary in color from a dirty greyish-white to a yellow or yellowish-brown. If an animal

be examined after death, after the disease has existed for four or five days, the windpipe and larynx will be found to be lined for a considerable distance, in some cases only partially lined while in others the whole circumference will be covered, by a false membrane forming a complete tube or cylinder.

Symptoms.—The first symptoms generally noticed are a coarse cough and a discharge of a frothy saliva from the mouth, and of mucous from the nostrils; the animal is unthrifty; has some difficulty in swallowing; sometimes swellings appear just behind the jaw-bone on one or both sides, also in the space between the jaw-bones (the maxillary space). These symptoms are usually succeeded by increased difficulty in breathing, respiration being accompanied by a crowing noise and by spasm of the muscles of the larynx, causing violent paroxysms. In other cases the spasmodic affection of the larynx and difficult breathing occur without any premonitory symptoms. The pulse is hard and frequent at first, and becomes more frequent, but feeble and indistinct as the disease advances; the fits of coughing become more and more troublesome, and violent paroxysms frequently occur, especially if the patient be subjected to any sudden exertion or excitement. In the course of two or three days, flakes or false membrane are coughed up; salivation becomes more profuse; the false membrane, which never becomes organized



Shropshire Ram.

Champion ram of the breed at Toronto for J. D. Larkin, Queenston, Ont.

or bloody, is loosened and detached by a fluid poured out from the mucous membrane, until it is finally separated and cast off. If the case progresses favorably this membrane is not again formed, the suppurative process terminating in the inflammatory action.

Treatment.—Of course, preventive treatment should be observed. This consists in providing good shelter and sanitary quarters for the calves at night and during wet, cold weather, in addition to seeing that the paddocks or fields in which they are kept are not damp. When the symptoms of the disease are noticed, if they are alarming, the breathing very difficult, and the noise loud, there is danger of immediate suffocation, and an operation known as "tracheotomy," which consists in the insertion of a tube into the windpipe, and can be performed only by a veterinarian, is necessary. Hence the services of a veterinarian should be promptly procured. It is essential in every severe case that air be promptly admitted to the lungs, as, should the operation be delayed, the animal will soon succumb to suffocation, or a condition of blood-poisoning caused by an overloading of the blood with carbon and effete material. When the symptoms are not so severe, the nostrils should be steamed for several hours consecutively, by holding the head over a pot of steaming water, or other device, and it is well to add to the water a little iodine or carbolic acid. A solution of nitrate of silver, one-half dram to an ounce of distilled water, should be applied directly to the diseased mucous membrane. This can be done by holding the patient's

mouth open by the use of a mouth speculum, a cleft, or other device, and applying the solution with a feather, care being taken to not apply it to a greater surface than that upon which its action is required. This should be repeated once, or at most twice, daily. A little, say a teaspoonful, of nitrate or chlorate of potassium should be given in the drinking water, and if the patient be constipated a little raw linseed oil, or castor oil, should be given. If prostration be very marked, a stimulant as a teaspoonful of whiskey or sweet spirits of nitre in a little cold water should be given every few hours. Any fluids given by the mouth must be carefully administered, as, on account of the difficulty in swallowing, if they be given too rapidly some may pass down the windpipe and produce fatal complications. It is better to give fluids out of a small syringe. It must not be forgotten that the patient must be kept in a warm, dry and well-ventilated building, and if the weather be cold the body should be clothed.

Whip.

Finishing Baby Beef.

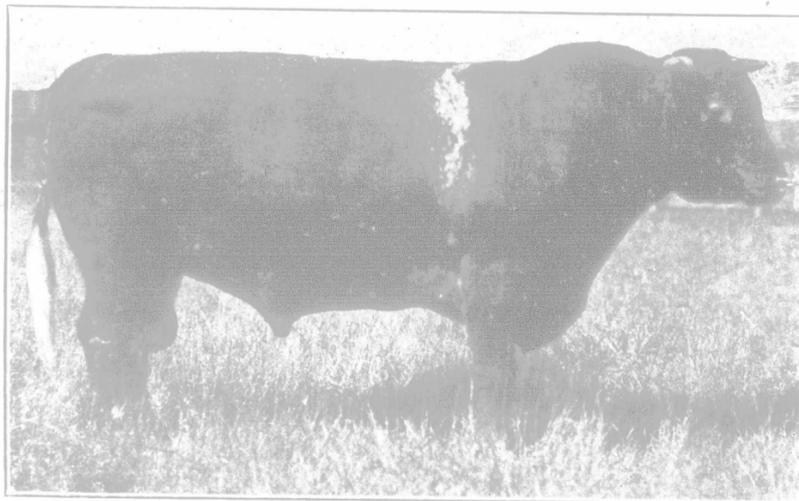
There is now a tendency on the part of many feeders to get rid of their stuff at from fifteen to twenty months of age, rather than carry it over to three years as was once the custom. This means a quicker turn-over, but also necessitates that the animals be pushed from the time they are dropped until ready for the market. A calf that is allowed to stand still in development, or that becomes stunted through lack of feed will never make baby beef. The following paragraphs, from Circular 63, published by the Dominion Experimental Farms, gives different rations which have proven satisfactory.

"From thirteen to twenty months of age, beef heifers or steers intended for the butcher, may usually be finished most profitably as baby beef, marketed from eighteen to twenty-two months of age. For stall finishing the following ration is good: Hay (alfalfa or clover preferable), 8 to 10 pounds daily; silage (preferably corn silage), 30 pounds daily, gradually reduced to 20 pounds at the end of the period; roots (preferably turnips), 30 pounds, gradually reduced to 20 pounds at the finish; grain mixture, 4 pounds, increased to 8 pounds daily at the finish, composed of equal parts bran, ground oats, ground barley, and linseed oil meal. The following replacements of the foregoing feeds may be made:

1. Barley in place of corn, or vice versa.
2. Linseed oil meal replaced by gluten meal, ground peas, or even cottonseed if it is outstandingly cheap as a protein meal.
3. Bran replaced by ground oats.
4. Clover or alfalfa hay replaced by choice fine grass hays, increasing meal to obtain as rapid gains. Green oat sheaves when properly cured might profitably replace a large part of the hay ration.
5. If no silage is available, double the amount of roots in the daily ration.
6. If roots are not available, feed two-thirds more silage.
7. If neither roots nor silage are available supply better quality of hay, and more of it. Also add more linseed oil meal or some similar protein to the ration. Molasses sprinkled over the roughages or mixed with the meal, helps to replace a shortage of roots or silage and makes poor quality hay or straw more palatable."

Live Stock Notes.

The following information relative to the world's consumption of meat, prepared by the Live Stock Commissioner, is to the effect that the production of meats is not keeping pace with the requirements. During the past century there has been a rapid increase in the meat-consuming population of the world, due largely to the march of civilization, with its naturally increased standard of living, and to the increase of population in countries situated in the Temperate Zone. Statistics prove that the world's live stock surplus is not keeping pace with requirements. A number of prominent exporting countries appear to have reached the maximum of production, while others are steadily reducing their exportable surplus owing to a greatly increased domestic



Diamond Prince.

Winner of a red Shorthorn bull class at London for H. Smith, Hay, Ont.



Ivanhoe.

Senior champion Shorthorn bull at London for Kyle Bros., Drumbo, Ont.

FOUNDED 1866

a mouth speculum, a clevi-
g the solution with a feather,
y it to a greater surface than
n is required. This should
st twice, daily. A little, say
chlorate of potassium should
water, and if the patient be
eed oil, or castor oil, should
e very marked, a stimulant
ey or sweet spirits of nitre
d be given every few hours.
outh must be carefully ad-
f the difficulty in swallowing,
y some may pass down the
atal complications. It is
f small syringe. It must
atient must be kept in a
lated building, and if the
ould be clothed.

Wm.

Baby Beef.

on the part of many feeders
om fifteen to twenty months
over to three years as was
means a quicker turn-over,
he animals be pushed from
until ready for the market.
stand still in development,
ough lack of feed will never
ollowing paragraphs, from
he Dominion Experimental
ns which have proven satis-

enty months of age, beef
r the butcher, may usually
y as baby beef, marketed
two months of age. For
ration is good: Hay (alfalfa
0 pounds daily; silage (pre-
nds daily, gradually reduced
he period; roots (preferably
ally reduced to 20 pounds
, 4 pounds, increased to 8
e, composed of equal parts
arley, and linseed oil meal.
of the foregoing feeds may

rn, or vice versa. 2. Lin-
gluten meal, ground peas,
outstandingly cheap as a
placed by ground oats. 4.
ed by choice fine grass hays,
as rapid gains. Green oat
might profitably replace
n. 5. If no silage is avail-
roots in the daily ration.
able, feed two-thirds more
s nor silage are available
ay, and more of it. Also
some similar protein to the
over the roughages or mixed
lace a shortage of roots or
y hay or straw more palat-

Stock Notes.

on relative to the world's
red by the Live Stock Com-
at the production of meats
the requirements. During
een a rapid increase in the
of the world, due largely
with its naturally increased
the increase of population
Temperate Zone. Statistics
stock surplus is not keeping
A number of prominent
have reached the maximum
are steadily reducing their
greatly increased domestic

consumption. Canada has here an opportunity. It is believed that cheap meats are a thing of the past, as range conditions have almost disappeared, a higher quality meat is being sought, and in view of the comparatively high land values a higher standard of breeding and feeding is imperative for further development.

In regard to the hog situation, the Live Stock Commissioner estimates that the live hog industry sustained a loss of approximately \$11,000,000, during the seven months ending July 31, that sum representing the difference in value between the visible hog marketings during that period and the same period of 1919. The loss in revenue was due the liquidation of breeding stock during 1919, the loss being estimated on the basis of prices in 1920. The Commissioner says: "We continue to steadily fall behind in the volume of our marketing, while at the same time the percentage liquidation of sows suitable for breeding is on the increase." From January 1 to September 1, 1920, there were marketed at the six principal markets in Canada, 456,629 hogs, and of this total 18,178, or 3.9 per cent., were sows. During the month of August, out of a total of 42,022 hogs marketed, 3,609, or 8.5 per cent., were sows. This shows that brood sows are being disposed of more rapidly than during any previous month of the year. This can scarcely be understood in view of the prospects for cheaper feed. The market itself gives promise of prices very favorable as regards their relation to the cost of production. The Live Stock Commissioner finds it impossible to explain the present liquidation of breeding sows, as during a normal period it is the hard and fast rule to go into hogs in a time of famine in supply. To-day, with the most marked shortage in a decade, and prospects of a comparatively high and steady market, apparently the opposite stand is being taken in regard to supplies. Apparently Canadians are faced with the problem of keeping supplies up to normal in the meat line, especially of hog products, at a time when extensive preparations should be made to greatly extend our normal output. It rests with the individual producer as to whether the market surplus of hogs in 1921 will be below requirements or adequate to meet the needs of the export market. The past two years have been rather difficult ones for the hog feeder, owing to the high price and difficulty in securing feed. There is reason to believe that we have passed the peak in feed prices, and that from now on there will be a more liberal supply of pig feeds.

Winter Rations for Breeding Ewes.

A considerable study has been made of rations for breeding ewes during the winter, in an effort to find out what effect they had on the production of lambs and wool. A. A. Dowell and G. L. Flack, of the Department of Animal Husbandry, Alberta, have been carrying on extensive work for the past year, using local roughages. Their conclusions after one year's work are given in the following paragraphs. Although the experiment was carried on in Alberta, varieties of fodder similar to that fed to Ontario flocks were used so that the results obtained should be of interest to Ontario flock owners. The amount of feed consumed is figured at a fair average price, and in this way the cost of wintering the ewes is arrived at. The following paragraphs are the results obtained during the winter of 1919-20.

The objects of the experiment were to determine the comparative value of the following roughages in wintering pregnant ewes:

Alfalfa hay, timothy hay, prairie hay, oat green feed hay, oat straw, prairie hay and oat green feed hay, alfalfa hay and oat straw, oat straw and turnips. To show the effect on the growth of fleece, size and strength of lambs and body development of bred ewes when forced to use snow in place of the usual practice of allowing access to water.

In this test common white faced range ewes, showing a predominance of Merino blood were used. They were three years old in the spring of 1919 and consequently four years old at the time of lambing in the spring of 1920. As they were handled exactly alike, under average farm conditions, during the winter of 1918-19 and the summer and fall of 1919, it will be evident that they were placed on test in a very uniform condition—being alike in age, breeding and having been handled under identical conditions of feed and management.

The fifty ewes in this test were purchased in March, 1919, so that lambing and shearing records for the year would be available for comparison with similar records the following spring after completing the 1919-20 winter experiments. By feeding a little whole oats they were "flushed" just before breeding in the fall of 1919 to insure their being in the proper condition at the time of service.

Then ten ewes were bred to an Oxford ram, ten to a Suffolk, ten to a Leicester and twenty to a Hampshire. All of these rams were pure-bred, of good type and in their mature form. The ewes were so placed in the different lots that in each group one would be bred to an Oxford, one to a Suffolk, one to a Leicester and two to a Hampshire. This was done for two reasons. In the first place, by using rams of four different well-known breeds on the five ewes in one lot, any good or bad results from the roughage fed to that lot could not be attributed to the use of a ram belonging to one special breed. Second, while carrying on this experiment to determine the value of different feeds for wintering pregnant ewes, it was felt that breeding work in "Grading-up" the grade flocks could be carried on as well by placing the ewes in the different lots as mentioned. It should be stated that each ewe was placed in its respective lot on the date bred so that the feeding test started at the very beginning of the pregnancy period.

Each individual fleece was carefully weighed at the time of shearing—the first week in June, 1919. After completing the winter tests the individual fleeces were again weighed the first week in June 1920. In this way the exact gain or loss in weight of each fleece could be determined and definitely charged to the feed allowed during pregnancy, as all were fed alike during the balance of the year.

Each ewe was weighed on the date bred and then every seven days throughout the winter. The last weight during pregnancy was recorded on the 145th day—the day before they were expected to lamb. They were again weighed eight hours after lambing. The difference between the weights at time of breeding and eight hours after lambing were used to determine the gain or loss per ewe on the different feeds. Each lamb was weighed as soon as dry so that the influence of the different roughages on the birth weight could be definitely recorded.

It is of interest to note that in the spring of 1919 only one of the fifty ewes failed to be in lamb, and that but one pair of twins was dropped. In the spring of 1920, three failed to be in lamb, while twenty-three ewes gave birth to twins. We cannot account for this remarkable increase in number of twin lambs for the ewes were three years old in the spring of 1919, and would be called mature at that time. Furthermore in the fall of 1918 they had been bred to good pure-bred Shropshire, Suffolk and Oxford rams, and had been well wintered on prairie hay and oat green feed hay—a combination that gave four pairs of twins from four ewes in the 1919-20 tests.

The ten different groups were provided with similar winter accommodations. Each lot was 30 feet wide and 300 feet long with the winter shelter placed at the rear and the feed racks at the front of the lot to force exercise.

Feeds were valued as follows: Alfalfa hay, \$25 per ton; timothy hay, \$20 per ton; oat green feed hay, \$12 per ton; oat straw, \$4 per ton; turnips, \$6.00 per ton; whole oats, 75c. per bushel.

RESULTS WITH ALFALFA HAY.

Leaving out of account the question of cost, the lot wintered on alfalfa hay would easily rank first. They were in excellent condition at time of lambing, with the after lambing weights showing a slight gain of .8 of a pound per ewe over weights at the time of breeding. Their lambs came 100 per cent. strong and were the heaviest in the test—averaging 9.94 lbs. at birth. These ewes made an average gain in weight of fleece over the 1919 clip of 2.94 pounds per head, which was 1.32 pounds above the next best shearing lot No. 7. During the 145-day period they consumed 605.88 pounds of hay per head at a cost of \$7.57. With the alfalfa hay valued at \$25 per ton or \$5 above timothy and \$9 above prairie hay, the cost of feed was greater than in any other lot.

TIMOTHY HAY.

Results with timothy hay will be somewhat of a surprise to many sheep men for this roughage has generally been regarded to have a low feeding value, especially for breeding ewes. In this case the ewes came through to lambing a little thin in flesh, but quite thrifty—the after lambing weights showing an average loss of 12.6 pounds. They produced but one lamb per ewe, but they came 100 per cent. strong and weighed 8.78 pounds. This group made an average gain in fleece of 1.32 pounds which was surpassed only in lots 1, 7 and 8. Results with timothy were quite satisfactory though it should be remembered that the hay used was of very good quality, and not over ripe or coarse.

POOR SHOWING ON OAT GREEN FEED HAY.

Oat green feed hay, fed alone, proved the most unsatisfactory roughage of any on trial. The ewes wintered in fairly good condition showing an average loss of but 8.75 pounds, but the lamb crop was very disappointing. One ewe proved not to be in lamb one aborted on April 1st and another on April 3rd.

How Fed	Lot 1	Lot 2	Lot 3	Lot 4	Lot 5	Lot 6	Lot 7	Lot 8	Lot 9	Lot 10
	Alfalfa hay	Timothy hay	Prairie hay	Oat green feed hay	Oat straw and whole oats	Prairie hay and oat green F. hay	P. hay, whole oats and snow	P. hay, whole oats and water	Oat straw and turnips	Oat straw and alfalfa
Number of ewes.....	5	5	5	4	4	4	5	5	5	5
Av. weight when bred ...	116.40	116.20	116.00	125.00	***102.25	117.25	114.40	109.20	121.20	116.00
Av. wt. 8 hrs. after lambing.....	117.20	103.60	94.00	116.25	102.25	110.50	111.20	107.20	96.20	107.20
gain or loss per ewe.....	†0.80	-12.60	-22.00	-8.75	0.00	-6.75	-3.20	-2.00	-25.00	-8.80
Condition of ewes at time of lambing.....	excellent	fair	very thin	good	thin	good	very good	very good	very thin	good
Number of lambs.....	7	5	10	16	5	8	6	7	8	8
Per cent. strong lambs.....	100.00	100.00	80.00	16.66	60.00	100.00	100.00	100.00	87.50	100.00
**Av. birth wt. of lamb.....	9.94	8.78	7.01	9.00	8.80	7.96	9.67	9.74	7.84	8.50
Av. wt. of fleece 1919.....	7.20	6.88	7.80	8.40	7.10	6.85	6.80	6.72	6.68	8.00
Av. wt. of fleece 1920.....	10.14	8.20	8.70	8.95	7.125	8.15	8.42	8.30	7.12	9.06
Av. gain in wt. of fleece.....	2.94	1.32	.90	.55	.025	1.30	1.62	1.58	.44	1.06
Feed consumed per ewe during pregnancy—145 days:										
Roughage.....	605.88	599.28	580.12	674.97	593.80	612.04	482.91	479.34	581.67	612.51
Grain.....					146.02		103.21	103.75		
Turnips.....									632.95	
Feed cost per ewe.....	\$7.57	\$5.99	\$4.64	\$4.05	\$4.41	\$4.28	\$6.14	\$6.12	\$3.06	\$4.48

† One ewe aborted (2 lambs); ‡ two ewes aborted (4 lambs); * one ewe aborted (1 lamb); ** average weight does not include lambs aborted in lots 3, 4 and 9; *** two ewes failed to settle at first service and had lost 24 lbs. by the time they were re-bred. Consequently the actual loss is not shown in this table.

The cause of the abortion was not known, so no conclusions can be drawn until after the test has been repeated another year. Another ewe carried her lamb the full gestation period, but at birth it was too weak and flabby to survive. The fifth ewe produced a large single lamb that was very drowsy for the first four days, but improved rapidly after that time. In all, four lambs were aborted, or died shortly after birth and but one was raised or 16 2/3 per cent. The gain in fleece per ewe for this lot was only .55 pounds. The feed cost of \$4.05 was comparatively low, but these results would seem to indicate that it should not be fed alone but in combination with some other roughage.

BRED EWES CANNOT BE MAINTAINED ON OAT STRAW ALONE.

An attempt was made to winter one lot on good quality mature oat straw containing considerable chaff. Two ewes failed to settle at the first service and together had lost 24 pounds by the time they were re-bred. This loss is not shown in the accompanying table, so that the original breeding weight of the group appears to be much less than in the other lots. At the time of the first service, (when they were actually put on this feed) they averaged 111 pounds. As soon as placed on the oat straw all ewes lost flesh rapidly. At the close of the fifth week they were so thin and weak that it was evident that they could not be maintained on this roughage, so whole oats were added. The quantity of grain was steadily increased until the ewes began to gain in weight. Towards the latter part of the period they were receiving a little over one pound of whole oats per head per day. At lambing time they were still rather thin. One ewe proved not to be in lamb, another produced twins that were too weak to survive, while the other three gave birth to good average single lambs. This lot showed the lowest average gain in weight of fleece with but .025 pounds per head to their credit. From the standpoint of condition of ewes, strength of lambs and growth of fleece, oat straw is not a satisfactory single roughage for bred ewes. If used it should be in combination with other more suitable roughages.

PRAIRIE HAY AND OAT GREEN FEED HAY.

Although prairie hay alone gave only fair results and oat green feed proved very unsatisfactory, this lot wintered on a mixture of equal quantities of the two roughages, ranked very high, especially when the cost of feed is considered. The average loss in weight was but 6.75 pounds, the ewes were in good condition, the four that proved to be pregnant each gave birth to twins averaging 7.96 pounds, and they came 100 per cent. strong. The average gain in weight of fleece was 1.30 pounds. These ewes were wintered at a cost of \$4.28 per head. Keeping in mind the condition of the ewes, number and strength of lambs, gain in weight of fleece and cost of feed, the prairie hay and oat green feed hay combination indeed proved satisfactory, and furthermore these hays are available on most prairie farms.

SNOW VS WATER.

Lots 7 and 8 were fed exactly alike with the exception that the former was forced to use snow throughout the winter while the latter had access to water. Each received prairie hay and just enough whole oats (approximately .7 of a pound per head per day) to secure the gain in weight during pregnancy that was desired. As the table will show, after lambing weights gave a very slight loss in each case, with a little advantage for the lot receiving water. All ewes in each lot produced good lambs that came 100 per cent. strong. Those from the ewes on water weighed at birth 9.74 pounds and those from the snow lot 9.67. The ewes on snow made a gain in weight of fleece of 1.62 pounds and those in water 1.58 pounds. The feed cost was the same. All results were so nearly identical that it would appear that ewes may be wintered just as well on snow as by following the usual practice of providing water, though

again no final conclusions will be stated until after further comparisons are made.

OAT STRAW AND TURNIPS.

Ewes fed on oat straw and jumbo swede turnips came through the winter with the heaviest loss in weight of any lot on test—an average of 25 pounds per head. One ewe gave birth to a pre-mature lamb. The cause of this abortion was not known but we did not attribute it to the feed, as the other four ewes produced seven strong lambs. The gain in weight of fleece over the 1919 clip averaged only .44 pounds. At a feed cost of \$3.06 per head for the 145 day period this combination was very economical, but the heavy loss in weight of ewes was too great to call it satisfactory. Again the addition of grain would undoubtedly have improved results, but would have added to the cost as well.

OAT STRAW AND ALFALFA HAY

By using half and half alfalfa hay and oat straw the cost of feed for this lot was reduced to a comparatively reasonable figure—\$4.48 per head. This group showed an average loss per head of 8.8 pounds, the lambs averaging 8.5 pounds at birth, came strong, and the ewes sheared 1.06 pounds per head more than in 1919. This combination of roughages proved quite satisfactory, though not the equal of alfalfa alone.

CONCLUSIONS.

1. Alfalfa hay is unequalled as a roughage for wintering pregnant ewes. Mature animals can be carried through to lambing on this hay without the use of grain in any form. In this test, ewes wintered on alfalfa hay made greater gains, produced larger lambs, and sheared heavier fleeces than those on any other roughage or combination of roughages or even when whole oats were fed with prairie hay. Where it is available at a reasonable price we recommend it without hesitation.

2. Oat green feed hay, fed as a single roughage, proved very unsatisfactory for bred ewes. When fed in combination with prairie hay, however, it proved both safe and profitable.

3. Mature bred ewes cannot be maintained on oat straw alone. In combination with alfalfa hay it reduced the cost of feeding and gave reasonably good results, though not the equal of straight alfalfa. On oat straw and turnips ewes will show a heavy loss in weight, but in this case lambed successfully.

4. The accompanying table shows quite clearly that the growth of fleece is materially increased by proper feeding.

Shorthorn Females Average \$1,132.

With sixty-five Shorthorn females at the Pettit-Elliott sale averaging \$1,132 throughout, in a four-hour auction, it seems almost as though any comment whatever, as regards the success of the sale, should be quite unnecessary. To many of us the figures from a remunerative angle look exceptionally pleasing, but taking into consideration the prices the Old Country breeders are asking and are being able to obtain for animals of the sort which went through this sale, it is questionable if the margin of profit to the importers was sufficiently large to encourage them or other breeders to bring out a similar lot and take their chances on so great an investment. From this side of the water it looks as if the Scotch breeders are running true to form as usual and taking no chances whatever on who the chap is going to be who gets the profit. The cattle, however, were a credit to their breeders, and to their importers, and it should be pleasing to Canadians to note that the majority of them, and, in fact, all the higher-priced cattle, stayed in Canada. United States breeders took only six head, for which they paid an average of \$837 per head, while the sixty-one head purchased by Canadian breeders made an average of \$1,118, and among these were young bulls that sold for less than \$500. Twenty-eight cows, three years old and upwards, made an average of \$1,360, and thirty-seven heifers, two years old and under, made an average of \$960. The top price for the day was paid for the three-year-old heifers, Cinderella 19th (imp.) that went to Sir Frank Bailey, of Oakville, at \$3,800. She sold with a few-weeks-old heifer calf at foot, and went at fast bidding from \$3,000 after it was announced that a free service would be given to Millhill's Comet (imp.) the \$34,000 Clipper sire, owned by Mr. Elliott.

It was also interesting to note that the average made on the seventeen females that were bred to Millhill's Comet was \$1,623, or \$491 higher than the average of entire number of females in the sale. Sir Frank Bailey was the largest purchaser of the day, taking eleven head at \$20,330, an average of \$1,848. Harry McGee, Islington, also made several purchases at high averages, paying \$6,250 for four head. Gordon Auld, Guelph, took five head at an average of \$1,190, and H. J. Miller, Keene, took the same number at an average of \$835. The twelve Canadian-bred cattle made an average of \$537. The attendance was not large for a sale of these proportions, but many were no doubt kept away by the early morning promise of rain and the first chill day of the fall. The management had arranged well for the comfort of all, and those who were so fortunate as to be present witnessed a sale of good cattle that should do good to their purchasers and to the breed in Canada. The sales in detail follow:

FEMALES.

Beauty Maid 3rd, J. J. McAninch, Guelph.....	\$1,250
Maude B, Sir Frank Bailey, Oakville.....	1,500
Bessie 3rd, Sir Frank Bailey.....	1,350
Lady's Maid 2nd, Sir Frank Bailey.....	1,600
Broadward Lovely, John Miller Jr., Ashburn.....	1,500
Princess Royal Maid, Dr. McCulloch, Georgetown.....	800
Fancy Mary 2nd, E. Sherwood, Burlington.....	1,050
Rosemary A, Harry McGee, Islington.....	2,150
Mounteagle Angel 3rd, John Ross, Ft. Wayne, Ind.....	900
Roan Lady 12th, Jas. Douglas & Sons, Caledonia.....	1,200
Rosabel 11th, E. W. Laibe, Columbus Grove, O.....	1,000
Princess Royal 17th, Robt. Amos & Sons, Moffat.....	800
Industry 8th, H. J. Miller, Keene.....	725
Thuster Mysie, J. J. McAninch.....	1,000
Wayne Jessie 2nd, J. Midland, Whitby.....	525
Merry Maid 10th, Albert Young, Rockwood.....	1,250
Wartle Mysie, Geo. Kirk, Henfryn.....	950
Blossom, Wm. Stacey, Cresswell.....	875
Hillhead Undine 2nd, S. Griffin, Acton.....	1,000
Flora 14th, E. T. Emerson, Freeman.....	625
Rosebud 20th, J. J. McAninch.....	675
Leezzie Lindsay 10th, Fred Stacey.....	600
Jilt 29th Leslie & Pearen, Acton.....	1,025
Broadhooks, Geo. D. Fletcher, Erin.....	2,450
Clarinda 17th, Sir Frank Bailey.....	3,000
Helen 35th, E. W. Laibe.....	1,550
Mina Wreath, G. S. Harkness, Oakville.....	650
Beatrice 3rd, Gordon Auld, Guelph.....	550
Pretty Polly, Harry McGee.....	1,600
Jilt 3rd, Gordon Auld.....	1,150
Cinderella 14th, Sir Frank Bailey.....	3,800
Carnation, J. W. McDermot Kohako Miss.....	950
Ruth D, Sir Frank Bailey.....	950
Gartly Rose Blossom, Sir Frank Bailey.....	3,700
Lynegar Flower Girl 17th, Gordon Auld.....	1,500
Millcraig Heather 2nd, Sir Frank Bailey.....	975
Lynegar Waterloo Princess 5th, Gordon Auld.....	1,050
Millhill's Marigold 10th, H. McGee.....	1,250
Kinellar Mayflower, Sir Frank Bailey.....	1,350
Waterton Bessie 3d, John McKenzie Chatsworth.....	1,200
Vain Bessie, Sir Frank Bailey.....	1,000
Matilda 15th, John Ross.....	975
Lady Broadhooks 4th, H. J. Miller.....	1,125
Thornham Mayflower, Gordon Auld.....	1,700
Jealous Princess, John McKenzie.....	975
Fingask Lancaster, J. A. Watt, Elora.....	975
Meadow Beauty 9th, H. McGee.....	1,250
Duchess 31st, Geo. D. Fletcher.....	1,075
Maple Leaf Jealousy, H. J. Miller.....	775
Princess Mildred 5th, Sir Frank Bailey.....	475
Sittyton Cowslip 2nd, J. J. McAninch.....	775
Lady Rosedale, John Ross.....	625
Maureen, Scotty Milne, Mt. Pleasant, Ia.....	700
Model's Princess R, E. Robson, Denfield.....	600
Pink Carnation, Sir Frank Bailey.....	1,100
Golden Beauty 3rd, John Ross.....	825
Lady Tarves 23rd, John Miller Jr.....	825
Mayflower Lady, Fraser Auld, Guelph.....	500
Jessamine 17th, H. J. Miller.....	700
Queen Bess 64th, J. H. Miller.....	850
Lancaster Queen 2nd, J. J. Merner, Seaforth.....	1,050
Newton Eliza, Geo. Amos & Son, Moffat.....	900
Model's Snowflake P, A. G. Farrow, Oakville.....	475
Oak Ridge Flora, E. D. Sherwood, Burlington.....	500
Roan Lady 2nd, Fraser Auld.....	500

MALES.

Mayflower Prince, J. J. McAninch.....	130
Mountaineer, E. Robson.....	300
Bull calf, Peter Stewart & Son, Guelph.....	225

THE FARM.

A Fall Fair That Spells Progress.

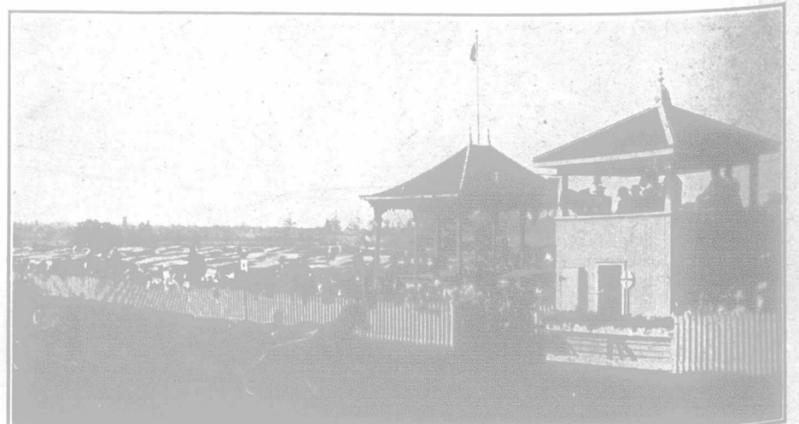
Prince Edward County, in Eastern Ontario, is sometimes called the truck county of Ontario. The first canning factory in the County was established in 1882, at Picton, and for several years thereafter this was the only factory in the County. The development of truck growing and the canning industry has progressed so rapidly that at the present time, according to information vouchered for by the *Picton Times*, Prince Edward Produces half of Canada's canned goods. The County has a population of 17,150, and is divided into seven townships, including the villages of Wellington and Bloomfield, and the County town of Picton. The area of Prince Edward County is 195,365 acres of arable land, and according to the same authority quoted above this County produces annually a larger return per capita than any other county in Ontario. In 1918 there were twenty-three canning factories in operation throughout the County, nine of which were branches of the Dominion Canners Limited, and the remaining fourteen were independent factories.

But Prince Edward County farmers do not confine themselves to the growing of canning-factory crops. Dairying is very well developed in Prince Edward, and in 1918 there were twenty-two cheese factories, while in addition there are two milk-condensing plants in operation. Another indication of the progress of dairying in Prince Edward is the fact that Bloomfield is an especially good centre for pure-bred dairy cattle, there being a surprisingly large number of pure-bred herds in the vicinity of this village. All told, the agricultural production of Prince Edward County amounts annually to no insignificant sum. Beginning in 1911, we find the agricultural production in that year amounting to \$3,921,000; in 1912 it was \$4,035,000; 1913, \$3,435,000; 1914, \$3,775,000; 1915, \$6,385,000; 1916, \$5,793,000; 1917, \$8,253,270; 1918, \$9,334,279; 1919, \$9,629,278. This latter sum was made up as follows: Cereals, \$2,605,708; cheese, butter and milk, \$1,605,000; live stock sold, \$1,500,000; canned vegetables and fruit, \$2,290,000; apples, \$500,000; potatoes and roots, \$368,570; seed peas, \$250,000; poultry and eggs, \$250,000; fruits, other than apples, \$150,000; seed corn and beans \$70,000; and tobacco, \$40,000. Thus it can be seen that Prince Edward County has a diversified agriculture, while at the same time it has developed one or more specialties that have made it well and favorably known throughout Canada. Over a hundred miles of improved County roads, a very good type of township road, coupled with Hydro-electric power and light, give the residents of the County many of the conveniences that make rural life most delightful. The County is not too well supplied with railroads, since there is only one line, formerly the Canadian Northern Railway, and now a part of the system of the Canadian National Railways, running from Trenton to Picton, a distance of approximately thirty miles.

This story, however, is not particularly about the County of Prince Edward, however much one could dilate upon the excellencies of the farming methods in use there. Only a few days ago a representative of "The Farmer's Advocate" had the opportunity of spending two days at what is undoubtedly one of the best county fairs in the Province of Ontario. This was, we understand, the sixty-second annual Picton Fair, held on September 21-24. For some years we had heard that the fair held at Picton ranked very high among fall fairs the Province over; and an effort was made this year to spend some time in Picton while this event was in progress, in order that we might be able to discover the reason for the excellence and the generally high reputation which the Picton Fair has in the minds of those who are interested in the development of fall fairs and exhibitions in rural localities. We are glad to say that our previous impression of Picton Fair was maintained and even made more favorable. This year was designated "Old Boys' Memorial Year," and in the history of the Picton Agricultural



View of Some of the Picton Fair Buildings from the Grandstand. From left to right are the cattle barns and office, the horticultural building, the tent for vegetables and field crop exhibits, the palace, and women's rest room and dining hall.



Across the Track from the Grandstand is the Bandstand and the Judges' Stand. Note the number of cars parked and the finish of a horse race.

Society it will stand out by itself as the year in which the splendid new entrance to the fair grounds was erected by the old boys of Prince Edward County, and presented to the Fair Association. Unfortunately, we are not able to show an illustration of this splendid new entrance, but we do want to pay a tribute to the management and Board of Directors for the fact that they deemed the work of the fair worthy of such an attractive and permanent structure.

The popularity of this particular fair may be gathered to some extent from the fact that it had this year a tendency to disorganize the farm work of the County, because there were so many hundreds and even thousands of people who insisted on attending. We understand that the canning factories made some complaint because the fair was held during the week which is, perhaps, the busiest week of the year throughout the County; that is to say, the corn crop and the tomato crop for the canning factory were being harvested with all speed, and the fair so strongly attracted the employees and those connected with the canning industry that there were too many holidays taken to get the work attended to with the greatest dispatch. Just here there is a pointer for all fair managers and boards of directors in other places. Originally, the Picton Fair was a two-day event; then it was increased to three days, and this year for the first time it was extended over four full days. For many, many years the fair has been held on the first Wednesday and Thursday following the 21st of September, and ever since these dates were first decided upon they have been maintained through good weather and bad. Now that a four-day fair has been inaugurated, another day has been added at either end, so to speak, of the original two days so as to include both Tuesday and Friday. The management believes that nothing is to be gained by changing dates in an endeavor to escape bad weather. It is bound to rain on any specified day of the month if one waits for a sufficient number of years to elapse, but it is believed that there is far less danger of striking, say, three bad years out of five, if some suitable date is chosen and then adhered to.

Perhaps the most outstanding thing that is responsible for the splendid success achieved to date by the Picton Fair is the fact that townspeople and farmers co-operate heartily to make the most of the event. The board of

fair buildings that it has ever been our privilege to see. The buildings are not large and are of frame construction; but paint is not spared, and they add to the whole appearance of the fair an up-to-dateness and a business-like air that cannot help but impress any visitor. We were much interested, for instance, to note that the palace, which is to be found on every fair ground and houses the fine arts, the school exhibits, the flowers and manufactured products, has been built as long as thirty-five years and looks quite in keeping with the freshness of the newer buildings because of careful cleaning and frequent painting. In 1910 a horse barn was built, and in 1911 a small building for the housing of horticultural exhibits was constructed. Then came the remodeling of the hog pens in 1913, the building of a fine cattle barn and offices for the management in 1914, while this year another horse barn has been added to the one already constructed. The sheep pens are older than most of the other buildings, but have been kept as fresh and as attractive as possible with such buildings. There is a combined dining-hall and ladies' rest room, erected some years ago by the Prince Edward Old Boys, and this building is one of the most popular on the whole grounds. There is also a splendid grandstand, as can be seen in one of the accompanying illustrations, while facing this structure, across the track, are the judges' stand for the races and a neat band-stand. Then, too, there are separate cattle and horse-rings for breeding classes.

In connection with the judging of agricultural products, the Society endeavors to secure expert judges for practically every line of agricultural produce. There were this year eleven of such judges, covering such lines as heavy horses, light horses, Holstein cattle, Jersey and grade cattle, beef cattle, sheep and swine, poultry, seed and grain, fine arts, public school exhibits, and domestic science. Practically the only local judges secured are those judging the flowers and house plants. We were very much interested to learn that judging of live stock extended over the whole four days of the fair. This indicates that the Board of Directors are anxious that visitors to the fair shall have as much educational benefit as it is possible to provide. The management is constantly fighting against a tendency of both exhibitors and some judges to rush through the work of the show-ring without due consideration for the

than offset by the direct harm worked upon the tastes of the visitors by these cheap attractions.

The European Corn Borer in Ontario.

By ARTHUR GIBSON, ACTING DOMINION ENTOMOLOGIST.

On August 10th the European Corn Borer was discovered for the first time in Canada. Larvæ about half an inch in length were found on that date near Lorraine Station, Welland County, Ontario, by Messrs. Keenan and Simpson of the Division of Foreign Pests Suppression. The infestation at this point was light, but more eastward particularly in the vicinity of Ridgeway and Chrystal Beach, Ontario, the infestation was heavier.

Since these first infestations were discovered, L. S. McLaine, Chief of the Division of Foreign Pests Suppression, has undertaken much further scouting in other parts of Ontario and this work is still under way. When the borer was discovered at Ridgeway and Chrystal Beach an effort was made to find the limits of the infestation. According to latest advices this extends from Fort Erie on the east, to Dunnville on the west, along the Lake Erie shore and about twenty miles inland. On August 23, larvæ were received from a farmer living near St. Thomas, Ontario. Scouts were immediately despatched to this new infestation and their first report indicated that five per cent. of the corn plants in the fields examined were infested. The infestation in western Ontario has not as yet been defined, but on September 16, it composed all of Elgin and Middlesex counties and a portion of Oxford county.

On the above date (September 16) an important conference took place at St. Thomas, at which the following men were present: Messrs. W. R. Walton and L. H. Worthley, of the United States Bureau of Entomology, Dr. E. P. Felt, State Entomologist of New York, Dr. J. H. Grisdale Deputy Minister, Dominion Department of Agriculture, Prof. L. Caesar, Provincial Entomologist for Ontario, and Messrs. Gibson, McLaine, Keenan and Vroom, of the Dominion Entomological Service. Fields of field corn in the vicinity of St. Thomas were investigated, some of which were very seriously infested, in one field probably a commercial loss of from 20 per cent. to 25 per cent. had resulted.

Up to the present time corn is the only crop in which the borer has been found in Ontario. In the State of Massachusetts where the pest was first discovered, the borer has been found in addition to corn, in other crops such as celery, bean, potato, spinach, tomato, rhubarb, etc. Corn, however, is the favorite food plant, all parts of which are attacked except the fibrous roots.

The most serious damage is caused to the stalks and ears which are partially or totally destroyed. The borer generally enters the stalk at the upper end near the base of the tassel and at first tunnels upward. The damage so weakens the tassel stalk that it breaks over before the tassel matures, resulting in loss of pollen and normal fertilization of grain in the ears. After destroying the tassel the borers tunnel downwards through the stalk gradually increasing the size of their tunnels as they develop.

When mature the European Corn Borer is about one inch long. It is of a light brownish or flesh color, some specimens being darker than others. The head is dark brown, the neck or thoracic shield paler brown, as are also the warts or tubercles of the body. This borer is closely allied to other species and usually an expert determination is necessary.

The Entomological Branch has issued a Crop Protection Leaflet discussing this insect in which the following means of control are recommended:

1. Cut corn stalks as close to the ground as possible, thus reducing the number of borers left in the stubble. The earlier in the season the corn is cut the better. Some farmers this year are cutting the worst infested patches by hand with a sharpened short-handled hoe. With such a tool the stalks may be cut almost level with the ground. Plowing under infested stubble will not kill the borers. Experiments have shown that they will work their way up through sixteen inches of soil.
2. Put corn fodder in the silo, or at least feed the stalks to live stock.
3. Keep the corn field free from weeds. The borers have already been found in smartweed, lambs quarters, ragweed, and certain thick-stemmed grasses and weeds.
4. Burn or bury deeply in the spring all infested corn stalks, cobs, waste, etc., after winter feeding of stock, or mix with horse manure. There is not sufficient heat generated in cow manure to destroy the borers.
5. Burn over weedy areas near infested corn fields to destroy hibernating borers.

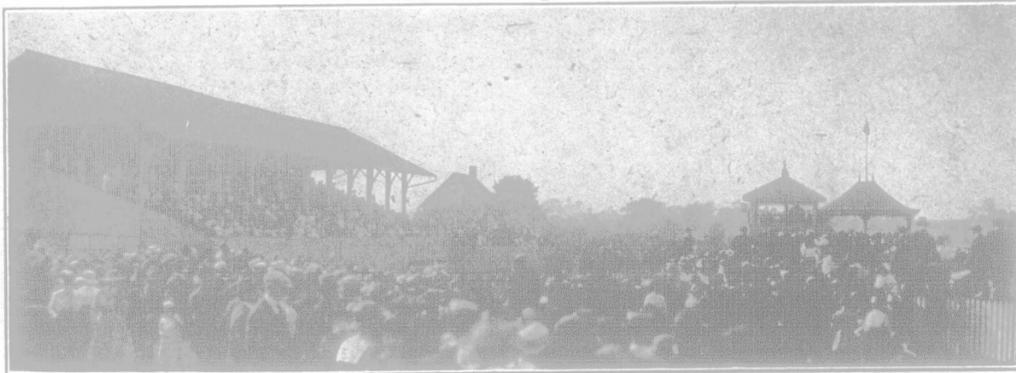
SOME IMPORTANT DON'T'S.

Don't leave corn stalks standing in the fields all winter to be plowed under in spring. Unused corn stalks should be burned in early spring.

Don't throw old stalks, cobs, litter, etc., into the cow yard to be trampled on by cattle in the hope of destroying the borer.

Don't spread the corn borer into new territory by shipping infested stalks, corn on the cob or corn cobs either for feed or packing purposes.

Cull the lamb flock and market only the well-grown, finished lambs. The light lambs will return a profit for the extra feed given them, and the market will remain stronger.



Part of the Crowd at the Picton Fair Watching the Military Ride in Front of the Grandstand on Thursday, September 23.

directors is possibly unnecessarily large, and includes eighteen members—including a president and two vice-presidents. Farmers predominate on the board, but some of the hardest workers and the most enthusiastic fair supporters are business men of the town of Picton. In fact, we were rather amused at one time during our visit, when a pole of some kind was needed for the military horsemen who were performing before the grandstand, to see the Mayor of the town crawl up on top of the band-stand and bring down the flag-pole, the only available pole that could be secured quickly. Everyone seemed to be boosting the fair, and everyone was particularly proud, as indeed they had a right to be, of the fact that the membership of the Society numbered something over 1,700. It may be a point of interest to fair directors elsewhere to know that of this number over 1,400 members were secured by the 24th of May. This fact is probably explained by the practice of the Society to take advantage of every occasion, not only to bring itself to the notice of the people but to encourage the agriculture of the County and the development of the community as a whole.

We were much interested to find out that not only does the Agricultural Society conduct a County Fair, but on Victoria Day they have an annual event in which horse-racing is made especially prominent, and during this last year they negotiated for and conducted a Chataqua for the County of Prince Edward, an event which, by the way, would not have been available for the people of the county had not the Agricultural Society taken it up. Of course, there is another side to the question—that of money-making, and one of the reasons why the Society has carried its endeavors outside of the exhibition field is to accumulate sufficient money to bring about the improvements that are constantly thought to be necessary. We did not make any special inquiries as to the financial standing of the Society, but we do remember being informed in a casual way that in 1914, after building a splendid new cattle barn, the Society was something like \$6,000 in debt, and that this debt has now been reduced to the neighborhood of \$1,500.

The grounds of the Society cover approximately seventeen acres, and on this land have been built some of the cleanest, nicest and most attractive County-

educational value of properly-conducted judging. One instance of this occurred this year, which, we understand, will be kept in mind when the judges are selected for next year's work. We have not space to discuss the character and the quality of the various kinds of exhibits as they deserve. There were not many heavy horses, as compared with the usual number, but there were fourteen in the agricultural classes, fifteen Percherons, and forty-five carriage and roadster entries. Among cattle, there were fifty-two Holsteins, twenty-five Short-horns, and twenty-four Jerseys. Hogs were rather light this year, numbering only twenty-six, while there were fifty-five entries in sheep, the largest numbers being in Oxfords and Shropshires. Grain was low, but seed corn was good and the vegetable and root exhibit was, in our opinion, equal to or better than the exhibit at the Central Canada Exhibition, Ottawa. The fruit exhibit was excellent and the biggest ever experienced at the Picton Fair. Dairy products were fairly well represented; poultry was light; but the domestic arts section and the fine arts and school exhibits classes were better than usual. All of these we may say were very tastefully arranged, and upon inquiry regarding the fine arts, and particularly the ladies' fancywork classes, we were informed that there were few of the professional exhibitors represented. Some trouble has been experienced in the past from exhibitors of this kind, but if the fair management is sufficiently persistent these people can be finally persuaded that they are not wanted.

If space permitted we would like to discuss the Picton Fair a little more fully, but there is room only to express appreciation of the fact that mid-way and horse-racing attractions were minimized. There were as many as 8,000 people on the grounds on one day, and the illustrations show the popularity of the fair better than words can describe it. At the same time the absence of excessive horse-racing and a cheap, noisy mid-way served to enhance the educational value of the event and to bring more prominently before the people the true purpose and dignity of the annual County fair. Far too many of our fall fairs give much more than the proper degree of prominence to the cheap variety of side-show and games of chance. There is a danger that the educational value achieved by some fairs is more

ARM.

Spells Progress.

Eastern Ontario, is some of Ontario. The first was established in 1882, thereafter this was the development of truck industry has progressed so according to information Times, Prince Edward goods. The County is divided into seven ages of Wellington and town of Picton: The county is 195,365 acres of the same authority quoted annually a larger return in Ontario. In 1918 ng factories in operation of which were branches ited, and the remaining ories.

y farmers do not confine f canning-factory crops. ped in Prince Edward, ty-two cheese factories, o milk-condensing plants tion of the progress of the fact that Bloomfield r pure-bred dairy cattle, ge number of pure-bred village. All told, the Prince Edward County ificant sum. Beginning ural production in that a 1912 it was \$4,035,000; 5,000; 1915, \$6,385,000; ,270; 1918, \$9,334,279; sum was made up as cheese, butter and milk, 00,000; canned vegetables \$500,000; potatoes and 0,000; poultry and eggs, ples, \$150,000; seed corn, \$40,000. Thus it can County has a diversified ime it has developed one ards it well and favorably ver a hundred miles y good type of township ric power and light, give any of the conveniences eautiful. The County roads, since there is only a Northern Railway, and the Canadian National n to Picton, a distance of

e particularly about the iver much one could f the farming methods ys ago a representative had the opportunity of undoubtedly one of the e of Ontario. This was, nd annual Picton Fair, or some years we had iction ranked very high over; and an effort was e time in Picton while order that we might be e the excellence and the ch the Picton Fair has nterested in the develop- ions in rural localities. previous impression of d even made more favor- d "Old Boys' Memorial the Picton Agricultural



Bandstand

se race.

THE DAIRY.

Plans and Specifications for a Community Dairy Plant.

For some time "The Farmer's Advocate" has urged the adoption of the co-operative idea in the handling of the milk produced in each locality. This can be best worked out, we believe, if producers own their own distributing plants, provided these are equipped to prepare the milk for whatever market offers the greatest opportunities, whether it be whole milk, cream, butter or cheese. There is no need here to dilate upon the present milk situation as evidence of the need for such action on the part of milk producers. An experimental or test plant of this nature has been in successful operation for some years by the Dairy and Cold Storage Branch of the Dominion Department of Agriculture, and the result of diverting the milk supply to the most favorable market have been most marked at Finch, where this station was located. The Finch station was built after the style of a combined cheese factory and creamery, and was constructed also so as to provide convenience and sanitation combined with economy.

Largely because the present milk situation seems to strongly warrant the establishment of many more such stations, for reasons already mentioned, we are reproducing herewith the essential parts of the actual specifications for such a plant. Some details have been omitted, but these can be easily secured by anyone sufficiently interested to write to the Dairy and Cold Storage Branch, Department of Agriculture, Ottawa, for a copy of Bulletin 41, Dairy and Cold Storage Series, or for blue prints on a working scale which will be supplied for all the illustrations used in the Bulletin. The specifications follow:

CAPACITY AND EQUIPMENT.

Capacity.—This plan is suitable for the manufacture of both cheese and butter at the same time, but it is designed more particularly for the manufacture of cheese in summer and butter in winter. Its capacity is 26,000 pounds of milk for cheese-making and about 1,000 pounds of butter per day. The Government Dairy Station, Finch, Ont., is built from this plan with hollow cement blocks.

Equipment.—To operate this factory efficiently a 20-horse-power boiler and a 10-horse-power engine should be installed. A round galvanized iron tank 5 feet by 5 feet should be placed above the boiler room for cold water. A round galvanized iron tank 30 inches in diameter by 40 inches deep may be placed under the stairway for hot water with the outlet high enough to

discharge into pails sitting in the wash sink. A steel whey tank 12 by 8 by 4 feet 6 inches deep is placed over the boiler room immediately over the supports mentioned in specifications. In the bottom of this tank near the end next wall, place two 2-inch outlets to fit 2-inch steam pipe. A tin vat for skim-milk 6 by 3 by 2 feet 9 inches deep is placed alongside of the whey tank. Connections are made from the whey tank to an automatic skim-milk weigher in the store-room, also to one in the boiler-room. The skim-milk vat is also connected to the weigher in the boiler-room weigher. The cheese-making room is planned for four 6,500-pound vats and cheese presses for 34 cheese. The curing-room, if fitted four shelves high, will hold 480 cheese. The ice chamber will hold about 90 tons of ice. In the creamery there is room for a milk-receiving vat, two cream ripeners, two separators and a churn.

FOUNDATIONS.

Outside Walls.—Erect a concrete wall 18 inches wide at the base and 9 inches wide at the top with a depth of 3 feet below and 1 foot above the ground level. The slant to be on the outside of the wall except at the septic tank where the slant must be on the inside so as to leave the wall for the septic tank perpendicular. Adjoining the septic tank the foundation shall be 7 feet 6 inches below and 1 foot above the ground level.

Roof over Front Driveway.—Erect a foundation 28 feet long, 3 feet below and 2 feet above the ground level, 15 inches wide at the base and 8 inches wide at the top. Slant on outside of wall. At each end of this foundation erect retaining walls 15 feet long, 12 inches thick at base and 8 inches wide at top, 18 inches below the ground level and 2 feet above the ground level at main wall—sloping to 1 foot above the ground level at the end. From each side of the milk-weighing platform erect retaining walls 10 feet long, same thickness, depth and height as outside retaining walls.

Partitions.—Under all partitions shown on plan, except that between the ice chamber and curing-room, erect foundation walls 9 inches thick, 18 inches below and 12 inches above the ground level. For partition between the ice-chamber and curing-room make the foundations 14 inches wide, 18 inches below and 12 inches above the ground level.

Post to Support Ceiling of Ice Chamber.—In the centre of the ice chamber erect a pier 18 inches square, 2 feet below and even with the ground level.

Posts to Support Whey Tank.—In the engine room erect 4 concrete piers 18 inches square, 3 feet below and 1 foot above the ground level.

Smokestack.—Erect a concrete foundation 4 feet square, 4 feet below and 1 foot above the ground level.

Boiler and Engine.—Erect concrete foundations for boiler and engine as shown on plan. Top of boiler

foundation to be 6 inches above floor level and top of engine bed to be 12 inches above floor level. Place anchor bolts in engine bed as directed and finish outside smoothly with cement. Anchor bolts to be furnished by owner.

Septic Tank.—From the corner of the bath-room, build a concrete wall 8 inches thick, 7 feet 6 inches below and 6 inches above the ground level to extend 6 feet out from the corner, then straight across and join the corner of the refrigerator wall. Across the middle of this tank, between the refrigerator and bath-room, erect a concrete wall 6 inches wide and same height as outside wall. Then in the centre of each tank erect 6-inch walls same height so as to make four compartments. All the drainage to septic tank to be connected with No. 1 compartment. Make outlets from one compartment to the other, 1 inch lower than drainage from the factory gutters; between compartments Nos. 1 and 2, 2 and 3, and 3 and 4, make a 3-inch steam pipe connection with elbows on each end. The intake end of each outlet to extend down into the tank 2 feet, so that the water is drawn from about the middle of each compartment. Directly over these connections, close to the cover, make openings 3 inches in diameter for ventilation. Connect the fourth compartment to the main drain with a 3-inch pipe; on the end of this pipe in the tank, screw an elbow and a piece of pipe 2 feet long.

Floor in Tank.—Make a concrete floor in the septic tank, 4 inches of concrete and 1-inch finish, same as on factory floors; all the walls and partitions in the tank to be made smooth and free from holes.

Cover on Tank.—Make a cover over the tank, 4 inches concrete and 1-inch finish, same as floors. Cover to be reinforced with 3/4-inch iron. In the cover of each compartment, make a manhole 18 by 8 inches with bevelled sides and fitted with a 2-inch plank cover. In the cover over No. 1 compartment, place a vent 4 inches in diameter and in No. 4 compartment place a vent 2 inches in diameter.

FLOORS.

Provide and lay over the floor area, except in the ice chamber and refrigerator, to a depth of 8 inches with gravel, broken stone or clinkers, well rammed or rolled and afterwards moistened to prevent absorption of water in the concrete when laid; on this lay 4 inches of the concrete mixture and 1 inch of the finishing mixture, surface of floor to be trowelled perfectly level and left smooth and even. Curing-room floor to be graded 2 inches from the outside walls to the gutter at the partition between the curing-room and cheese-making room. All the other floors to be graded to the gutters 1 inch to 6 feet.

Ice Chamber Floor.—Excavate the area of the ice chamber to a depth of 16 inches below the top of foundation. On the inside of the three outside walls lay a concrete block 4 inches thick and 12 inches wide to support studding for insulation. Inside of this concrete block, grade the ground with a slope of 2 inches to the end wall; lay a 3-inch field tile along the end wall and seven rows of the same sized tile across the room and connected with the row along the end wall. All the tile must be sunk level with the ground and connected with a 4-inch glazed tile, leading through the foundation wall to the drainage system of the factory. Provide a trap in the glazed tile outside of building.

On top of the field tile lay 8 inches of coal cinders or coarse gravel. Lay over the gravel, rough lumber and cover with 10 inches of planer-mill shavings and cover with 1-inch rough lumber. On top of lumber lay 2-by-4-inch scantling at 24-inch centres.

Refrigerator Floor.—Excavate area of refrigerator to a depth of 15 inches below the top of the foundation and lay gravel and concrete the same as in curing-room floor. On top of concrete lay one course of 3-inch impregnated cork board. Finish on top of cork with 1 inch of Portland cement, same as other floors.

Milk Weighing Platform Floor.—Fill in space between outside and inside walls with earth or stones or gravel, rammed solid, lay 4 inches of concrete and finish with 1 inch cement same as in other floors. Grade 1 inch to gutter, as directed. This floor to be 2 feet 10 inches from main floor.

Driveway Between Store-room, and Boiler-room.—Lay a concrete floor same as floors of building 20 feet wide from the right-hand side of boiler-room, grade the surface of the floor 3 inches to "Bell" trap.

Gutters.—In the boiler-room make a basin under the sink 3 feet by 18 inches and 7 inches deep. From this basin make a gutter as shown on plan 5 inches wide to partition at curing-room. Under this partition and extending into the curing-room, 2 feet make a gutter 2 inches wide, 2 inches deep at the main gutter and 1 inch deep at the end. Main gutter to be 7 inches deep at the basin and 3 inches deep at the curing-room partition.

In the creamery make a gutter at boiler-room partition as shown on plan, 4 inches wide, 5 inches deep at the main drain and 4 inches deep at the end. At the end make a basin 12 by 10 inches, 4 inches deep. In the testing-room, make a gutter 2 inches wide and 2 inches deep to bell trap at the corner of boiler brick work.

On the weighing stand platform, make a gutter 2 inches from the edge of the platform, 2 inches deep at one end and 3 inches deep at the other and connected with a 1 1/2-inch pipe to outside of platform.

Traps and Soil Pipe.—In the basin in the boiler-room, place two bell trap cess-pools half an inch below bottom of basin. Connect No. 1 with the septic tank. Connect No. 2 with main drain running from the septic tank to catch basin. In the bath-room place a bell trap 2 inches below the floor level and a water closet



The Ground Floor Plan of a Combination Dairy Factory Where Milk Destined for Any Purpose Can be Cared for to the Advantage of the Producer.

FOUNDED 1866

above floor level and top of
s above floor level. Place
s directed and finish outside
anchor bolts to be furnished

corner of the bath-room,
ches thick, 7 feet 6 inches
ground level to extend 6
then straight across and
riggerator wall. Across the
n the refrigerator and bath-
1 6 inches wide and same
men in the centre of each
e height so as to make four
inage to septic tank to be
mpartment. Make outlets
e other, 1 inch lower than
gutters; between compart-
nd 3 and 4, make a 3-inch
lbows on each end. The
extend down into the tank
rawn from about the middle
ctly over these connections,
enings 3 inches in diameter
e fourth compartment to
h pipe; on the end of this
lbow and a piece of pipe 2

concrete floor in the septic
and 1-inch finish, same as
walls and partitions in the
free from holes.

a cover over the tank, 4
ish, same as floors. Cover
iron. In the cover of each
hole 18 by 8 inches with
with a 2-inch plank cover.
mpartment, place a vent 4
o. 4 compartment place a

RS.

floor area, except in the
r, to a depth of 8 inches
clinkers, well rammed or
ed to prevent absorption of
aid; on this lay 4 inches of
ch of the finishing mixture,
ed perfectly level and left
room floor to be graded 2
o the gutter at the partition
and cheese-making room.
aded to the gutters 1 inch

excavate the area of the
6 inches below the top of
of the three outside walls
s thick and 12 inches wide
nsulation. Inside of this
nd with a slope of 2 inches
field tile along the end
ame sized tile across the
e row along the end wall.
level with the ground and
azed tile, leading through
drainage system of the
the glazed tile outside of

8 inches of coal cinders or
gravel, rough lumber and
er-mill shavings and cover
n top of lumber lay 2-by-4-
res

ate area of refrigerator to
the top of the foundation
e same as in curing-room
lay one course of 3-inch
ish on top of cork with 1
e as other floors.

Floor.—Fill in space be-
l with earth or stones or
ches of concrete and finish
n other floors. Grade 1
This floor to be 2 feet 10

room, and Boiler-room.—
floors of building 20 feet
e of boiler-room, grade the
o "Bell" trap
oom make a basin under
and 7 inches deep. From
shown on plan 5 inches
om. Under this partition
ing-room, 2 feet make a
s deep at the main gutter
Main gutter to be 7 inches
es deep at the curing-room

a gutter at boiler-room
4 inches wide, 5 inches
4 inches deep at the end.
12 by 10 inches, 4 inches
make a gutter 2 inches
bell trap at the corner of

platform, make a gutter 2
platform, 2 inches deep
ep at the other and con-
o outside of platform.

the basin in the boiler-
s-pools half an inch below
o. 1 with the septic tank.
in running from the septic
e bath-room place a bell
level and a water closet

with the usual low-down flushing tank, and connect both with the pipe running from No. 1 trap in basin to septic tank. In boiler-room at the corner of the boiler brick work, place a bell trap 3 inches below the floor level and connect with main drain from septic tank to catch basin. In the floor in the driveway between the store-room and boiler-room, place a bell trap cess-pool where shown on plan and connect to the pipe running from No. 1 trap to septic tank. All connections between traps and the septic tank or drains to be made with 4-inch cast-iron soil pipe with the joints stopped or cemented to prevent leaks.

Smokestack.—Outside the boiler-room as shown on plan, erect a smokestack 40 feet high from foundation with a flue diameter of 18 inches; the smokestack to be constructed of cement blocks. The wall of the building to be used for one side of the smokestack, which must be built in with the wall. Make an opening for boiler smoke pipe where directed and place an iron frame and door in the outside of smokestack 4 feet from base.

Chimneys.—Erect two concrete block chimneys, one at each end of the main building. Chimneys to be built in the wall with 7-inch openings for stove pipe in curing-room and creamery-room. Walls to be constructed of hollow rock faced cement blocks, 2 feet long 8 inches wide and 9 inches high, carefully laid in cement mortar. Walls to be 14 blocks high to the plate. On foundation for roof over front driveway, lay 4 rows of cement blocks and finish on top with a four-inch concrete block 12 inches wide.

Pointing.—The outside of the walls and the inside of all walls, except curing-room, ice chamber and refrigerator, to be neatly pointed.

Plates.—On top of the wall, lay in mortar, two courses of 2 by 6-inch plank with joints broken.

Extra plate to support roof between store-room and boiler-room.—Lay across the driveway and fasten securely in the wall of the main building and level with the last course of cement blocks, extra plates 9 inches deep by 8 inches wide. The regular plates to extend over these extra plates.

PARTITIONS.

Cement Block Partitions.—The partitions between the creamery and the cheese-making room, the partition between the cheese-making room and the curing-room, the partition between the creamery and the cheesemaking room on one side, and the office, boiler-room and bath-room on the other, the partition between the office on one side and the boiler-room on the other, the partitions between the refrigerator and cheese-room and refrigerator and ice chamber, and the partition or wall across weighing stand, to be constructed of smooth-faced, hollow cement blocks, same size as in walls and neatly pointed on both sides, except in refrigerator and curing-room.

Wood Partitions.—The partition between the ice chamber and the curing-room to be constructed as follows: Erect 2 by 4-inch staggered studding at 24-inch centres, leaving a space of 12 inches between the outside face of each row of studs. Space to be filled with dry planing-mill shavings. On the side next the ice chamber, lay one course of 3/8-inch T. & G. sheathing, 2 ply of damp-proof paper, and one course of 3/8 T. & G. spruce sheathing free from shakes, large or loose knots. On top of this lay 1-inch furring strips at 24-inch centres, one ply of damp-proof paper, and finish with one course 3/8 T. & G. sheathing. On the side next the curing-room lay 3/8 T. & G. spruce sheathing erected perpendicularly.

AIR CIRCULATION

Make two openings 12 inches wide by 8 inches high in the partition between curing room and ice chamber, 4 inches from the floor of the curing room and 7 feet from the outside walls. Near the ceiling make two similar openings. These openings to be fitted with sliding covers in the curing room. Make an opening 12 by 8 inches in the wall between ice chamber and refrigerator 4 inches from the floor of the refrigerator and another opening the same size close to the ceiling. Both openings to be fitted with sliding covers.

INSULATION.

Outside Walls of Ice Chamber.—Erect against cement block surface 2 by 1-inch furring strips at 2 feet centres and cover with one course of 3/8 inch T. & G. sheathing. Over this lay two ply of damp proof paper to be held in place with thin strips or lath. Erect 2 by 4 studs at 2-foot centres placed to bring the outside edge 1 foot from surface of sheathing already erected leaving a space of 12 inches to be filled with shavings. Cover with one course of 3/8 T. & G. sheathing, two ply of damp paper and one course 3/8-inch T. & G. spruce sheathing free from shakes, large or loose knots. On top of this lay 1-inch furring strips at 24-inch centres, one ply of damp proof paper and finish with one course spruce sheathing. Space between studs to be filled with dry planer shavings.

Walls of Refrigerator.—Erect against cement block

surface 2 by 1-inch furring strips at 2-foot centres and cover with one course of 3/8-inch T. & G. sheathing. Over this lay two ply of damp proof paper to be held in place with thin strips or lath. Erect 2 by 4 studs at 2 feet centres placed to bring the outside edge one foot from surface of sheathing already erected leaving a space of 12 inches to be filled with shavings. Cover with one course of 3/8 T. & G. sheathing two ply of damp proof paper and finish with "V" jointed T. & G. spruce sheathing.

Walls of Curing Room.—Lay over inside surface of cement blocks, two ply of damp-proof paper held in place by thin strips or lath. Set up 2-by-4-inch studs 24-inch centres, with outside edge 8 inches from inside surface of wall, so as to leave a space of 8 inches between wall and sheathing. Lay one course of 3/8-inch T. & G. sheathing two ply of odorless building paper and finish with 3/8-inch T. & G. "V" jointed spruce sheathing, free from shakes, large or loose insert knots put on perpendicularly. Space between wall and sheathing to be filled with dry planer shavings.

Partitions.—Inside of partition between curing room and cheese room to be insulated the same as walls of curing room. The space between the inside and outside sheathing of the partition between the curing room and ice chamber to be filled with dry planer shavings.

CEILINGS

Ceiling of Ice Chamber.—Lay 2 by 10-inch joists on top of walls at 24-inch centres. On the under side, cover with one course of 3/8-inch T. & G. sheathing, two ply of damp-proof paper and finish with 3/8 T. & G. spruce sheathing. The space between the joists to be filled with dry planer shavings. Lay one course of 3/8 inch T. & G. sheathing on top of joists. Make a hatch 4 feet by 3 feet in ceiling of ice chamber opposite door in gable and fit same with double doors. Ceiling to be supported by a 2-inch gas pipe in centre of ice chamber with a 4-by-4 run beam 6 feet long under ceiling.

Ceiling of Refrigerator.—Lay 2 by 6-inch joists on top of wall at 24-inch centres. On under side cover with one course of 3/8 T. & G. sheathing, two ply of building paper and finish with 3/8 inch "V" jointed T. & G. spruce sheathing, the space between the joists



Grace Darling of St. Mary's.

Jersey aged champion over all breeds, with a record of 14,515 lbs. milk and 863 lbs. fat at the age of 12 years, 7 months. Owned by Quechee Falls Farm, Vermont.

to be filled with planer mill shavings to a depth of 14 inches.

Ceiling of Curing-Room.—Place 2 by 8-inch joists at 24-inch centres with lower edge 9 feet in the clear above floor. Provide and erect the necessary beams to carry the joists. Cover under side of joists with one course of 3/8-inch T. & G. spruce sheathing. On the upper side of this sheathing, lay one ply of odorless building paper between joists and attached thereto with strips of wood. Spaces between joists to be filled with shavings. Cover joists on upper side with one course of 3/8-inch T. & G. sheathing. Make a hatch 3 feet square in ceiling of curing room close to ice chamber partition and fit same with double doors.

For the ceilings of cheesemaking room, creamery office and boiler room, lay over the walls and partitions 2-by-8-inch joists at 24-inch centres. Provide and erect the necessary trusses to carry the ceilings. On the under side of the joists lay one course of 3/8-inch "V" jointed T. & G. sheathing and finish corners with a moulding. On the upper side of this sheathing, over the boiler room, office and creamery room, lay between the joists one ply of building paper attached to joists with strips of wood. Fill space between joists with 4 inches of dry planer shavings. Cover the upper side of the joist over creamery, boiler and testing rooms with 3/8-inch T. & G. sheathing, and over cheesemaking room lay one inch rough lumber. In the centre of each ceiling, except in office, make a hatch with batten door 18-inches square, hinged to open into attic, provide pulleys and ropes to open doors from the floor.

SHELVING IN CURING-ROOM.

Erect in the curing-room as shown on plan, twenty 6-by-6-inch posts dressed. The top of the posts to be

mortised into 2-by-6-inch run beams fastened to the ceiling. The bottom of the posts to sit tightly on the floor. Centre of the first row of posts to be set 4 feet 3 inches from the partition between the curing-room and cheesemaking room and the other rows at 5-foot-6-inch centres. The centre post in each row to be placed so that the cross pieces in it will support the ends of two boards. The posts next the passage way to be set in 6 inches from the end of the shelves. Through each post make 4 holes 2 by 5 inches to receive the cross pieces to carry the shelves. Cross pieces to be 2 by 4 inches, 36 inches long, tapered to the ends as shown in cut and held in place with 2 hardwood wedges. The top of the lowest cross piece to be 12 inches from the floor and the top of the others 22 inches apart. Provide and fit on to the cross pieces white wood shelves 15 inches wide, 20 feet long and 1 1/2 inches thick dressed on all sides. Each shelf to have 2 boards 10 feet long.

WINDOWS.

All window frames to be 1 1/4-inch dressed lumber with a square batten in centre of sides around which the cement blocks must fit, and a quarter-round moulding to be fitted on the outside of frames. All windows except those in curing-room to be fitted on the outside frames. All windows except those in curing-room to be fitted with a 5-inch casing on the inside.

In Curing-Room.—Make 6 windows in curing-room with opening 2 feet 6 inches by 2 feet. Each window to be fitted with double sash. Both sash in two of the windows to be hinged at the top and fitted with hooks and buttons.

In Cheesemaking Room.—4 windows 5 feet 6 inches by 3 feet, 2 windows on weighing stand, opening 4 feet by 3 feet 6 inches, single sash, to be fitted to hang on pulleys and slide up through the ceiling.

In Creamery.—4 windows 5 feet 6 inches by 3 feet.

In Office.—2 windows 5 feet 6 inches by 3 feet.

In Boiler-Room.—2 windows 5 feet 6 inches by 3 feet.

In Store-Room.—3 windows 5 feet 6 inches by 3 feet.

In Bath-room.—1 window 2 feet 6 inches by 2 feet.

In Gable over Boiler-Room.—1 window 2 feet 6 inches by 2 feet.

In Gable over Store-room.—1 window 5 feet 6 inches by 3 feet.

In Gable over Front Driveway.—1 window 5 feet

by 2 feet 6 inches to be fitted with a movable louvre sash, also a glazed sash to replace louvre sash during winter.

In Roof over Office.—Make a dormer window 3 feet wide and 2 feet 6 inches high fitted with sash in two parts made to slide. Sides and roof of window to be covered with lumber dressed on one side, one ply of damp-proof paper and steel shingles same as on roof.

Insulated Doors and Frames.—1 insulated door between drying-room and curing-room, 7 feet by 4 feet, 1 insulated door into refrigerator, 7 feet by 3 feet. 1 insulated door in partition between ice chamber and curing-room near outside wall, 5 feet by 3 feet. These doors and frames to be constructed as follows: Frames to be 2-inch dressed pine or spruce and bevelled to receive doors as shown on plan. Each door to have a bevelled and rebate frame, two thicknesses of boarding, with two thicknesses of damp proof paper between, 2 by 1-inch strips and two thickness boarding with two thicknesses of damp proof paper between, the edge of the doors to have 1/2-inch plate covered with felt, this plate screwed to edge of door. Hinge these doors with 12-inch strap hinges and fit with wrought iron refrigerator door fasteners.

ROOF.

Roof to be framed and put together in the best manner with rafters 2 by 6 inches and necessary tie pieces. Cover rafters with 3/8-inch lumber dressed on one side. Lay one ply of building paper and finish roof with medium grade galvanized steel shingles. Finish ridge of roof with galvanized Roll Top Ridge Cap (including wood core). Finish valleys with galvanized valleys, 15-inch girth.

Roof over Weighing Stand and Front Driveway.—Erect 4 posts 6-by-6-inches on cement cap, as shown on plan, posts to be cased with dressed lumber. Frame 6-by-6-inch plates level with plate of main building. Rafters to be 2 by 6 inches covered with 3/8 sheathing, dressed on one side and finished with building paper and steel shingles, "Roll Top Ridge Cap" and valleys same quality as main roof. Erect studs in gable and cover same with 3/8 sheathing dressed on one side and steel shingles. Finish cornice and gables of all roofs as shown on plan with 3/8-inch T. & G. sheathing.

Ventilators.—Erect where directed three 18-inch galvanized ventilators with dampers and flanged bottoms, all joints to be made water-tight. Make water-tight joints around chimney with shingles properly flashed at junction with chimney.

A Review of the Cheese Market.

The cheese market during the month of September has not been a very satisfactory one, but conditions seemed to improve somewhat during the latter part of the month. A review of market reports from the last week in August show that for the week ending August 28 the market was firm and showed an upward tendency, prices advancing in some cases three-eighths of a cent per pound for both No. 1 white and colored. No. 1 white was sold in Montreal as high as 27 1/2 cents, with an advance to 27 1/4 cents for No. 1 colored. Up to this time the receipts in Montreal had amounted to 911,128 boxes, or a decrease of 105,375 boxes as compared with 1919.

During the early part of the first week in September the market was fairly steady, but a sharp drop in the cheese market occurred during the latter part of the week, due to a break in foreign exchange that in Montreal

amounted to about 7 cents on the pound. As a result of this, prices at the sale of the United Dairymen Co-operative were lower by three-quarters of a cent for No. 1 colored and eleven-sixteenths of a cent for No. 1 white, than the previous week. Cheese boards that had held meetings on Tuesday, Wednesday and Thursday were not affected. Trade with the United Kingdom was quiet because of exchange, and by September 4 the market was weakening. During this week the biggest drop was shown on the Kingston board, where white and colored cheese sold at 25 11/16 cents. During this time, also, there were threats of a serious strike of coal miners in Great Britain, and this also affected the cheese market to some extent.

During the following week, ending September 11, the market was also quiet, owing to continued weakness of foreign exchange and to a limited cable demand from the United Kingdom. It was reported at that time that the then rate of sterling exchange did not permit of sales at a profit on bids received from the United Kingdom. There was a limited demand from Europe for colored cheese and also some demand from the British West Indies for paraffined large cheese and twins. During this week prices ranged from 25 7/16 to 26 13/16 cents, the latter price having been received for a limited quantity on the Picton board.

During the next week the unsatisfactory condition as regards foreign exchange and cable demand continued, thus making a third week of a weak cheese market and a decided slump in prices. During the previous week the United Dairymen Co-operative, Montreal, made no sales of cheese; 2,197 boxes were offered, but all bids were refused. These cheese which were again offered on the week of September 18 were not sold. Prices during the week ending September 18 varied on the local boards from 24 3/4 cents to 26 3/16 cents. At the close of this week the United Dairymen Co-operative reported in part as follows:

"We were not able to sell any of the cheese last week that were carried over from our sale of the 10th inst. as the export trade with Great Britain was lifeless, and the Montreal exporters were entirely out of the market unless they could buy at a very low figure. In accordance with our expectations sterling exchange improved last week to the extent of 4 1/2 c. on the pound, but this advance did not appear to help the export business. The fact seems to be that Great Britain is well supplied with cheese at the present time, and that importers there are determined to force down prices of Canadian cheese for the balance of the season. The New Zealand cheese-making season has commenced and offers from that quarter are being made at lower prices than from Canada. This New Zealand competition prevents any speculative buying in Great Britain and offsets the effect of the large decrease in the make of cheese in Canada this season.

"The first part of the week some of the country boards made comparatively good prices owing to buying for Western Canada but this trade is now about supplied for the season and the latter part of the week prices on country boards were lower. We had the largest attendance of the season at our sale on Friday and the prices bid were higher than expected by many in the trade. If foreign exchange keeps on advancing we may see an improvement in the demand from cheese from the Continent of Europe with which business has been quiet of late."

At the following sale on September 27, more satisfactory conditions prevailed. The market letter sent out to companies consigning to the Co-operative auction sale at Montreal shows that there had been a decrease in the total receipts of cheese at Montreal of 11,547 boxes from August 28 to September 25, as compared with 1919, and that the decrease in Montreal receipts from May 1 to September 25 had amounted to 116,922 boxes. The comment of W. W. Moore, Manager of the Company, is quoted as follows for this period.

"We offered on Friday last 1898 cheese of which 312 were white and 1,586 colored. We sold all the cheese at the following prices: 176 special colored at 25 3/4; 1,372 No. 1 colored at 25 13/16; 38, No. 2, colored at 25 cents; 302 No. 1 white at 25 3/4; 10, No. 2 white at 24 3/4. The following factories graded specials: "Gordon Model," "Cold cured No. 6," "Kidd No. 2," "T. W. No. 1" and "Brickley". Another factory would have graded specials if the vat numbers had been marked on the boxes. We sold cheese from 47 factories with two shipments outstanding making for 49 for the week. Considering the unsettled condition the cheese market had been in all week, and the further weakness that developed in foreign exchange, we consider that the above sale was very satisfactory. The attendance was not so large as at some of the previous sales but the bidding was more spirited, and the whole sale only lasted 15 minutes. The decline in sterling exchange during the week amounted to 6 cents on the pound, but cable enquiries for cheese from Great Britain were better, and there was also a slightly stronger demand from the Continent.

"We feel very much gratified at the splendid manner in which our factories received the news that we carried over the cheese at our 15th and 16th sales. We did not receive a single request for advance payment on the cheese although we were prepared to do this if any of our factories requested such accommodation. We believe that the spirit of loyal co-operation shown by our factories under the trying conditions of the past two weeks is a good omen for the future success of this company. The fact that we refused to sell at the two sales undoubtedly had a good effect on the buyers on Friday last, as the dragging tendency noticeable at the two sales in question was entirely absent at the last sale.

"The news received on Friday that the threatened strike of the coal miners in Great Britain had been

postponed a week helped the export cheese market, and if a settlement of the difficulty is effected, as now appears probable, we should see an improved demand from Great Britain during the remainder of the season."

POULTRY.

Egg Laying Contests.

The egg-laying contest now being conducted at the Central Experimental Farm, Ottawa, under the regulations of the Canadian Record of Performance "A. A." had, up to September 3, reached its forty-fourth week. There were 49 pens of 10 birds each entered in the contest, and the highest record pen had laid up to that time 1,693 eggs, the best bird in this pen having laid 219 eggs; the second best, 195 eggs; and the third best, 191 eggs. The next highest pen was a pen of White Leghorns, with a production of 1,473 eggs, while two other pens of White Leghorns had laid 1,415 and 1,403, respectively, and a pen of Rhode Island Reds had laid 1,410 eggs. The highest individual production of any hen was 223 eggs, produced by a Barred Rock. All of the hens, in fact, laying over 200 eggs in this period, and there were only three out of 490 birds in the contest, were Barred Plymouth Rocks.

The egg-laying contest being conducted by the Poultry Department of the Agricultural College, Truro, N. S., shows higher egg production in two pens than the leading pen in the Record of Performance contest at Ottawa. In the Nova Scotia egg-laying contest, however, there are only five birds per pen, and from the 150 birds constituting the 30 pens in the contest there are six birds that have laid over 200 eggs in the 44-week period. One pen of five birds has a recorded performance of 977 eggs. These are Rose-Combed Rhode Island Reds, and one of these five birds laid 232 eggs, while another laid 229 eggs. The highest individual record of performance in this contest has been made by a Barred Plymouth Rock, with 237 eggs to her credit. The second-highest pen to date is a pen of Barred Plymouth Rocks, with a production of 931 eggs from five hens, no one of which had laid 200 eggs up to September 3.

Jewish Holidays and the Poultry Market.

Farmers with surplus poultry for sale during the late summer and fall could probably offer their stock to a more favorable market if some regard were held for the dates of Jewish festivals. Highest market prices are paid on such occasions for fat, live poultry. Thin, unfinished birds have little or no market value, and the Poultry Division of the Live Stock Branch, Ottawa, is authority for the statement that in catering to such a trade it will pay producers to finish their stock and market it in the best possible condition. Some of the dates of Jewish festivals are now past for this year, but we give herewith the list of dates from September, 1920, to September, 1921. The kinds most in demand are also given, and these dates should be found useful in the future with regard to the conditioning of birds for market.

New Year, September 13-14, 1920.—Best market days, September 8-10; kinds most in demand, fat fowls, turkeys, ducks and geese.

Day of Atonement, September 22, 1920.—Best market days, September 16 to 18; kinds most in demand, all prime stock wanted, especially spring chickens and roosters.

Feast of Tabernacles, September 27-28, 1920.—Best market days, September 23 to 25; kinds most in demand, ducks, fowls and fat geese especially.

Feast of Law, October 4-5, 1920.—Best market days, September 30 to October 2; kinds most in demand, prime quality of all kinds wanted.

Purim, March 24, 1921.—Best market days, March 21 to 23; kinds most in demand, fowls and hen turkeys.

Passover, April 23-24, 1921.—Best market days, April 19 to 21; kinds most in demand, turkeys, fat fowls, ducks and geese.

Last Passover, April 29, 1921.—Best market days, April 26 to 28; kinds most in demand, prime quality of all kinds wanted.

Feast of Weeks, June 12, 1921.—Best market days, June 9 to 10; very little extra demand for this holiday.

HORTICULTURE.

Storing the Vegetable Crop.

The vegetable crop has been an abundant one in most places in Canada this year, and many persons will have a large quantity to store. It is important that care be taken in storing so that losses will be reduced to a minimum.

Potatoes should be dry when stored and where possible put where the temperature will not go above 40 F. or below 32 F. In order that the surface of the potatoes can be kept dry and in the best condition to avoid rotting, provision should be made for air to pass underneath and through them. If they are stored in considerable or large quantities such provision is made by keeping the potatoes about six inches off the floor by first putting down a slatted temporary floor with the boards just close enough so the potatoes will not fall through, and a similar slatted temporary wall a few inches from the permanent wall would permit a still freer circulation of air. Keeping them in crate-like boxes with openings between the boards on tops and sides is a good method.

Beets, parsnips, carrots, salsify and turnips keep best under conditions somewhat similar to potatoes though it is not so important to keep them dry. Indeed in the average cellar they are liable to become too dry and lose their firmness. If there is danger of this they may be kept in boxes and covered with a sack kept wet. In a warm cellar they will grow.

Onions are very liable to rot unless kept in a dry place. Keep them spread out as thinly as possible. Where quantities are small, an attic room where there is no frost will be found a good place to store them.

Cabbage will soon wilt in a warm dry cellar. Keep them outside as long as possible by protecting them with leaves, straw, or soil. If they begin to crack before it is time to pull them, loosen them in the ground by twisting the plant and thus checking growth. When stored where the air is very dry they keep better with the roots and stems left on, and wrapping each head in a newspaper will prevent wilting to some extent.

Celery is left outside until danger of severe frosts. To keep well in store it needs a moderately dry, well-ventilated, cool cellar for best results. The celery should be planted in the cellar in rows close together in sand or light soil, separating each row with a lath or other pieces of wood to keep the tops somewhat apart and better to ensure a circulation of air. The soil should be kept moist but the tops dry. Avoid wetting the leaves and stalks if watering is necessary.

To store green tomatoes to ripen them put in closed boxes or drawers where they will be in the dark and in a moderately warm place.—Experimental Farms Note. C. E. F., Ottawa. W. T. MACOUN, Dominion Horticulturist.

FARM BULLETIN.

Notes From Cumberland County Nova Scotia.

EDITOR "THE FARMER'S ADVOCATE":

The seeding season in this locality, though a little late, was fairly dry, and a considerably larger than average acreage of grain was got in in good condition. June was too dry for a rapid growth and consequently the hay crop is considerably below the average, and not much more than half of that harvested in 1919. The early-cut hay was got in extra good condition, but frequent showers and some heavy rains toward the last of the haying season injured a good deal of the hay.

The first two weeks of September was showery and quite warm and caused a good deal of loss in grain that had not been cut, as it was badly lodged and there was a heavy loss by shelling. One of the heaviest losses caused by this bad weather is the injury to the quality of the straw, as it is badly needed to help out the fodder supply.

Grain crops on the whole are above the average, but the quality will hardly be up to average, owing to bad harvest weather.

Potatoes are considerably better than an average crop, but some fields are rotting quite badly.

Prices of poultry and dairy products are as good as ever, but cattle and dairy cows are rather lower owing to the scarcity of fodder.

Hay is worth from \$25 to \$30 according to quality, and oats about \$1.25.

Turnips are coming on splendidly now, and though the acreage is not up to former years, owing to the scarcity of farm labor, the turnip crop and the large increased acreage in grain will put the live stock through the winter with as large an outlay for millfeeds as usual.

Taken altogether 1920 is likely to turn out one of the best years the farmers of this County have had for some time. C. H. BLACK.

Fall Fairs Give Way to Severe Storm.

A severe storm broke over Western and North-western Ontario last Friday that did considerable damage to property and crops, and caused dozens of fall fairs to be postponed. In some districts a heavy fall of snow for the season occurred, which, added to the heavy weight of fruit on the branches, caused much damage to trees. Corn not then cut, and there was plenty, was badly mixed up, and in some cases laid flat on the ground. Wellington, Grey and Simcoe Counties were apparently in the path of the storm and were severely chastised, but the damage, varying in intensity, was wide-spread throughout Western Ontario. The fall-fair season was at its height last week, and many events were postponed in the hope of better treatment from the weatherman at a later date.

Silo filling has been going on apace, but early this week there were many fields of corn still standing in Western Ontario. Most of it is still green and shows no touch of frost. Withal it has been a remarkable autumn, and the rain which fell quite generously on Friday last will give an impetus to fall plowing and bring the fall wheat along.

Borden Company Reducing Milk Prices.

Another evidence of chaotic conditions in the milk situation in Western Ontario is the announcement by the Borden Condensery Company, at Ingersoll, that the October price for 3.5 per cent. milk will be \$2.50 per 100 pounds, as compared with \$2.85 per 100 pounds for milk of the same quality in September. In addition to this price reduction the receiving station of the Borden Company, at Putnam, west of Ingersoll, has been closed down indefinitely.

Toronto, Montreal, Buffalo, and Other Leading Markets

Comment on week ending September 30. Quotations on last Monday's Markets.

Receipts and Market Tops.

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

	CATTLE						CALVES					
	Week Ending	Receipts Same Week	Week Ending	Top Price Good Steers	Same Week	Week Ending	Week Ending	Receipts Same Week	Week Ending	Top Price Good Calves	Same Week	Week Ending
	Sept. 30	1919	Sept. 23	Sept. 30	1919	Sept. 23	Sept. 30	1919	Sept. 23	Sept. 30	1919	Sept. 23
Toronto (U. S. Y.)	5,184	7,562	5,265	\$14.00	\$12.75	\$14.00	1,158	1,044	1,005	\$20.00	\$22.00	\$20.00
Montreal (Pt. St. Chas.)	1,728	2,508	1,640	11.50	13.00	13.00	1,720	1,327	1,560	15.00	17.00	19.00
Montreal (East End)	1,930	2,287	1,416	11.50	13.00	13.00	2,466	1,117	1,714	15.00	17.00	19.00
Winnipeg	12,245	7,815	12,520	11.50	12.50	12.25	1,034	671	765	11.00	13.00	11.50
Calgary	3,324	3,730	3,691	9.25	10.00	9.75	685	918	751	10.75	9.00	10.50
Edmonton	1,854	1,515	1,539	9.00	10.00	9.50	335	163	181	9.75	10.50	10.00

	HOGS						LAMBS					
	Week Ending	Receipts Same Week	Week Ending	Top Price Selects	Same Week	Week Ending	Week Ending	Receipts Same Week	Week Ending	Top Price Good Lambs	Same Week	Week Ending
	Sept. 30	1919	Sept. 23	Sept. 30	1919	Sept. 23	Sept. 30	1919	Sept. 23	Sept. 30	1919	Sept. 23
Toronto (U. S. Y.)	4,635	6,375	3,158	\$21.20	\$18.00	\$21.00	18,086	13,620	16,532	\$14.50	\$14.60	\$14.85
Montreal (Pt. St. Chas.)	1,972	1,458	1,761	21.00	17.75	21.00	7,481	7,524	6,816	13.00	13.00	13.50
Montreal (East End)	2,220	909	2,088	21.00	17.75	21.00	4,818	4,282	3,219	13.00	13.00	13.50
Winnipeg	1,266	1,133	938	23.00	17.50	22.50	2,747	2,404	1,464	13.00	13.00	13.00
Calgary	333	618	227	23.60	17.00	22.25	1,046	1,475	551	11.50	12.00	11.50
Edmonton	296	149	177	23.00	16.75	22.50	606	316	563	10.50	12.50	12.00

Market Comments.

Toronto (Union Stock Yards.)

While prices during the week showed a considerable falling off since the previous market period, the difference in quality between the receipts of last week and the previous week must be considered. There were no choice cattle offered and the opinion was general that had there been any, prices would have been equal to those paid during the previous week. Receipts amounted to approximately fifty-two hundred cattle, eleven hundred and ten calves, eighteen thousand sheep and forty-nine hundred hogs. In addition, there were fifteen hundred and seventy-three cattle, one hundred and ninety-six sheep, and one hundred and sixty-two hogs on through billing. Most of the cattle offered, were of very inferior quality, and the best prices realized during the week, had a limit of \$14.75. On Monday, practically all classes moved from 25 to 50 cents lower. A fair class of heavy steers was sold around \$12, while most of the handy-weight butcher stock was weighed up from \$12 to \$13, and the general run from \$9.50 to \$10. Heifers of good grading sold at a top of \$13.50 and generally from \$10 to \$12.50; light common heifers were absorbed at prices from \$7 to \$8. A number of loads of good feeders were loaded for country points at prices ranging around \$11. Good stockers sold generally from \$9.50 to \$10; common stockers from \$7 to \$7.50 good cows sold from \$10.50 to \$11.50, the latter prices being obtained early in the week. There was a fair run of calves and under a good demand the market was steady; choice veal sold at \$20 per hundred, good veal from \$18 to \$19, medium veal from \$15 to \$17, and grass and common calves from \$8 to \$12. Heavy, thin, grass calves were hard to move.

Although there were approximately eighteen thousand sheep and lambs on the market, the movement was strong, choice lambs selling around \$14 to \$14.50 per hundred. Yearlings sold from \$9 to \$10.50 and medium weight sheep from \$7.50 to \$8.50. Heavy fat sheep moved from \$6 to \$7. Sheep and lambs were the strong point on the market during the week although on Thursday there was an easier tone. It is expected that a continuation of the heavy runs would result in a break in prices. The general run of lambs moved around \$13.50.

There was a fair run of hogs on the market during the week, and for these demand was steady at \$21.25 on selects, fed and watered. It is claimed that the market is being maintained on the basis of light receipts.

The total receipts from January 1 to September 23, inclusive, were: 210,586 cattle, 65,345 calves, 220,662 hogs and 120,089 sheep; compared with 240,216 cattle, 52,432 calves, 272,989 hogs and 117,087 sheep, received during the corresponding period of 1919.

Montreal.

There were thirty-six hundred and fifty-eight cattle for sale on the two markets during the week. The action on the market was exactly the reverse of what it was during the season to date. There was no demand for butcher cattle and prices were off from \$1 per hundred in some cases to \$1.50 or more in others and not only this but a very large per-

CLASSIFICATION	No.	TORONTO				MONTREAL			
		Avg. Price	Price Range	Top Price	Avg. Price	Price Range	Top Price		
STEERS									
heavy finished	2								
STEERS good	321	\$12.00	\$11.00-\$13.00	\$14.00	52	\$11.00	\$10.50-\$11.50	\$11.50	
1,000-1,200 common	148	8.50	8.00-9.00	9.00					
STEERS good	423	11.25	10.25-12.25	13.85	42	10.00	9.50-10.50	11.50	
700-1,000 common	356	8.50	8.00-9.00	9.00	290	7.50	7.00-8.50	9.00	
HEIFERS good	191	11.00	10.50-11.50	13.00	19	9.50	9.00-10.00	10.50	
fair	240	8.25	7.75-8.75	9.00	94	7.50	7.00-8.50	8.50	
common	330	6.63	6.00-7.00	7.00	288	6.50	6.00-7.00	7.00	
COWS good	328	10.50	9.00-12.00	12.75	110	8.00	7.75-9.00	9.00	
common	721	7.00	6.00-8.00	8.25	246	6.00	5.00-7.00	7.50	
BULLS good	83	10.18	9.50-11.00	11.50	5				
common	199	6.81	6.00-8.50	9.00	485	5.75	5.25-6.30	7.00	
CANNERS & CUTTERS	282	4.96	4.00-6.00	6.00	71	4.00	3.50-4.50	4.50	
OXEN					7				
CALVES veal	1,158	18.00	17.00-19.00	20.00	373	14.00	12.00-15.00	15.00	
grass					1,367	6.50	6.00-7.00	8.00	
STOCKERS good	1,487	9.00	8.50-9.50	10.00					
450-800 fair	466	8.00	7.50-8.50	8.50					
FEEDERS good	117	11.00	10.50-11.50	12.00					
800-1,100 fair									
HOGS selects	4,512	21.11	21.00-21.25	21.25	1,575	20.60	20.50-20.75	21.00	
heavies	4	20.12	20.00-20.25	20.25	295	19.75	19.00-20.00	20.00	
lights	34	19.00	19.00-19.25	19.25					
sows	82	17.12	16.00-18.25	18.25	93	16.00	15.50-16.75	17.00	
stags	3				9				
LAMBS good	14,048	13.96	13.00-14.50	14.50	4,395	13.00	13.00	13.00	
common	1,343	10.00	9.00-11.00	11.00	3,075	11.40	11.00-11.50	12.50	
SHEEP yearlings	85	10.00	9.50-10.50	10.50					
light	1,144	8.00	7.50-8.50	8.50	493	6.40	6.00-6.50	7.50	
common	466	4.50	4.00-5.00	6.00	518	6.40	6.00-6.50	6.00	

Montreal hogs quoted on basis of weighed off cars.

centage of butcher cattle were not sold. On the other hand there was a very keen demand for bologna bulls and other grades of cattle for boning. In fact, commission men resorted to a rule whereby they would not part with bulls and canners unless the buyer would take a number of butcher cattle also. The action of the market would indicate extensive orders for frozen meats, and packers attribute the falling off in demand for butcher cattle to the fact that they are buying cattle in Winnipeg and Calgary that cost them less per pound dressed in Montreal than the local meat. Bulls sold at \$5.24 to \$6.50 with some heavy bulls up to \$7, canners around \$3.50. Rather sappy little heifers and steers that would have brought on the previous market \$7 or even more, were weighed up at \$5.75 and \$6; seventy-five head of this young stuff averaged \$5.80. One load of good branded steers brought \$11.50, a few good steers and heifers from the Ottawa district brought \$10.50 early on Monday and a few good cows at \$9 were weighed up at the same time. As the day advanced prices became lower and by the middle of the week, cattle were being shipped off the market. Owing to the variation in prices paid for the same quality of stock the price quotations this week are only approximate. There were forty-one hundred and ninety-five calves on sale or over

five hundred more calves than cattle. These were mostly all grass calves and would have realized more dollars per head if they had been vealed in the spring and sold when they were four or five weeks old. A few of the best grass calves were weighed up at \$8. Thin calves brought \$6 and the bulk of the sales were made around \$6.50. Good veal calves were scarce and prices steady. Sheep and lambs totalled eleven thousand and ninety-nine head, being fewer than last week by fifteen hundred head. The market was steady throughout at \$13 for good lambs in car lots. Most of the common lambs sold from \$11 to \$11.50 and very small poor lambs as low as \$8. There was not much grading of sheep and nearly all sales were made from \$6 to \$6.50. A few good sheep were sold up to \$7.50.

Hogs remained steady from \$20.50 to \$20.75. Roughs and mixed lots brought \$19 to \$20 off cars, and a very few small lots of selected hogs brought up to \$21.

PT. ST. CHARLES.—The total receipts from January 1 to September 23, inclusive, were: 28,507 cattle, 55,787 calves, 52,718 hogs and 54,347 sheep; compared with 34,180 cattle, 61,167 calves, 61,834 hogs and 45,071 sheep, received during the corresponding period of 1919.

EAST END.—The total receipts from

January 1 to September 23, inclusive, were: 30,334 cattle, 44,735 calves, 41,909 hogs and 36,387 sheep; compared with 38,684 cattle, 45,225 calves, 42,991 hogs and 35,084 sheep; received during the corresponding period of 1919.

Winnipeg.

During the early markets trading was slow and draggy on all classes of cattle. The eastern and southern markets were weaker and local trade were dull as a consequence. On Wednesday, under further heavy receipts prices on good butchers were 25 to 50 cents lower. Stockers and feeders were dull at about steady prices while common kinds of cattle were very hard to move at any price. On Thursday the market was flooded with stock, while demand was practically nil. All classes and grades were unevenly 50 to 75 cents lower. At the close of the market the tone was decidedly weak, with a restricted outlet for stockers and feeders. Good to choice butchers moved at prices ranging from \$8.50 to \$11.50, and medium and common kinds from \$7.50 down to \$5. Good butcher heifers sold from \$8 to \$9, fair from \$5.50 to \$7.50, and common from \$4.50 to \$5.25. Good to choice butcher cows were weighed up from \$6.25 to \$8.50, fair cows from \$5 to \$6, good bulls from \$5.50 to \$6.50 and common bulls from \$4.25 to \$5. The common

BULLETIN.

Amberland County, Ontario.

...this locality, though a little larger than as got in in good condition. ...below the average, and not at harvested in 1919. The ...but heavy rains toward the last ...a good deal of the hay. ...September was showery and ...badly lodged and there was ...is the injury to the quality ...needed to help out the fodder ...are above the average, ...up to average, owing to ...ly better than an average ...ting quite badly. ...ry products are as good as ...cows are rather lower owing ...to \$30 according to quality, ...splendidly now, and though ...er years, owing to the scarcity ...rop and the large increased ...the live stock through the ...lay for millfeeds as usual. ...likely to turn out one of the ...s County have had for some ...C. H. BLACK.

Way to Severe

...over Western and North- ...day that did considerable ...rops, and caused dozens of ...In some districts a heavy ...occurred, which, added to the ...the branches, caused much ...ot then cut, and there was ...and in some cases laid flat ...Grey and Simcoe Counties ...th of the storm and were ...damage, varying in intensity, ...ut Western Ontario. The ...weight last week, and many ...the hope of better treatment ...later date. ...ng on apace, but early this ...ill green and shows no touch ...a remarkable autumn, and ...nerously on Friday last will ...ing and bring the fall wheat

Reducing Milk

...otic conditions in the milk ...is the announcement by ...company, at Ingersoll, that ...cent. milk will be \$2.50 per ...with \$2.85 per 100 pounds ...in September. In addition ...receiving station of the ...am, west of Ingersoll, has ...y.

range on canners and cutters was from \$3 to \$4. The best calves sold from \$9 to \$11, and most of those of good quality from \$7 to \$8. Good stocker steers moved from \$5.25 to \$6, fair from \$4.50 to \$5, good heavy feeders from \$7.50 to \$8.50 and the balance from \$5 to \$7.

Wool Market Report.

The wool market remains more or less obscure. Sales in Boston during the past week were estimated at 2,000,000 lbs., half of which was home-grown. Approximately 100,000 lbs. of Canadian quarter-blood wools are reported sold at 29 cents. Wool producers are watching with keen interest indications of lower prices for manufactured goods in direct ratio to the fall in wool prices.

To date, the drop in manufactured goods does not appear to have materialized, manufacturers claim to be quoting prices to the wholesale clothing trade at fifteen to twenty-five per cent. decrease. The onus of responsibility for high clothing costs is being laid at the door of the garment makers who, it is claimed have made no effort to reduce their charges. It is becoming more apparent every day to the producer of wool that the cost of raw wool and the cost of cloth is at present a small factor in the final purchase price of woollen goods. Recent reports indicate a further decline in the Boston wool market as a result of the general price cutting movement. In view of the fact, however, that a very large proportion of this year's clip is still under the control of producers, wool speculators are becoming anxious, fearing that the practice of consigning wool will remain general and that in future the regulation of prices will remain a matter to be settled between the growers and manufacturers, rather than by speculators.

Buffalo.

Cattle.—Cattle market was bad all of last week, the result of Jewish holidays, the fact that the beef trade has been bad of late, possibly by reason of pork prices showing a heavy decline and the further fact that the offerings here ran largely to one kind of half fat, medium and common kinds of butchering cattle and an indifferent class of shipping steers. Canadians came in rather liberal numbers, half of the week's offerings coming out of the Dominion. Best shipping steers out of Canada landed at \$14, with some native shipping cattle reaching \$14.50, but nothing on the very choice order was offered. About the best in the handy butchering steer line ranged from \$12.50 to \$13.25, from \$10 to \$10.50 took the best handy butchering heifers, a medium and less desirable kind ranging from \$7 to \$9. While the general run of butchering cattle and a medium class of shipping steers showed a full half decline under the previous week, bulls sold around a quarter lower, fat cows generally took about the same take off, with canner and cutter stuff about steady. Dairy cows, for the first week in many months past, showed weakness, these ruling a full \$10 per head lower. Quite a few stale cattle came over from day to day after Monday and the trade wound up very weak at the week's close. Offerings for the week totaled 4,325 head as against 4,350 for the previous week and as compared with 4,750 head for the corresponding week a year ago. Quotations:

Shipping Steers — Natives — Very prime, \$16 to \$17; good to choice, \$14 to \$15; common to fair, \$12 to \$12.50; plain, \$11 to \$11.50.

Steers — Canadians — Best, \$13.50 to \$14; fair to good, \$12.50 to \$13; common and plain, \$11 to \$11.50.

Butchering Steers.—Yearlings, good to prime, \$15.50 to \$17; choice heavy, \$13.50 to \$14; best handy, \$12.50 to \$13; fair to good, \$11 to \$12; light and common, \$9 to \$10.

Cows and heifers.—Heavy heifers, \$10.50 to \$11; best butchering heifers, \$10 to \$10.50; good butchering heifers, \$8.50 to \$9.50; good butchering heifers, \$7 to \$8; light, common, \$6 to \$6.50; very fancy fat cows, \$9.50 to \$10; best heavy fat cows, \$8.50 to \$9; medium to good, \$7.75 to \$8.25; cutters, \$4.50 to \$5; canners, good, \$3.75 to \$4; old rims, \$2.50 to \$3.50.

Stocker and Feeders.—Best feeders, \$8 to \$8.50; common to fair, \$7.25 to \$7.75; best stockers, \$7.25 to \$7.50; fair to good, \$6.75 to \$7; common, \$5.50 to \$6.

Hogs.—Prices, as a result of the bad

break in corn and provisions, were given a hard jolt at all marketing points last week, a drop of \$1.50 to \$1.75 being noted at Buffalo the first four days. Monday the general run of sales on good hogs were made at \$18.25, with pigs selling at \$17.50, Tuesday top was \$18.10, bulk sold at \$18, with pigs landing at \$17, and Wednesday bulk of the good hogs moved at \$17.25, few brought \$17.35 and pigs landed at \$16. Thursday, which was the low day, pigs ranged from \$15 to \$15.50, packers kinds landed mostly at \$16.50, few brought \$16.75 and a load of heavies made \$17. Friday the general run of sales on packers kinds and good yorkers were made at \$16.75 and pigs moved at \$15. Roughts ranged from \$13 to \$13.50 and stags \$8 to \$10. The past week's receipts were 26,000 head, as compared with 23,319 head for the week previous and 22,000 head for the same week a year ago.

Sheep and Lambs.—Last week opened with best lambs selling at \$14.75 and culls ranged from \$11 down. Tuesday's trade was steady and the next three days showed best natives selling at \$14.50, with best Canadians ranging from \$13.75 to \$14. Cull lambs remained the same as the week's opening. Sheep were little changed all week. Top wethers were quoted from \$7.50 to \$8 and best ewes ranged from \$6 to \$6.50, few on the handy order selling Monday up to \$7. Cull sheep went from \$4 down. The week's receipts totalled 20,400 head, as against 19,392 head for the week previous and 18,900 head for the same week a year ago.

Calves.—Trade was active all of last week. Monday best natives sold at \$19.50, Tuesday bulk moved at \$20, Wednesday and Thursday best landed at \$20.50 and Friday bulk landed at \$21. Top Canadian calves sold a half dollar under the natives. Cull grades were steady all week, ranging from \$17 down, grassy kinds selling anywhere from \$6.50 to \$9. Weighty rough calves that were fat were bad sale, these ranging from \$9 to \$12. Receipts for the week were 2,900 head, the week before there were 2,633 head and for the same week a year ago 2,700 head.

Toronto Produce.

Breadstuffs.

Manitoba Wheat (in store, Ft. William). No. 1 northern, \$2.57; No. 2 northern, \$2.53; No. 3 northern, \$2.48; No. 4 wheat, \$2.35.

Manitoba Oats (in store, Ft. William).—No. 2 C. W., 75½c.; No. 3 C. W., 71¼c.; No. 2 feed, 67c.

Manitoba Barley (in store, Ft. William).—No. 3 C. W., \$1.13½; No. 4 C. W., \$1.08; rejected, 98c.; feed, 96c.

American Corn (track, Toronto, prompt shipment).—No. 3 yellow, \$1.65.

Ontario Oats (according to freights outside).—No. 3 white, 68c. to 72c.

Ontario Wheat (f. o. b. shipping points, according to freights).—No. 2 winter, per car lot, \$2.30 to \$2.40; No. 2 spring, \$2.25 to \$2.35.

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

Barley (according to freights outside).—Malting, \$1.15 to \$1.20.

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

Rye (according to freights outside).—No. 3, \$1.75, nominal.

Manitoba Flour.—Track, Toronto, cash prices, first patents, \$13.40; second patents, \$12.90; first clears, \$12.30.

Ontario Flour.—Winter, in jute bags, prompt shipment, government standard, delivered Montreal, nominal, \$10.30 to \$10.40, bulk, seaboard. Millfeed (car lots, delivered Toronto freights, bags included).—Bran, per ton, \$49; shorts, per ton, \$54; good feed flour, per bag, \$3.50 to \$3.60.

Hides and Wool.

Hides, f. o. b. country points.—Beef hides, fat cured, 9c. to 11c.; green hides, 8c. to 9c.; deacon or bob calf, 25c. to 50c.; horse hides, country take-off, \$3 to \$4; No. 1 sheep skins, \$1 to \$1.50; shearing and spring lamb, 25c. to 50c.; horse hair, farmers' stock, 38c. to 40c.

City Hides.—City butcher hides, green flats, 12c.; calf skins, green flats, 12c.; veal kip, 10c.; horse hides, city take-off, \$4 to \$5.

Tallow.—City rendered, solids in barrels, 9c. to 10c.; country solids in barrels, No. 1, 8c. to 9c.; cakes No. 1, 13c. to 14c.

Wool.—Unwashed, coarse, 16c. to 18c.; medium, 24c. to 26c.; fine, 32c. to 34c.

Country Produce.

Butter continues a steady to firm trade at unchanged quotations; choice creamery pound prints selling at 61c. to 63c., and best dairy at 49c. to 50c. per lb.

Eggs are firm trade with selects selling at 66c. to 67c., and No. 1's at 61c. to 62c. per doz. Receipts of strictly new-laid eggs are too light for dealers to give quotations.

Cheese is quoted as a weak trade at unchanged prices; new, large, selling at 29c. to 29½c.; old, large, at 33c. to 34c.

Poultry was a sluggish trade mostly on account of the Jewish holidays, but a fair quantity of all kinds was marketed. Best demand was for chickens of good to choice quality; prices generally were steady.

Wholesale Quotations.

Butter.—Choice creamery pound prints, 61c. to 63c.; creamery solids, 59c. to 60c.; choice dairy, 49c. to 50c.

Eggs.—New-laid in cartons, 70c. to 72c.; No. 1's, 61c. to 62c.; selects, 66c. to 67c.

Cheese.—New, large, 29c. to 29½c.; old, 34c. to 35c.

Poultry (alive, per lb.).—Chickens, crate fed, 36c.; chickens, good farm stock, 33c.; hens, over 5 lbs., 32c.; hens, 4 to 5 lbs., 30c.; hens, 3½ to 4 lbs., 27c. to 29c.; roosters, 20c. to 24c.; ducklings, 26c. to 28c.

Wholesale Fruits and Vegetables.

Peaches were received in huge quantities and the market was more or less demoralized; some of the fruit was over-ripe and dealers had difficulty in disposing of it at 25c. to 35c. per 11-qt. basket. Most of the best peaches sold at 25c. to 40c. per 6-qt., and 40c. to 50c. per 11-qt. basket.

Bartlett pears were in good demand at \$1 to \$1.25 per 11-qt. leno basket, while other varieties sold at 75c. to \$1.

Plums were a fair trade at 15c. to 30c. per 6-qt. and 35c. to 50c. per 11-qt. basket, while prune plums sold at 50c. to 65c. per 6-qt. basket.

Grapes were received in larger quantities and met a ready sale at 40c. to 50c. per 6-qt. and 75c. to \$1 per 11-qt. basket.

Raspberries were received on Tuesday and Wednesday from the Clarkson District and sold at 50c. per quart box.

Cantaloupes sold at 40c. to 75c. per 11-qt., and salmon flesh at \$1 to \$1.25 per 20-qt. basket.

Tomatoes sold at 20c. to 50c. per 11-qt. basket.

Apples were almost unsaleable, and dealers say that until the peach and plum season is over there will not be much improvement. They sold 20c. to 30c. per 6-qt., and 30c. to 60c. per 11-qt. basket; \$1 to \$2 per bushel, and \$3 to \$6 per bbl.

Vegetables were mostly a slow trade and dealers found most kinds hard to sell, especially carrots, beets, and cabbage.

Beans.—45c. to 50c. per 11 qts.

Beets.—\$1.25 per bag.

Cabbage.—40c. to 75c. per doz.

Carrots.—90c. to \$1 per bag.

Cauliflower.—50c. to \$1.50 per doz.

Corn.—5c. to 12c., and Evergreen 15c. to 25c. per doz.

Cucumbers.—75c. to \$1 per 11 qts.

Gherkins.—40c. to \$1 per 6 qts.; 60c. to \$2.25 per 11 qts.

Eggplant.—40c. to 65c. per 11 and 16 quarts.

Onions.—\$2 to \$2.50 per cwt.

Pickling Onions.—60c. to \$1.50 per 11 quarts.

Peppers.—Green, hot, 40c. to 50c. per 11 qts.; sweet, 50c. to 75c. per 11 qts.;

red, 75c. per 11 qts.

Potatoes.—\$1.60 to \$1.75 per bag.

Squash.—Hubbard, \$1 to \$1.50 per doz.

Pumpkins.—\$1 to \$1.50 per dozen.

Chicago.

Cattle.—Compared with week ago, steers and yearlings selling upward at \$17.50; fairly choice steers and best cows and heifers, 50c. to 75c. lower; good steers and good to medium she-stock, 75c. to \$1 lower; medium and common steers, \$1 to \$1.50 off; canners, good bulls and bulk of calves, 50c. lower; feeders, 65c. to \$1 lower; stockers, almost unsaleable.

Hogs.—Top, \$16; bulk light and butchers, \$15.40 to \$15.95; bulk packing sows, \$14.35 to \$14.60; pigs, steady to 25c. lower; bulk desirable kinds, \$13.25 to \$14.

Monday's Live Stock Markets.

Toronto, October 4. Cattle.—Receipts, 3,707. Trade was very slow. The quality of the cattle showed improvement over last week. During the forenoon few cattle were sold, but prices looked like a half to a dollar lower. The top price for a load was 13 cents for 23 cattle, averaging 1,200 lbs. Some small lots sold as high as 13¼ cents. Stocker and feeder trade was quiet, but prices looked lower. Quotations.—Heavy beef steers, \$13 to \$14. Butcher steers, choice, \$12 to \$13; good, \$10.50 to \$11.50; medium, \$7.50 to \$9; common, \$6 to \$6.75. Butcher heifers, choice, \$11 to \$12; medium, \$7.50 to \$9; common, \$6 to \$7. Butcher cows, choice, \$9.50 to \$10.50; medium, \$7 to \$9. Cannery and cutters, \$3 to \$6. Butcher bulls, good, \$8.50 to \$9.50; common, \$5 to \$6. Feeding steers, good, \$10.50 to \$11.50; fair, \$9 to \$10. Stockers, good, \$8.50 to \$10; fair \$6.75 to \$8.

Calves.—Receipts, 285. Calf trade was steady with top calves selling around 19 cents. Quotations.—Calves, choice, \$18 to \$20; medium, \$15 to \$17; common, \$8 to \$12. Milch cows, choice, \$100 to \$150; springers, choice, \$125 to \$165.

Sheep.—Receipts, 6,024. The lamb market was steady to weak, bulk selling around 13½ cents, and some 13¾ cents. The sheep trade was quiet. Quotations.—Ewes, \$7.50 to \$8.50; lambs, \$13 to \$13.75.

Hogs.—Receipts, 2,053. The packers were bidding \$20.25, fed and watered, which is 75 cents to a dollar below last week. Quotations, fed and watered basis: Selects, \$20.25; lights, \$18.25; heavies, \$19.25; sows, \$15.25 to \$17.25.

Buffalo, October 4. Cattle.—Receipts, 3,300. Choice grades were strong to 15 to 25 cents higher; others were steady. Stockers and feeders were weak. Milch cows and springers were slow sale.

Hogs.—Receipts, 11,000. Best grades generally, \$16.75; few, \$16.85.

Sheep.—Receipts, 10,000. Eight hundred of the best lambs sold for \$14 to \$14.25. Best ewes were \$6.50.

Calves.—Receipts, 1,600. Tops sold for \$20.

Montreal, Que., October 4. Cattle.—Receipts, 1,943. Eleven head of the best steers, average weight 1,080 lbs., were sold for \$11; 22 steers averaging 1,050 lbs. brought \$10.50; 52 good fat cows, averaging 1,075 lbs., brought \$8.40 and most of the common light butchers stock was sold around \$7; 21 steers and heifers, averaging 665 lbs., were weighed up at \$7. There was a keen trade in bologna bulls at prices ranging from \$5.25 to \$5.50 for light bulls to \$6.50 for bulls weighing 1,200 lbs. or more. The majority of medium bulls moved at \$6. Quotations: Butcher steers, good, \$9 to \$11; medium \$8 to \$9; common, \$7 to \$8. Butcher heifers, choice, \$9 to \$10.50; medium, \$7.50 to \$9; common, \$5.50 to \$7. Butcher cows, choice, \$7.50 to \$8.50; medium \$5 to \$7.50. Cannery, \$3.50 to \$4. Cutters, \$4 to \$5. Butcher bulls, common, \$5.25 to \$6.50.

Calves.—Receipts, 2,331. Grass calves were lower. The most common price was \$6. Thin calves from the East bought \$5.50 to \$6. Better grades were up to \$6.50. Quotations: good veal, \$13 to \$15; medium, \$10 to \$13; grass, \$5.50 to \$6.50.

Sheep.—Receipts, 8,514. The lamb market was off but at time of wiring not enough lambs have been sold to establish prices; 400 good lambs have been sold for \$12.50 to \$13 to local butchers, packers offering \$12; very thin lambs down to \$8. Quotations: Ewes, \$5.50 to \$7.

Hogs.—Receipts, 1,700. Hogs sold at \$20.25 off cars. Sows were \$4 less than selects.

Angus breeders and all interested in Dobbies should bear in mind the auction sale of high-class stuff to be held at London Fair Grounds on October 20. This is an opportunity to secure some of the best individuals that the breed has produced. The Ontario breeders are consigning some of their best stock. There is an extra fine lot of cows with calves at foot and re-bred. There is a fine lot of heifers. It is an opportunity to strengthen the present herd or lay the foundation for one. For further particulars see the advertisement in another column of the paper and watch these columns next week. Write James Bowman, Guelph, for a catalogue.

Markets concluded on page 1762.

ber 4. Cattle.— Re-
grade was very slow.
cattle showed improve-
ment. During the fore-
noon were sold, but prices
were a dollar lower. The
head was 13 cents for 23
and 2,00 lbs. Some small
heads 13 3/4 cents. Stocker
was quiet, but prices
fluctuating.—Heavy beef
\$14. Butcher steers,
good, \$10.50 to \$11.50;
\$9; common, \$6 to
\$8. Heifers, choice, \$11 to
\$10 to \$9; common, \$6
to \$7. Cows, choice, \$9.50 to
\$7 to \$9. Canners
\$6. Butcher bulls,
\$5 to \$6. Common, \$5 to \$6.
Good, \$10.50 to \$11.50;
\$9. Stockers, good, \$8.50
to \$8.

2,855. Calf trade was
slow selling around 19
cents.—Calves, choice, \$18
to \$15 to \$17; common, \$8
to \$10. Cows, choice, \$100 to
\$125 to \$165.

6,024. The lamb
trade to weak, bulk selling
and some 13 3/4 cents.
Market quiet. Quotations,
\$8.50; lambs, \$13 to

2,053. The packers
were fed and watered,
to a dollar below last
week and watered basis:
light, \$18.25; heavies,
\$15 to \$17.25.

ber 4. Cattle.—Re-
ference grades were strong
and feeders were weak.
Bringers were slow sale.
Best grades, 11,000. Best grades
few, \$16.85.

10,000. Eight
best lambs sold for \$14
each were \$6.50.

1,600. Tops sold

October 4. Cattle.—
Eleven head of the
weight 1,080 lbs.,
22 steers averaging
\$10.50; 52 good fat
1,075 lbs., brought
of the common light
sold around \$7; 21
averaging 665 lbs.,
at \$7. There was a
logna bulls at prices
to \$5.50 for light bulls
weighing 1,200 lbs.

Majority of medium bulls
quotations: Butcher steers,
medium \$8 to \$9; com-
butcher heifers, choice,
\$7.50 to \$9; com-
Butcher cows, choice,
medium \$5 to \$7.50.

\$4. Cutters, \$4 to \$5.
Common, \$5.25 to \$6.50.
2,331. Grass calves
most common price
calves from the East
\$12. Better grades were
quotations: good veal,
\$10 to \$13; grass,

8,514. The lamb
out at time of wiring
have been sold to
good lambs have been
\$13 to local butchers,
\$12; very thin lambs
quotations: Ewes, \$5.50

1,700. Hogs sold at
cows were \$4 less than

and all interested in
in mind the auction
stuff to be held at
lands on October 20.
nity to secure some of
is that the breed has
Ontario breeders are
of their best stock.

fine lot of cows with
re-bred. There is a
It is an opportunity
present herd or lay the

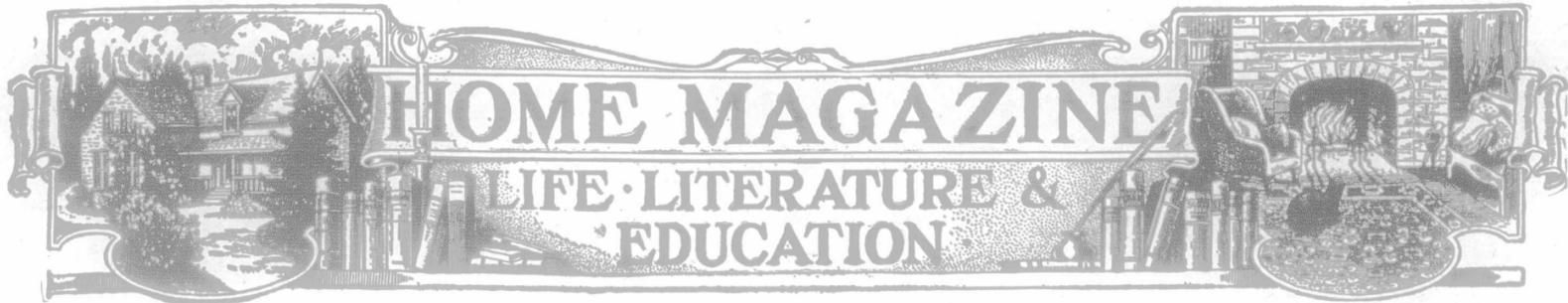
For further particu-
lar information in another
paper and watch these
columns. Write James Bow-
catalogue.

cluded on page 1762.

OCTOBER 7, 1920

THE FARMER'S ADVOCATE.

1751



Summer's End.

BY LOUISE DRISCOLL, IN THE "TIMES,"
NEW YORK.

My garden's very gay;
Vines and flowers all
In a pied array
Play at carnival.

But if you will come
You'll hear the cricket cry,
Telling Summertime
"Good-bye! Good-bye!"

I see the first red leaves,
And brown leaves fall;
The birds now come in flocks—
They do not sing at all!

Grapes have a pleasant smell,
And I know of a place
Where they hang white and sweet
Against the leaves like lace!

Coxcomb, like the cry
Of a wounded thing
Lifts its red head high,
A late blossoming.

Beloved of honeybees,
The orange marigold,
Aromatic, spreads
Fold on starry fold.

In the vivid throng
Here fringed asters are,
Each one with a heart
Like a friendly star.

Sometimes, now, it seems
That the garden tries
To give all she can
For me before she dies.

If you will visit me
You'll hear the cricket cry,
Telling Summertime,
"Good-bye! Good-bye!"

Rural Problems.

Co-operation. Partnership of Father
and Son.

CONTINUING his talk on the rural
problems in hand at the O. A. C.
School for Rural Leadership, (see
"Farmer's Advocate" for Sept. 9th),
President Reynolds said that the great
problem is to keep a population of
standard quality for country life, standard
in efficiency, in production, and in social,
intellectual and moral qualities. It is
obvious that this problem is not a mere
question of dollars and cents, of securing
a living. He had noticed, especially in
Western Canada, that securing a living,
getting money from farming operations,
is the signal, not for accepting but for
leaving country life. People try to make
a competence for the rest of their lives;
the better off leave the country; those who
stay stay because they can't get away.
These people have no affiliations with
country life. This, then, is not merely
an economic, but a social problem.

A number of questions on the sheet (see
Sept. 9th issue) are economic, but under-
lying all something of the social is implied,
e. g., co-operation. After all it is the
social quality that is the final test. You
probably know that the joint stock com-
pany has been found unsuitable for
country conditions; it does not suit the
rural type of mind. But the joint stock
company is not a social organization—its
foundation is the dollar. On the other
hand the basis of control in a co-operative
organization is essentially the human
factor. Each personality must learn to
work with other personalities. Why did
not co-operative organizations in the past
prosper more? First, because of the
farmer's intense individuality and un-
willingness to surrender control of his
own buying and selling. That indi-
viduality of ours, which is Canadian and

not rural only, has been the reason for
the development of this country, and this
country has been favorable for the de-
velopment of such a character—the
pioneer learns to run his own show. But
that type has become accentuated. It
has developed self-reliance, resourceful-
ness, etc., but has not developed the
quality of dealing amicably with other
people. If you have to deal with a man
of the intense type in a co-operative
society, you will find that the hardest
thing he can do is to surrender his will for
the public good. There is a topic for
pulpits—the social righteousness that
enables people to live together in this
way! That is what we have to deal
with more than anything else.

It is not so much the ecclesiastical
conscience as the civic conscience that
needs developing, not so much the con-
science that prohibits from doing things
prohibited by the church—these ye ought
to have done, but these civic things ye
have left undone.—The civic conscience
that (1) accepts as a matter of course
the faculty to live in a social way with
one's fellows, and (2) that accepts
public duties, e. g., voting according to
an enlightened mind. We should get
away from the idea that it doesn't matter
what one does. We should extend our
idea to involve training in the schools
for fitness for the public welfare. This
needs to be brought into the country—to
surrender personal judgment for the wel-
fare of the whole.

Again, the quality of trustfulness needs
to be developed. Sometimes farmers

standing ability they must pay them as
other organizations pay their officials.
Farmers in the West are reconciled to
the fact that in order to have business done
properly they must pay a man, who is
not even the head, \$11,000. To handle
the selling of grain and live stock, buying
binder twine, sugar and fruit co-operatively,
meant handing all this over to a
business organization. The farmers have
to learn to trust the men they put in
charge. Also, the farmer has to learn,
not only to trust other people, but to
make himself worthy of trust. It looks
an easy thing to sell to a dealer, not of
the organization, who offers more, but
that is disastrous to the organization.
Farmers or fruit growers must hang to-
gether, yet it is to the interest of the
dealers to break up the organization, not
by attacking it, but by offering more for
fruit, or cattle, or grain—to buy the
farmers off by offering more. The speaker
had met an instance in Michigan some
years ago, where a fruit-growers' associa-
tion had been smashed by a few dealers.
The growers didn't look far enough ahead
to see that once their organization was
broken the prices would go back.
They forgot that it was this organization
that had advanced the prices.

This co-operative business, then, either
in buying or selling, is not wholly a matter
of business, but of social and moral
qualities also. If people can do business
together and still trust one another, their
social relations are better. People must
give up distrust, must learn to know one
another, and to know one another
favorably.

in Ontario? (One of the audience
mentioned "Clarkson").

Coming to question g.—regarding
partnership between father and son. This
is a question fundamental in its neces-
sity and its difficulty. Here again comes
in that intense individuality; the father
is unwilling to surrender to the son, the
son is a chip off the old block. Or there
are cases when there is just enough for
one,—sometimes it is tragic when the
father gives over the deed; unless very
intensive farming is practiced there is not
enough on the ordinary farm to support
two families. But often, where the father
with growing sons might hand over to
them, as they attain age and ability, a
certain portion of the farm management,
this is not done. A boy of 14, growing
up on a farm, needs to be trained as a
farmer, in business experience and ability.
How can the farmer best develop this in
the boy? The only way, in the speaker's
mind, is that the father shall consciously
and deliberately realize the problem, and
hand over more and more, consulting and
advising.

Here someone in the audience inter-
jected, "Not a case of 'Billy's calf and
daddy's cow'."

President Reynolds, continuing: Would
it not be an interesting survey to find out
how many fathers are taking their sons
of 14 into some real partnership, and how
many mothers are taking their daughters
into the responsibility of the household?
He was convinced that it is lack of interest
in home affairs that is causing so many
young people to leave the farms.

Here the discussion turned to the
father's side of the question. Someone
remarked that often when the son sets
up for himself, the father goes to town,
at an economic loss. Possibly he breaks
down in health, or has to settle down as a
day laborer. The money market has
changed and he finds he has not enough.
Someone else suggested that it is
better for the father to build a second
house and retain some land, or a partner-
ship with the son.

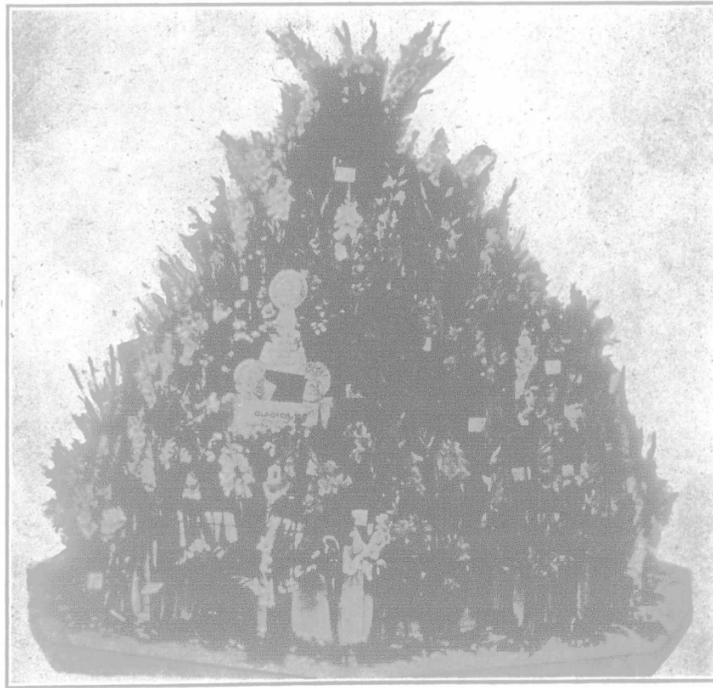
The speaker, continuing, said that calf-
raising competitions in Manitoba have
been found a good way to stimulate the
interest of boys. The boys take entire
charge of the calves, both at home and
when showing them, and good prizes are
given, ranging from \$150 down. After-
wards an auction sale of all the calves is
held. Throughout the whole transactions,
the fathers are out of sight. The boys
range in age from 10 to 16. Start a boy
that way, give him that experience, let
him see the judging. What a valuable
experience for a boy!

Mental Defectives.

NO more important subject than this
was brought up at the Summer
School. It was introduced by Dr.
Eric Clarke, of the National Commission
of Mental Hygiene, a man who knows
his ground thoroughly. "I was born in
a lunatic asylum," he says, with a smile,
"I know all the quips and quirks of the
defectives." And so he was born in a
lunatic asylum, for his father was one of
the doctors in charge.

The movement of caring for the feeble-
minded, he said (note that he is treating
of the "feeble-minded," not the "insane"),
is in its infancy yet. Guelph was the
first city in Ontario to take up the
question of mentally deficient school
children and provide classes for them.
The first survey in the world, however,
was made in England and Wales; other
countries followed, and now we in Canada
are awaking to a realization of what an
important problem this is.

Feeble-minded people are not the same
as insane people. An insane person is
like a person who has had a bank account
but has lost it; the feeble-minded person
is like one who never had a bank account,



Pyramid of Gladioli.

St. Thomas, Ont., was very proud of this fine exhibit of gladioli, for which a special prize of \$50
and a diploma were awarded by the Canadian National Exhibition, Toronto. The St. Thomas
Horticultural Society captured a silver medal for quality of bloom, and a bronze medal in the
largest exhibit class in Detroit last year, and a silver medal at Boston this year.

hang back because they do not trust the
co-operative officials, but co-operation,
as put in practice, has grown to tremen-
dous proportions in the Grain Growers'
Association of the West. The Grain
Growers required men of outstanding
ability, and they have paid very large
salaries to the high officials. One of the
chief officials (not the head), for example,
has been paid \$11,000 a year. Unless
farmers are trained in big business, they
are likely to compare what they make with
what such men as this make. They must
learn that if they are to get men of out-

The questions dealing with partner-
ship (see Sept. 9th issue) are marked (a),
(d), (e). Take, for example, question (e),
concerning "a co-operative truck line
that is lowering costs of transportation
from the farm market." Go to any re-
ceiving station for milk or cream—how
often do you find the individual farmer
driving up with his little rig and can of
cream? He could save time by co-
operating. Co-operation between school
districts is another opportunity. Then,
how many community churches are there

—he has never been up to the normal standard and can never be brought to it. The number of children who are not up to the normal standard is appallingly large. In a recent survey in Toronto, 32,453 children in the schools, about one-third of the total number, were examined, and among those 538 were found to be more or less mentally defective, while in regard to 150 more there was reason for doubt. In some parts of the city the percentage was much higher than in others; as high as 11 per cent. was found in one school.

In determining the mental efficiency, or deficiency, of the children a number of tests are used. Questions adapted to the normal age of the children are asked, etc., and a record kept of the total number of marks gained for correct answers. In making these tests great care is taken before saying that a child is mentally defective, before 8 years of age. Legally there has to be 3 years difference between the "mental age" and the physical age of the child.

Adenoids and diseased tonsils cause retardation, but this never amounts to more than 1 to 2 years in the mental age. Remove the trouble and the child immediately improves mentally. Illness and malnutrition cause retardation, but the children will improve mentally as soon as the cause is removed. Mental defectives never become normal.

A great many mental defectives have physical defects, e. g., a high and narrow palate, malformed ears or hands (e. g., the index finger may be the same size as the little finger), and the muscular control is poor. These defects are not always an indication of mental deficiency, but usually they help in diagnosis.

There are three main groups of mental defectives. (1) Idiots. These are not able to protect themselves against physical dangers. They never advance past 3 years mentally, and can't take care of themselves at all. Sometimes they are the result of in-breeding. (2) The imbeciles that have a mental age of from 3 to 6,—the type of defective Barnaby Rudge was, with shuffling gait, etc. Many of these can be taught to do simple things; in one institution they have been taught to make shoes. But these people are not safe in a community. They have no moral sense. They are likely to steal, set fires, and so on. (3) The highest type, or "moron," with a mental age of from 6 to 11 years. These are the greatest source of danger. To the casual observer they often pass as normal. Of the 538 deficient children found in Toronto, 40 were imbeciles, the others were morons.

It has been estimated that 85 per cent. of the insane are in institutions, but only 15 per cent. of the feeble-minded, yet these last are as dangerous as the others. People are afraid that the insane will hurt them physically, and so shut them up in asylums; the feeble-minded are let run loose. Five generations ago a feeble-minded man in the United States married a feeble-minded woman. Their career has been traced. Up to this time they have had 717 descendants, of whom 612 have been feeble-minded, criminals and paupers, who have cost the country \$1,350,000. This is only one case. If we got after such cases and prevented their continuance it would help to lower the "luxury" taxes.

A girl at 15 married a man with the mental age of 4 years. She is now 28, and has had 10 children, 7 of whom are living, all feeble-minded. Another mother with a mentality of 7 years came to Toronto in November with 6 children, \$2, and a bag of potatoes. She had had \$10 out of which she had paid the railway fare. She could not count money, and was found, after 2 weeks, in a room furnished with one blanket.

The mentally deficient child does not learn to walk and talk as soon as the normal child. At 5 they seem stupid; at 10 have a mental age of about 7; at 16 a mental age of about 10. The physical age keeps getting further and further ahead. In Toronto it was found that about 50 per cent. of the deficient children were of foreign-born parents.

Special classes are recommended for these children. They are happier there. For one thing there are no "tail-enders." Then pains can be taken, by trained teachers, to teach them as much as possible. They are taken on camping

trips and so on. Some of them can be trained to make things with their hands, and it has been found possible to train quite a number of the morons to some useful industry, weaving, broom-making, etc.

Complete segregation, of course, is advised. The feeble-minded are happy in institutions, and are prevented from reproducing their kind.

Dr. Dandeno at this point said that a "Report of the Inspector of Age Classes for Ontario" has been prepared and can be got by writing to the Department of Education for it.

Dr. Clarke, continuing, said that the average of mental deficiency in Toronto districts was 1.66 per cent.; some districts went as low as .75 per cent., and one as high as 11 per cent. It was expected that that locality would run high in mental deficiency. Why? Because every humanitarian organization in Toronto knows it as notorious. Venereal disease is high there. It is a locality of poverty, disease, dirt,—everything is wrong there. That district is the result of mental defectives. It is going steadily downwards, becoming more and more tumbledown.

Another district in Toronto was once known as "Shacktown," but the people who built the shacks, as a beginning in life in this country, were of different calibre. They are working upwards, becoming more and more comfortable and prosperous.

In the West a great deal of investigation has been carried out in the rural districts, and similar conditions have been found right out on the farms. In some cases there are poor farms, tumble-down homes, mentally deficient parents and children; in other places there are good homes, well-kept machinery and no defectives at all among the children.

The occupation of the parents of defective children has afforded some interesting study. It has been found that a great many of these children have parents who do routine work, requiring very little mental effort.

In reply to a question regarding the mental tests in the schools, Dr. Clarke said that a child of 7 is asked to name the days of the week—asked what day precedes certain days, etc. He is asked to count his fingers, and to tell the differences between certain things, e. g., wood and glass, a fly and a butterfly.

For the 8-year test the child is asked to write his name, to write simple sentences. Then there is what is called the "base-ball" test; a round field is drawn on paper and the ball "goes over the fence." The child is to go and get the ball, and almost invariably the mentally deficient child fails to go outside the field. Another test is to get the child to count backwards from 20 to 1. Another is to ask the child to tell the similarity between certain things, e. g., iron and lead, and another to ask for definitions, e. g., "What is a soldier?"

For the 9-year test ask the child to give the date, day of the week, month, year,—to name the months. He is then asked to make sentences containing 3 words, e. g., "tree," "green," "summer," to make change in money; and to arrange a series of blocks according to weight.

The 10-year test requires copying simple drawings. Also reading certain sentences and seeing how much the child remembers afterwards. There is a stock vocabulary of 30 words, whose meaning the normal child is expected to know.

The 11 and 12-year test requires a definition of words such as "envy," "revenge," and the re-arranging of mixed-up sentences.

The 14-year test sets simple arithmetical problems—a rather difficult proposition for the mentally deficient.

Measurement of Intelligence, a book by Terman, gives a number of good tests. These test for feeble-mindedness, but sometimes the actually insane go through them like lightning.

Dr. Clarke emphasized that classes for the feeble-minded should be very small, so that a great deal of personal attention can be given by the teachers to the defectives. He thought there should be special farm colonies for these unfortunates, and that various crafts should be taught them, as many are quite good at work with the hands.

Your Health.

BY "MEDICUS."

READER, Ont., writes as follows: Dear Medicus—Have been a very interested reader of your articles and will be very grateful if you can help me. Ever since my last baby was born I have never really felt well. Two and sometimes three times a week I have most awful headaches. I have four children and have always a bad time at birth. Just lately when I try to lift anything, even a small pail of water, it seems as if someone was putting an iron band around my body just over my ribs and pulling it tight. My appetite is not very good."

Answer.—Dear Reader: "From your letter I would conclude that you have had very severe labors and perhaps all your four babies have been fairly large. The result has been a torn perineum, and as a consequence of this tear, there is a certain amount of prolapse of the uterus and perhaps of the stomach.

"Symptoms.—Because the support to the pelvic organs has been injured, whenever you lift anything heavy, or strain, all the organs of the abdomen sag down. This throws a strain on the ligaments that run from these organs to the back, and backache is a common symptom. Because the stomach sags down, it does not do its work properly, and, as you say, the sight of food makes you sick at times. Often the patients complain of sour stomach or heart-burn.

"Because the uterus sags down it often presses on the rectum and causes constipation, or on the bladder and causes frequency of urination. There is often a discharge from the uterus—leucorrhoea or "whites," which is inconvenient but not serious, not 'weakening.'

"The most serious result is on the nervous system. You have headaches. Often the unfortunate women become irritable, lose their happy disposition, and life looks dull and drear. Then you will find these women working their heads off, just to forget their troubles, their aches and pains.

"Treatment.—Drugs are of no use, and may even be harmful, especially the patent medicine. Too often they soothe because of the large amount of alcohol present. So, don't take any medicine unless for constipation (Liquid Vaseline or Russian Oil is perhaps the best). If you are anaemic, iron (Pill Blaud, 3 grains, one after meals) and three good substantial meals a day, whether you feel like it or not.

"If you have a torn perineum, an operation by a competent surgeon is the only remedy. Before I would decide on an operation, I would suggest that you strengthen your abdominal wall. Why? Because your abdominal muscles, if strong, help very much to hold up all the organs inside. If you have an operation and your abdominal muscles are weak and flabby, you may not get the relief that you anticipated. How can you strengthen these muscles? Massage,—but that is too expensive and you can't get it in the country. Better than massage is exercise. Try this one for a month, and if you care to persevere I will tell you of others. Every morning before you are dressed, lie flat on your back with your hands by your side, and raise yourself up slowly, and don't let anything rest on your toes to help you. Repeat this six times. That isn't asking very much, but if you will keep that one exercise up for a month you should be able to notice that your abdominal wall was becoming 'as hard as a board.'

"Another thing I would do, and that is get back your former weight. (You didn't say in your letter that you were thinner than usual, but I feel safe in making the guess). Eat plenty of bread and butter—an extra slice after each meal (instead of a dose of nasty medicine), weigh yourself every week and keep a record.

"Lastly, develop a spirit of equanimity. I think you have done wonderfully well. It is a wonderful asset, so cultivate and water the little flower continuously, constantly.

"Yours very truly, "MEDICUS."

The Fashions.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. Address Fashion Department, The Farmer's Advocate and Home Magazine, London, Ont. Be sure to sign your name when ordering patterns. Many forget to do this.

POSITIVELY NO PATTERNS WILL BE SUPPLIED EXCEPT THOSE ILLUSTRATED.

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

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

3123. A Dainty Frock.
 Cut in 4 sizes: 4, 6, 8 and 10 years. Size 10 will require 4 yards of 27-inch material. Price, 15 cents.
 3307. Misses' Dress.
 Cut in 3 sizes: 16, 18 and 20 years. A 20-year size will require 7 1/4 yards of 27-inch material. The width of skirt at lower edge is 1 1/8 yard. Price, 15 cents.



Fashions.

Order Patterns.

Order patterns, giving age or number, giving age or number, giving age or number...

NO PATTERNS WILL BE RETURNED EXCEPT THOSE IL...

Please use this form in ordering pattern to:

Name.....

Address.....

City.....

State.....

Waist..... Bust.....

Age.....

Price.....

3293. One-Piece House Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38-inch size will require 5 3/8 yards of 36-inch material. The width of the dress at lower edge is 2 yards. Price, 15 cents.

3304. Two Popular Models. Cut in 4 sizes: small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. A medium size requires 3 yards for No. 1, and 1 1/2 yard for No. 2 of 30-inch material. Price, 15 cents.

3141. A Simple Dress. Cut in 4 sizes: 2, 4, 6 and 8 years, and will require 2 3/8 yards of 27-inch material for a 4-year size. Price, 15 cents.

3306. A Smart Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38-inch size will require 6 yards of 36-inch material. The width of the skirt at the lower edge is 2 yards with plaits extended. Price, 15 cents.

3122. A Simple Apron. Cut in 4 sizes: small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. Size medium will require 4 3/8 yards of 36-inch material. Price, 15 cents.

3285. A Simple Set of Hat and Apron. Cut in 5 sizes: 1, 2, 3, 4 and 5 years. A 4-year size will require 2 3/8 yards of 27-inch material for the apron and 1 yard for the hat. Price, 15 cents.

3101. An Attractive Model for Slender Figures. Cut in 3 sizes: 16, 18 and 20 years. Size 16 will require 5 3/8 yards of 36-inch material with 3 yards of ribbon or material 5 inches wide for the sash. Width of skirt at lower edge is 1 1/2 yard. Price 15 cents.

3152 Girl's Dress. Cut in 4 sizes: 6, 8, 10 and 12 years. A 10-year size will require 3 3/8 yards of 36-inch material. Price, 15 cents.

3325. Ladies' House Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38-inch size will require 6 yards of 26-inch material. The dress is of comfortable width at the foot. Price, 15 cents.

3337. Child's Play Suit. Cut in 4 sizes: 2, 4, 6 and 8 years. A 6-year size will require 2 3/8 yards of 27-inch material for the dress and 1 3/8 yard for the bloomers. Price 15 cents.

3317. A New Gown. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38-inch size will require 5 1/4 yards of 42-inch material. The width of the skirt at the foot is about 1 3/4 yard. Price, 15 cents.

3339. Girl's Dress. Cut in 4 sizes: 6, 8, 10 and 12 years, and requires 3 3/8 yards of 36-inch material for a 10-year size. Price, 15 cents.

3137. A Practical Apron Dress. Cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42, and extra large, 44-46 inches bust measure. For a medium size 4 3/8 yards of 36-inch material will be required. Price, 15 cents.

3340. Child's Dress. Cut in 4 sizes: 4, 6, 8 and 10 years. A 6-year-size will require 4 yards of 27-inch material. Price, 15 cents.

3283. Misses Dress. Cut in 3 sizes: 16, 18 and 20 years. An 18-year size will require 5 3/8 yards of 36-inch material. The width of the skirt at lower edge is about 1 1/2 yard. Price, 15 cents.

3309. Junior Dress. Cut in 3 sizes: 12, 14 and 16 years. A 14-year size will require 5 1/4 yards of 27-inch material. Price, 15 cents.

3115. Dress for Work or Leisure. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 will require 5 3/4 yards of 36-inch material. The width of the skirt at lower edge is 2 yards. Price, 15 cents.

2748. Boy's Suit. Cut in 4 sizes: 3, 4, 5 and 6 years. Size 4 requires 1 3/4 yards of 27-inch material for the waist, and 1 1/8 yards for the trousers. Price, 15 cents.

3305-3292. A Stylish Gown. Waist 3305 cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Skirt 3292 cut in 7 sizes: 22, 24, 26, 28, 30, 32, and 34 inches waist measure. For a medium size 6 1/8 yards of 44-inch material will be required. The width of the skirt at lower edge is about 1 3/4 yard. TWO separate patterns 15 cents FOR EACH pattern.

3298. Girl's Dress. Cut in 4 sizes: 6, 8, 10 and 12 years. A 10-year size will require 4 3/8 yards of 27-inch material. Price 15 cents.

3296. "Cover All" Apron. Cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. A medium will require 4 3/8 yards of 36-inch material. Price, 15 cents.

3291. Child's Dress. Cut in 4 sizes: 2, 4, 6 and 8 years. A 4-year size will require 2 3/8 yards of 36-inch material. Price 15 cents.

3169. Ladies' Dress. Cut in 6 sizes: 34, 36, 38, 40, 42, and 44 inches bust measure. A medium size will require 6 3/4 yards of 40 inch material. Width of skirt at lower edge, is 1 3/4 yard. Price, 15 cents.

3365. Boy's Suit. Cut in 4 sizes: 3, 4, 5 and 6 years. A 4-year size will require 1 1/2 yard of 27-inch material for the blouse, and 1 1/2 yard for the trousers. Price 15 cents.

3344. Dress for Work or Porch Wear. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38-inch size requires 6 yards of 36-inch material. The skirt with plaits extended measures about 1 3/4 yard. Price, 15 cents.

3346. Child's Coat. Cut in 5 sizes: 4, 6, 8, 10 and 12 years. A 6-year size will require 3 yards of 44-inch material. Price, 15 cents.

3353-3345. A Costume for Business Wear. Waist 3353 cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Skirt 3345 cut in 7 sizes: 24, 26, 28, 30, 32, 34 and 36 inches waist measure. It will require 2 1/2 yards of 38-inch material for the skirt and 2 3/8 yards of 36-inch material for the waist for a medium size. The width of the skirt at its lower edge is 1 1/2 yard. TWO separate patterns 15 cents FOR EACH pattern.

3367. Child's Dress. Cut in 4 sizes: 4, 6, 8 and 10 years. A 6-year-size will require 2 3/8 yards of 27-inch material. Price, 15 cents.

3361. A Popular "Cover All" Apron. Cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. A medium size will require 6 3/8 yards of 27-inch material. Price, 15 cents.

3356. A Dainty Dress. Cut in 4 sizes: 4, 6, 8 and 10 years. A 6-year size will require 2 3/8 yards of 36-inch material. Price, 15 cents.





All Out-Doors
Invites your
KODAK

CANADIAN KODAK CO., Limited
Toronto, Canada

To Increase Farm Profits

Save on repairs by keeping every building
protected with

**RAMSAY'S
PAINTS**

"The right Paint to Paint right."

A. RAMSAY & SON COMPANY

Makers of Paint and Varnish since 1842

Toronto

MONTREAL

Vancouver 2

"Save the surface and you save all" - Paint & Varnish

3363. Child's "Slumber" Garment.
Cut in 5 sizes: 6 mos.; 1, year, 2, 4
and 6 years. A 2-year size will require
2 $\frac{3}{4}$ yards of 27-inch material. Price,
15 cents.

3359-3349. A Stylish Costume.
Blouse 3359 cut in 7, sizes: 34, 36, 38,
40, 42, 44 and 46 inches bust measure.
Skirt 3349 cut in 6 sizes: 24, 26, 28, 30,
32 and 34 inches waist measure. To
make the costume for a 38-inch size
will require 7 $\frac{3}{4}$ yards of 38-inch material.
The width of the skirt at its lower edge
is about 1 $\frac{7}{8}$ yard. TWO separate
patterns 15 cents FOR EACH pattern.

3173. Boy's Suit.
Cut in 4 sizes: 4, 6, 8 and 10 years. A
10-year size will require 2 $\frac{3}{4}$ yards of
44-inch material. Price, 15 cents.

3362. A Comfortable Neglige.
Cut in 4 sizes: Small, 32-34; medium,
36-38; large, 40-42; and extra large,
44-46 inches bust measure. A medium
size will require 9 $\frac{1}{2}$ yards of 27-inch
material. Price 15 cents.

3358. Child's Dress.
Cut in 5 sizes: 2, 3, 4, 5 and 6 years.
A 4-year size will require 3 $\frac{1}{4}$ yards of 36-
inch material. Price 15 cents.

3364. A Youthful Style.
Cut in 3 sizes: 16, 18 and 20 years.
Size 18 will require 5 yards of 27-inch
material. This dress measures about
1 $\frac{3}{4}$ yard at the foot. Price, 15 cents.

3370. Girl's Blouse Suit.
Cut in 4 sizes: 8, 10, 12 and 14 years
A 12-year size will require 3 $\frac{3}{8}$ yards of
38-inch material. Price, 15 cents.

3054. An "Easy to Make" Apron.
Cut in One Size, Medium. It
will require 1 $\frac{1}{2}$ yard of 27-inch material
without tie strings. Price, 15 cents.

Hope's Quiet Hour.

The Attraction of Love.

And I, if I be lifted up from the earth,
will draw all men unto Me.—S. John
12: 32.

"This he said, signifying what death
He should die," is the Apostle's ex-
planation of this text. We look at
the Son of God on the Cross of shame and
agony, and we get a dim idea of the love
of Christ which passeth knowledge.
A soldier, writing from the front, de-
scribed a village churchyard torn to
pieces by German shells. The destruction
of the church was almost complete,
there were "tombstones thrown all over
the place. But the most noticeable
thing of all was that the three Crucifixes
—one inside and two outside—were
untouched. How they can have avoided
the shelling is quite beyond me."

John Oxenham declares that during
all the strife (without and within) which
the Church has gone through, while the
world goes wandering away from Christ,
"His Cross still stands!"

"Love, with the lifted hands and thorn-
crowned head,
Still conquers Death, though life itself
be fled;—

His Cross still stands!
Yes,—Love triumphant stands, and stands
for more,
In our great need, than e'er it stood before!
His Cross still stands!"

Christ is not dead, as some would have
us believe. A dead man could not
possibly inspire love and devotion in
millions of hearts. Love reaches out and
captures love. The Life of the world
comes down into our souls and our love
springs up to meet His undying love
with a living force which has not grown
less strong with the passing of the
centuries. This is the triumph of love,
the victory of One who seemed to be
vanquished. Love is the great trans-
former which can change pain into joy
sorrow into peace, the Cross into a
throne, earth into heaven.

Who can measure the love of God?
Who can tell the length and breadth
and depth and height? We sometimes
find it hard to believe in His love. When
sorrow, pain and care seem to blot out
the temptation to doubt God's love for us.
When Job — and Jesus — suffered
innocently, it almost seemed as if God
were harsh and unloving. The Father
allowed His holy Son to suffer shame
and awful pain. No legion of angels
was sent to save Him. Could Fatherly

Love stand aside, refusing to interfere?

Love acts strangely sometimes. During
the war many mothers, wives and sisters
encouraged their loved ones to go straight
to the place which has so often been
called "hell." Was that any proof that they
were heartless and unkind? The tender
love of the Father for His children on
earth is proved because He was ready
to give up His Beloved Son to die for our
sake.

When the burden of our sins is pressing
upon us and we feel as if God were far off,
let us look up at our Lord on the Cross
and remember that He was lifted up
that all men might be drawn nearer to
God and holiness. Was ever love as
royal as His? We hear His gentle words
of forgiveness as the nails tear His tortured
flesh. We hear His welcome to the
repentant robber. We wonder at His
self-forgetfulness as He provides for
His mother in the midst of His own
agony. We remember how gently He
spoke to the traitor Judas, and we under-
stand how St. Peter was cut to the heart
when his disloyal words of denial
were answered by a look of undying
comradeship.

Has our Leader proved His love for us?
Think of the terrible scourging so silently
endured, though the tender flesh was torn
in long furrows. Think of the insulting
blows on the face and the shameful
spitting, accepted with silent courage.
He endured—for us—to the uttermost.
Can we doubt His love for the souls
He died to win? He will not lay one
unnecessary burden on us; but if we—like
our Master—must be perfected through
suffering shall we shrink back and refuse
to drink of His cup?

It is pleasant to live in ease and pleasure
but such a life is not especially noble and
certainly is not Christ-like. Surely we
aspire to greater things than comfort
and pleasure. It is wonderful how the
Cross has changed the Christian world's
opinion of suffering. Instead of dreading
it and shrinking back from it in fear,
Christians in all ages have gone forward
fearlessly, and even joyfully to meet it,
considering it a privilege to be called into
the fellowship of Christ's sufferings.
His example is still inspiring men and
women to suffer and to die.

The wonderful crosses in France had a
mysterious influence on men—yes, even
hardened and apparently worldly men
felt the appeal of those crucifixes which
so often seemed to be miraculously
preserved.

A chaplain in a concrete shelter, while
shells rained outside, wrote these words:
"The Cross is not past, but present.
Ever and always I can see set up above
this world of ours a huge and towering
Cross, with great arms stretched out east
and west from the rising to the setting
sun, and on that Cross my God still
hangs and calls on all brave men to come
out and fight with evil, and by their
sufferings endured with Him help to
lift the world from darkness into light."

The love of Christ draws men to His
feet in wondering adoration, and then
it sends them out inspired with a great
desire to be like Him. Browning's
David reasons from his own deep desire
to help Saul out of his sullen misery,
that God's desire to help must be in-
finitely greater. Shall love in man be
the highest of graces—love revealed
in sacrifice—and shall God be less ready
to sacrifice for love's sake? In such a
case man would be nobler than his
Creator—which is incredible.

"Would I suffer for him that I love?
So wouldst Thou—so wilt Thou!"

He who did most, shall bear most; the
strongest shall stand the most weak.
'Tis the weakness in strength, that I cry
for! my flesh, that I seek
In the Godhead! I seek and I find it.
O Saul, it shall be
A Face like my face that receives thee;
A Man like to me,
Thou shalt love and be loved by, forever:
A Hand like this hand
Shall throw open the gates of new life
to thee!
See the Christ stand!"

See the living Jesus leading you forward
and upward! We do not worship a dead
or dying Leader; but one who goes forth,
mighty in strength, conquering and to
conquer. If the Gospel story ended at
the Cross it would be a message of gloom,
not a great light shining through the
ages. If the Son of God were really
powerless to save Himself it would be
useless to expect Him to save others.

refusing to interfere?
ly sometimes. During
ers, wives and sisters
red ones to go straight
n has so often been
at any proof that they
unkind? The tender
for His children on
cause He was ready
ved Son to die for our
of our sins is pressing
as if God were far off,
ur Lord on the Cross
t He was lifted up
be drawn nearer to
Was ever love as
hear His gentle words
nails tear His tortured
His welcome to the
We wonder at His
s He provides for
e midst of His own
mber how gently He
Judas, and we under-
r was cut to the heart
l words of denial
a look of undying

proved His love for us?
le scourging so silently
e tender flesh was torn
Think of the insulting
e, and the shameful
with silent courage.
is—to the uttermost.
is love for the souls
He will not lay one
on us; but if we—like
be perfected through
shrink back and refuse

ive in ease and pleasure
ot especially noble and
Christ-like. Surely we
things than comfort
is wonderful how the
the Christian world's
Instead of dreading
back from it in fear,
ges have gone forward
n joyfully to meet it,
vilege to be called into
Christ's sufferings,
ill inspiring men and
nd to die.

rosses in France had a
ce on men—yes, even
parently worldly men
those crucifixes which
to be miraculously

concrete shelter, while
de, wrote these words:
not past, but present.
I can see set up above
a huge and towering
arms stretched out east
e rising to the setting
Cross my God still
all brave men to come
ch evil, and by their
l with Him help to
darkness into light."

rist draws men to His
adoration, and then
inspired with a great
ke Him. Browning's
m his own deep desire
of his sullen misery,
to help must be in-
Shall love in man be
races—love revealed
hall God be less ready
ve's sake? In such a
be nobler than his
incredible.

for him that I love?
Thou—so wilt Thou!

shall bear most; the
stand the most weak.
in strength, that I cry
that I seek
I seek and I find it.
ll be
nce that receives thee;
me,
d be loved by, forever:
this hand
the gates of new life
rist stand!"

us leading you forward
do not worship a dead
ut one who goes forth,
h, conquering and to
gospel story ended at
be a message of gloom,
shining through the
of God were really
Himself it would be
Him to save others.

His parting promise is one of constant
Comradeship: "I am with you always,
even unto the end." This promise brings
with it a command: "Fear thou not, for
I am with thee." Fear is a proof of un-
belief. We could not fear, if we were
trusting in our ever-present Saviour. It
is one who abides under the shadow of the
Almighty who can walk fearlessly, in
spite of the terror by night and the arrow
that flieth by day, the pestilence that
walketh in darkness, and the destruction
that wasteth at noonday.

With eyes uplifted to Him Who suffered
perfectly, returning love for hate and
forgiveness for insult, we are stirred with
a great ambition to grow every day a
little more like our Great Example.
And so we change our selfish prayers for
present ease and comfort into a more
soldierly petition.

"I do not pray that Thou
Keep me from any wound,
Though I fall low from thrust and blow,
Forced, fighting, to the ground;
But give me wit to hide
My hurt from all men's sight,
And for my need the while I bleed,
Lord grant me strength to fight,"

DORA FARNCOMB.

For the Sick and Needy.

Yesterday two dollars for the needy
came to me from "the Doan sisters."
This gift will be divided between two
very sick people. To-day I received a
dollar from Mrs. H.—which will help a
poor widow to make both ends meet.
The S. S. papers for the "shut-in" are
always welcomed in the hospital. Thanks
to you all!

DORA FARNCOMB,
6 West Ave., Toronto.

The Ingle Nook

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

Something About Milk.

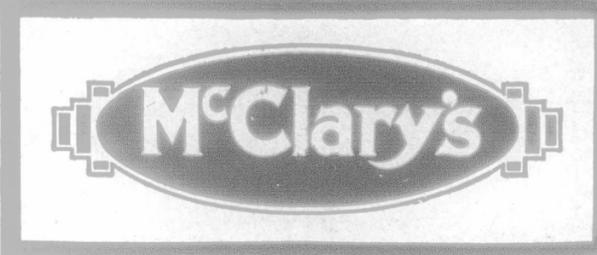
THIS is about a Dairyman's meeting,
but it is not a news report. It
happened too long ago. Other things
came along—the Exhibition, etc.—and
I could not find time to get my notes
"in shape" right away. However, one
of the men on our staff (the "heavy
weights," the printers call them) assures
me that the "stuff" is too good to let
slip, and that the facts are "perennial,"
as it were, good every year and all the year
round; so that is my reason for passing
the meeting on to you to-day.

The meeting, as a matter of fact,
took place several weeks ago. It was
held in the Institute of Public Health,
in this city and Mr. J. C. Nichol
President of the Dairyman's Association
opened it. Milk production can't be
done at haphazard, he said, we want all the
information we can get, and we should
take every means to bring it to the highest
standard. The Dairyman's Association
does not exist to boost prices; it aims
to promote the interests of both producer
and consumer.

Dr. H. W. Hill of the Institute of
Public Health, who was called upon
to take the chair, congratulated the
Dairyman present upon the fine spirit
that considers both producer and con-
sumer. The solution of the whole problem,
he said, is "fresh, pure, clean milk at a
fair price."

The scientists at the Institute of Public
Health are evidently fully aware of the
great value of pictures as a public educator,
for Dr. Hill's remarks, as well as those of
Mr. Best (chemist), who followed, were
illustrated at every point by views
shown by means of a powerful electric
lantern.

As a custodian of public health—
probably the foremost in Western Ontario
—Dr. Hill was, of course, more concerned
with the quality of the milk than with
the business of selling it. The great
curse of the milk business, he said, is
manure, and the very greatest care
must be taken to keep it from contamin-
ating the milk in any way. It is a fact
that 10 per cent. of the cattle killed under
Government inspection, and 25 per cent.

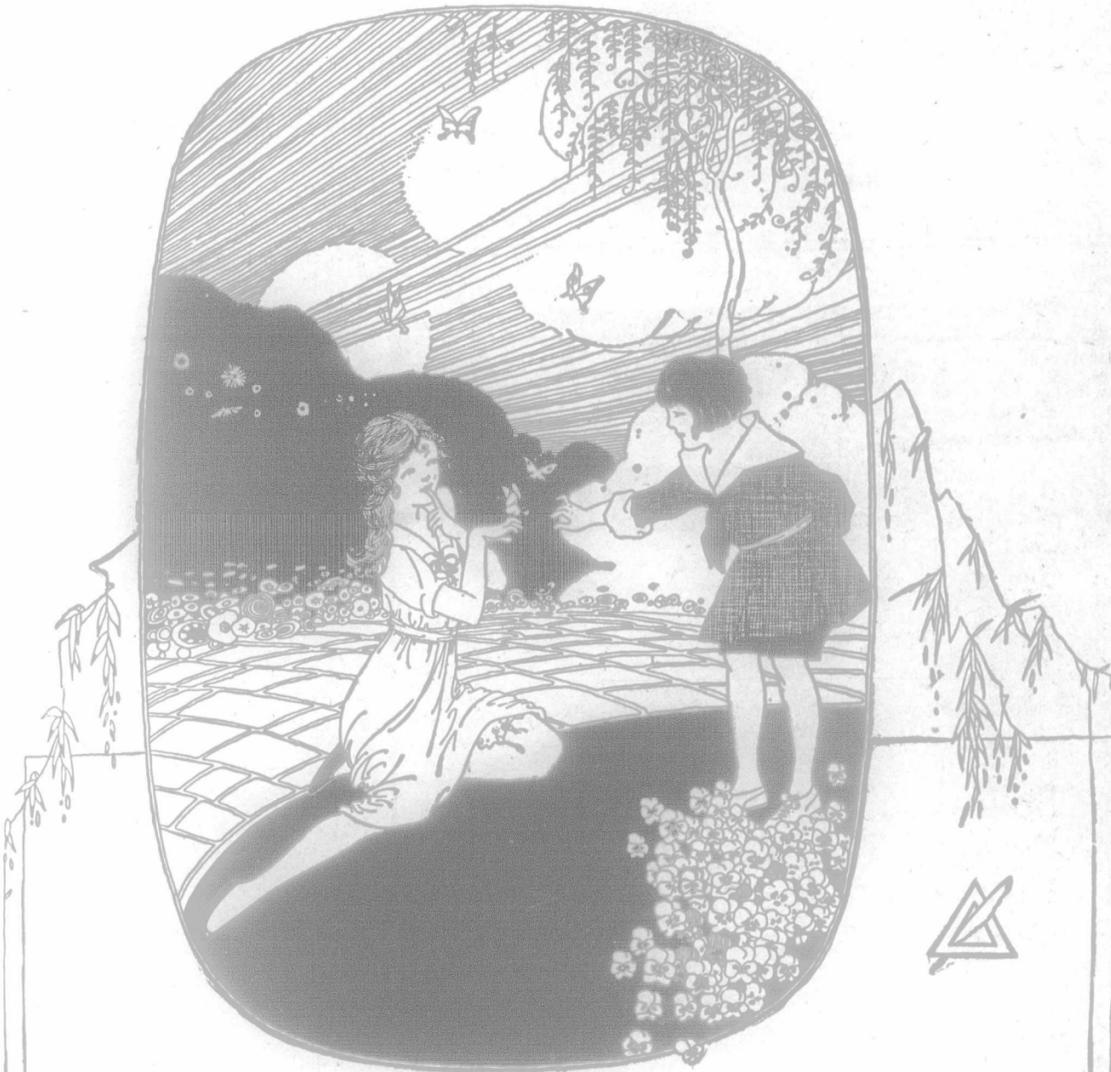


McClary's

*Make good stoves and
Cooking utensils.*

of the hogs, are tubercular, and it is also
a fact that the germs get into the milk,
not so much from the udder, but from
the manure. Since this is the case,
it can readily be seen that the bull may
be as great an offender in this way as
the cows. For many years Danish
"pasteurized" butter has been noted
for its quality, and it is gratifying to
know that Danish methods are now
being adopted by the leading dairymen
in our Canadian Northwest.

Upon the men who care for the cattle,
milk the cows and attend to the milk, rests
a tremendous responsibility. Slides were
shown to illustrate how typhoid germs may
be distributed through the dairy—from
the hands of the milkers, water used in
washing the milk vessels, etc. In Boston
500 cases of typhoid, and 50 deaths were
traced to one man who was mildly sick
with typhoid, but continued bottling
milk in a dairy. Also disease may



OUT at the knees, out at the heels—what a
problem it is to keep Children supplied
with Stockings!

Why not buy Penmans Seamless Hosiery and
forget your troubles? They are strongly knit
from the best long-fibred yarns and reinforced
at the points of greatest wear.

Penmans Hosiery

"THE STANDARD OF EXCELLENCE"

Penmans Limited, Paris.

Also Makers of Underwear and Sweater Coats.



Made in Canada

A Joy Beyond Comparison

A Sherlock-Manning piano—so artistic in appearance—so delightful in tonal qualities and with such perfect action would prove a joy beyond comparison to your family. The

SHERLOCK-MANNING
20th Century Piano
The Piano worthy of your home

is really a work of art. There is a model and a finish to harmonize with the setting of any home. An opportunity to have one of our men demonstrate the many qualities of a Sherlock-Manning would prove a pleasure to us. Write us direct for the name of the dealer nearest to you.

THE SHERLOCK-MANNING PIANO COMPANY
LONDON CANADA

LUXURIOUS FURS RARE IN BEAUTY ASTONISHINGLY LOW IN PRICE.



Sellers-Gough have this year gathered together the choicest of the world's supply of fur pelts. Each fur piece in our lavish display is a distinct creation—a masterpiece of the fur designer's art. The luxurious garments have been made up by our own skilled craftsmen to designs from New York, Paris and London.

Sellers-Gough Fur Catalogue Brings This Wide Choice of Furs to Your Own Home

The beautifully illustrated Sellers-Gough Fur Catalogue for 1920-21 is just off the press. With this wonderful style book you can select this winter's furs in the comfort of your own home. And you can order your furs from the Sellers-Gough Catalogue with the assurance that you will receive complete satisfaction. Because Sellers-Gough covers every order with an absolute guarantee of complete satisfaction or money refunded.

Mail Order Guarantee

If on receipt you find the furs for any reason are unsatisfactory, write your name and address on the outside of the package and return them within ten days in good condition, stating why the goods are being returned. We will pay transportation charges both ways and exchange the goods or refund your money in full. No exception is made to any goods in our Catalogue. Our policy is to give every customer complete satisfaction. Therefore, we do not wish you to keep any article that is not entirely satisfactory to you.

Do not delay. A post-card with your name and address will bring our Catalog by return mail. Address Dept. G

The Largest Exclusive Fur House in The British Empire

SELLERS-GOUGH
FUR Co. Limited
244 Yonge St. Toronto, Ont.

When writing advertisers will you kindly mention The Farmer's Advocate.

be carried to the milk by flies, as illustrated by a slide showing fly-tracks on a bit of jelly which, like milk, is an admirable medium for the growth of germs; a slide prepared on the day after the fly's peregrinations showed the tracks enormously enlarged—because of the colonies of disease germs developed from the germs left by the fly's filthy feet.

How it is Done.

POSSIBLY there is no one who has heard that milk may contain anywhere from 10,000 to 75,000,000 germs in a cubic centimeter who has not wondered just how the tests are made, and if they can possibly be made with any degree of accuracy. The Western Dairymen who heard Mr. Best's talk, and saw the pictures which he used, understand all that now. He showed exactly how it is done.

The types of germs in ordinary milk, he said are: (1), those that are harmless, and (2), those that produce a diseased condition. Some of the germs go through the teat into the udder. They are usually washed out in the fore-milk, therefore that should always be rejected. Some of the harmless germs produce souring. The most common of these is the lactic acid germ, which usually comes from the manure. It has the peculiar property of being able to kill out many dangerous germs that cannot grow in sour milk. There are other kinds, however, that produce souring and may produce disease. One is called the "colon bacillus", and it gets in also from the manure. Another is known as the "Streptococcus". A fourth kind is the "putrefactive" germ; which gives a bad odor to milk, and may cause diarrhoea in children.

Another germ is the one that makes butter rancid by forming an acid in it. Also there are rather rare germs that produce color in milk—red, green, brown, or yellow. Milk sometimes has what is called a "turnip" taste, but this may be due to some kind of germ. A bitter taste may be caused by something the cow has eaten, but also sometimes to a certain germ. Red milk may be due to blood, or to the cow having eaten quantities of certain herbs, or it may be caused by a certain germ in the milk while slimy milk may be due to pus, or to an organism that gets into the milk from water or from the air.

Types that Produce Disease.

Among the types of germs that produce disease in man, the first dealt with by Mr. Best was the tubercle bacillus.

This bacillus from the cow will get into the milk when the cow has tuberculosis of the udder. Or the disease may be present in the lungs or bowel, and the excretions may fall into the milk. But the germs of human tuberculosis may also get into the milk from a consumptive person milking the cow.

Other germs cause diphtheria, scarlet fever, etc. They get in from the outside—from the hands of the milker or his mouth or nose secretions, if he is infected. Also germs that cause anthrax, foot and mouth and other diseases, may be in the milk.

Number of Germs Permitted.

Before milk is sold as "pure", there should be no more than a certain number of germs in it—10,000 to the cubic centimeter (15 drops) is the limit of our certified milk. "Certified milk" comes from certified farms that comply with certain regulations. All of the conditions are the best possible, and the germs in the milk may fall as low as 5,000 or even less per cubic centimeter. The men about such farms must wear clean clothes and wash their hands before milking. The stables must be kept clean; inspection for tuberculosis and tuberculin tests must be made periodically and all cows that react must be discarded.

There are certain dealers who deliver milk containing from 25,000,000 to 75,000,000 germs (slides of these were here shown, and they were—dreadful!) These get notice that they must "clean up."

Very soon after milking, the milk should be cooled, so the germs will not grow as rapidly, but first all germs and dust should be kept out if possible. Milk should be kept cold until delivered.

How Tested.

Testing for Bacteria:—Mr. Best next gave a demonstration of how milk is

tested in the laboratories by a process by which one can tell, fairly accurately, how many germs are in 1 cubic centimeter.

The milk is collected in tagged, sterilized bottles. Next it is shaken thoroughly and the stopper and top are sterilized in flame. Fifteen drops (1 cc.) are then drawn up into a sterile pipette and transferred to a sterile glass plate. The next step is to melt jelly and run it in from a sterile tube; then the plate is placed in an incubator, where the germs grow. After 2 days it is possible to tell the number. When necessary, the milk is diluted by measurement first.

Testing for Fat.—Testing for fat is usually done by the "Babcock" method. You shake a bottle of milk, then take a pipette with a measured quantity of it and put it in a Babcock testing bottle with a long neck (about 18 grammes of milk). Next add a certain amount of sulphuric acid. The acid carbonizes everything in the milk except the fat—turns the rest of the milk quite black. The bottle is then placed on a centrifuge machine in which the fatty particles are thrown on top. The next step is to add hot water and place the bottles back in the machine for 2 minutes. This brings in the fat up in the graduated neck, where it can be measured. The Provincial law permits milk to be sold if it shows 3 per cent. of butter fat, but some cities place the percentage higher. Sometimes the "Adams" and "ether" methods are used, but they are slower than the "Babcock."

Milk Inspection.

DR. Tamblyn gave a short talk on the work of the milk inspectors. He began by speaking of the prevalence of tuberculosis in cattle. He was convinced that bovine tuberculosis is transferrable, and told of a case in which milk from a cow in an advanced stage of the disease (sometimes they will not react in the advanced stages) was fed to 9 little pigs. At 3 months of age 3 had died and another was sick.

Through the efforts of Dr. Torrance the law has been made to govern the testing of cattle for tuberculosis in a way that will appeal to cattle owners. Now the owners of pure-bred herds may have their cattle tested free by applying to Ottawa. If they are found free an "accredited herd" certificate is given. The tests are made twice a year, and some compensation is to be made for those destroyed.

Dr. Tamblyn thought it too bad that all milk is not certified. The trouble is that in some localities the buyers will not pay the price. For certified milk the count of bacteria must be not more than 5,000 in winter and 10,000 in summer, per c c. He thought this was not a farmer's proposition, but advocated the greatest cleanliness and care. Milk brought in by some farmers near London had tested as low as 10,000; that brought in by others as high as 57,000,000 and more—a quite inexcusable count.

Not only should the milkers and stables be clean, but also the approaches to the stable should be clean and dry. It is impossible for cows to wade through mire without getting so covered with it that the milk is contaminated.

In his inspections, however, he had found at least 50 per cent. of the dirt on the men. On several occasions he had found men milking in the dark; very few have a damp cloth to wipe the udders, or a place near to wash the hands. "According as the men who sell milk love mercy and to do good," concluded Dr. Tamblyn, "shall we have a low bacterial count and milk fit to feed babies."

Mr. Nichol then brought up the plan for a co-operative dairy in London, but that is being explained in a different part of this paper.

What Can the Western Do?

COL. Brown, the last speaker, wished to know just how the "Western University" can help in this problem, and asked for suggestions.

"The Western," he said, hopes not only to help the students in College, but also the boys and girls on the farms, and the teachers in all the schools of Western Ontario. Also it wants to carry on adult education. All this can be one through extension lectures and an extension library service.

In Western Ontario there are 154,600

This furnace can be installed in your home IN ONE DAY

A New Heating System That Will Save You Many a Dollar and Guard the Health of Your Family

NO matter whether your house is new or old, large or small, has a big cellar or only a small excavation, you can now have every room in your home, upstairs and down, as warm as you want it when the blizzards of winter rage outside. Clare Bros.' engineers have produced the final achievement in heating systems—the Hecla Pipeless Furnace.



THE FAMOUS HECLA!

This pipeless furnace—which you install in one day—which gives you the lowest cost heating system—and the most economical service—is the famous Hecla Furnace. It has all the exclusive improvements that made the Hecla so popular. No gas or dust. No matter how old the Hecla may be it will not leak gas or dust. This is because it is built with our Patented Fused Joints. The large Circular Water Pan keeps the air supplied with healthful moisture. The Hecla frepot, Ribbed with Steel, which trebles the radiation surface, gives quicker heat and saves one ton in seven over other good furnaces. Burns coal or wood equally well. Easy to tend.

Because there are no costly, awkward pipes to put up, because there is no need now to tear up floors, ceilings, walls and partitions, this scientific heating system can be installed in your home in **ONE DAY**. The furnace man can start after breakfast. At supper time your home will be cosily heated! Stoves, fuel, ashes, dirt and smoke will be banished from your rooms.

A Boon to Thousands!

The Hecla Pipeless Furnace is not only economical but it is the proper heating system to install. One register sends clean, warm, moist heat into every room with perfect circulation and ventilation. In hundreds of homes it has brought the cheer and comfort of efficient cosy warmth. And it has brought amazing economy of fuel—many say they save from 25% to 50%. The testimonials alongside are but typical of scores.

GUARANTEED Absolutely to Heat Your Home Properly

Your natural question is—Does the Hecla Pipeless Furnace work? Every one of the hundreds already installed *does* work. But we do not ask you to decide on the strength of these convincing testimonials we have received. Clare Bros.' guarantee is unconditionally given with every Hecla Pipeless just as it has been given with every furnace and stove we have made in the last half-century. Can we make our claim stronger than that? Our heating experts are at your service. They will advise you whether the Hecla Pipeless is the ideal furnace for your home or not. They have installed this new system in schools, churches, halls, stores as well as homes, new and old. Get their advice!



READ THIS BOOK—NOTE THESE TESTIMONIALS

Send the coupon for our Booklet "Buying Winter Comfort." It explains the whole principle of this new heating system. Read these interesting testimonials.

J. G. KARN, WOODSTOCK, ONT., says: "Your No. 122 Pipeless Furnace installed in my store is giving perfect satisfaction. It saves coal and also room in my cellar."

LUKE BROS., OSHAWA, ONT., "We desire to inform you how much pleased we are with the new Pipeless Furnace installed in our premises this winter. We find it particularly good as regards the coolness of our cellar, even when the fires are very heavy."

J. E. JOHNSTON, FORT ERIE, ONT., "The downstairs we have no difficulty in keeping at 78 degrees Fahrenheit—upstairs is 4 or 5 degrees cooler."

STEWART DEVAULT & CO., LIMITED, ST. JOHN'S, QUE., "We are using a Hecla Pipeless in our Grocery Warehouse and heating three floors. We have found it very satisfactory."

LOUIS WEBER, ZURICH, ONT., "My cellar is as cool as if it never had a furnace. I can heat my house up to 75 degrees in the coldest days. Although I never had a furnace in my house before I claim it to be a fuel saver over any system I have had heretofore."

SEND THIS COUPON

Freely, and without any strings, we will answer any questions on heating the Hecla Pipeless way that you care to ask. Let us send you our booklet "Buying Winter Comfort" which describes the "Hecla" Pipeless fully. Mail this coupon—to-day.

Get the facts—to-day

Clare Bros. & Co., Limited.
Dept. D5 Preston.

Without obligating me in any way send me your booklet, "Buying Winter Comfort."

Name
Address

CLARE BROS. & CO.
PRESTON, ONT. Limited

Winnipeg Saskatoon Calgary Edmonton Vancouver

HECLA PIPELESS FURNACE Burns Coal or Wood

children attending the public schools, and only 12,000 at the Continuation schools and Collegiate Institutes. This shows that the ordinary child is not getting enough education. Nor do the 12,000 in the High Schools all go to College or to the University. People are failing to grasp the economic value of education. Dr. Silcox of Stratford places the actual money value of each day at school at \$9 to \$20 per day. If the child loses days he is losing actual money in his later life. If the parents received a bonus of even \$5 a day they would see that their children went to school. We are now facing some of the greatest problems the world ever faced. We must be trained to efficiency, and to receive the kind of training that will make us efficient as citizens. The object of a University is to train men and women for citizenship. Besides, we must have trained leaders. Before the War Germany trained 14 people, Britain 6, the United States 6, Canada 5, out of every 100. The Germans did not send their technical experts to the front. All the rest did. Germany still has her technical staffs, and even increased them during the War. It is imperative for us, too, to train every boy or girl who shows any ingenuity

Lawson's Snowflake Ammonia Saves 90 Per Cent Soap For Household and Disinfecting Purposes S.F. Lawson & Co. LONDON, ONT.

Whatever to go into the line of work that gives him or her scope. The wealth of Western Ontario permits this. "Gentlemen you are at the hub of things."

Autumn Cookery.

Chicken Pie.—Use the remnants of cold roast fowl. Cover the bones and left-over gravy with water and simmer an hour or more. To 3 cups of stock add half an onion chopped, 2 potatoes cut in cubes, 1 teaspoon salt, and pepper to season, and boil 15 minutes. Thicken with 1/2 cup flour mixed to a smooth paste with cold water. Put all in a baking-dish, cover with small biscuits cut out from good biscuit dough, and bake in a hot oven 20 minutes, or until the biscuits are done. If the amount of chicken is scant add 1 or 2 hard-boiled eggs sliced.

Savory Hash.—One cup cold meat cut fine, 2 cups cold cooked potato, 1/2 onion finely chopped, 2 stalks celery cut in bits or 1/2 teaspoon celery salt, 1 cup tomatoes, 3/4 teaspoon salt, pepper to season, 2 tablespoons melted bacon fat or beef drippings. Mix and bake in a casserole in a moderate oven 45

atories by a process...
ell, fairly accurately...
re in 1 cubic centi...
ed in tagged, sterilized...
shaken thoroughly...
d top are sterilized...
rops (1 cc.) are then...
sterile pipette and...
ile glass plate. The...
jelly and run it in...
; then the plate is...
or, where the germs...
it is possible to tell...
necessary, the milk...
ement first.

Testing for fat is...
"Babcock" method...
of milk, then take...
measured quantity of...
Babcock testing bottle...
about 18 grammes of...
a certain amount of...
the acid carbonizes...
milk except the fat...
the milk quite black...
placed on a centre...
ch the fatty particles...
The next step is to...
place the bottles...
ine for 2 minutes...
t up in the graduated...
be measured. The...
mits milk to be sold...
nt. of butter fat, but...
percentage higher...
Adams" and "ether"...
but they are slower

pection...
ave a short talk on...
the milk inspectors...
y speaking of the...
culosis in cattle. He...
ovine tuberculosis is...
ld of a case in which...
an advanced stage...
etimes they will not...
ed stages) was fed to...
months of age 3 had...
s sick...
rts of Dr. Torrance...
made to govern the...
tuberculosis in a...
to cattle owners...
pure-bred herds may...
ted free by applying...
y are found free an...
certificate is given...
ice a year, and some...
be made for those

Diamond Dyes Dye It Right

Colors Never Streak, Spot, Fade, Run
or have that "Dyed-Look"



Each package of "Diamond Dyes" contains directions so simple that any woman can diamond-dye a new, rich, fadeless color into worn, shabby garments, draperies, coverings, everything, whether wool, silk, linen, cotton or mixed goods.

Buy "Diamond Dyes"—no other kind—then perfect results are guaranteed even if you have never dyed before. Druggist has color card, showing 16 rich colors

'FACE DISEFIGURED WITH PIMPLES

Itched and Burned. Scarcely Slept. Cuticura Heals.

"Pimples affected my face. They were large and always festered, and they were scattered all over my face. They afterwards turned into scales and when they fell off they left big marks until my face was disfigured. They itched and burned so that I scarcely slept at all.

"I had been bothered for nearly two months before I started using Cuticura, and after I had used three boxes of Cuticura Ointment with the Cuticura Soap I was completely healed." (Signed) Miss L. Burns, St. Bazile, Que., June 6, 1918.

Use Cuticura Soap, Ointment and Talcum for all toilet purposes.

Soap 25c. Ointment 25 and 50c. Sold throughout the Dominion. Canadian Depot: Lyman, Limited, St. Paul St., Montreal.

Cuticura Soap shaves without mug.



JAEGER

for Children

There is underclothing, night dresses, pyjamas, coats, stockings, knitted jerseys, knitted suits, knitted caps, slippers, sandals, gloves, mitts, and, for infants, there are spencers, booties, infants, overalls, etc.

A fully illustrated catalogue free on application.

For Sale at Jaeger Stores and Agencies throughout Canada.

Dr. JAEGER SANITARY WOOLLEN SYSTEM
Toronto Montreal Winnipeg
British "founded 1883"

When writing please mention Advocate

minutes. If you have not a casserole use a granite dish and cover closely.

Cabbage in Milk.—Cut a small white cabbage very fine; soak in cold water 1/2 hour, drain, then cover with equal parts of milk and water. Cook uncovered about 25 minutes, or until the cabbage is tender. Season with salt and pepper and serve very hot.

Baked Tomatoes.—Cut 4 tomatoes in halves, sprinkle with salt and pepper and cover thickly with crumbs moistened in melted butter. Bake in a hot oven 20 minutes, and serve very hot with mustard pickle sauce.

Mustard Pickle Sauce.—Make a "drawn butter" as follows: Cook 2 tablespoons butter until it bubbles, then stir in 2 tablespoons flour. Add 1 cup hot water, 1/4 teaspoon salt, and one-eighth teaspoon pepper; stir until cooked. To this "drawn butter" add 2 tablespoons of mustard pickles, chopped very fine.

Tomato Honey.—Cut ripe tomatoes in small bits, and for each lb. allow the grated rind and juice of 1 lemon. Just cover with water and cook in a granite saucepan very slowly until the juice has almost evaporated. Put through a fine colander or ricer, measure, and allow an equal quantity of heated sugar. Cook slowly until thick, stirring frequently. Seal. Serve as you would jam or marmalade.

Current Events

By a new order at Ottawa a cut in the tariff has been made which will permit a considerable influx of goods into Canada.

A series of meetings in the interests of Consolidated Schools have been held at Warsaw, Ont.

The Dominion Government has named Oct. 9th as Fire Prevention day—a day on which Canadians are urged to remove all possible causes of fire, to repair everything not safe, and spread public education in regard to this matter.

Hamilton Collegiate Institute girls have decided to adopt middie-and-skirt uniform, as a means of combating the high cost of clothes.

The Toronto Trades and Labor Council has asked for an appointment with the Minister of Education to discuss the possibility of establishing University classes for working men.

The Poles are said to be favorable to the peace terms offered by the Russian Bolsheviks.

British young women may now take a "Bride's Year" at King's College, London. The course includes household management, housewifery physiology, hygiene, infant hygiene, business affairs, biology and general economics.

Bolshevism is ebbing in Italy—the Soviets are evacuating the factories.

The Arbuckle and other sugar companies in the United States have announced another reduction in the wholesale price of sugar, making it 14 cents a pound.

Gen. Makhno, the Ukrainian peasant leader who has joined forces with Gen. Wrangel, has captured Nikopol, on the Dnieper, from the Bolsheviks.

Lithuania has accepted the invitation of Poland to send delegates at once to Suwalki to discuss peace terms. Both nations have expressed willingness to negotiate along the lines laid down by the League of Nations. The League has sent a Control Commission—A Frenchman, an Englishman and a Japanese—to regulate the boundary dispute.

Sir Percy Cox, upon his arrival in Bagdad, as High Commissioner, will issue a proclamation placing the Government of Mesopotamia in the hands of the Arabs.

Chinese wheat is being sold in Europe.

THIS BEAUTIFUL Black Wolf Set



is a good illustration of the wonderful values shown in Hallam's 1921 Book of Fur Fashions—which will be sent to you

FREE

It contains 48 pages illustrated with reproductions from actual photographs. Page after page is packed with beautiful bargains in Fur Coats and Sets all at "trapper to wearer" prices.

Every Hallam Fur Garment is sold with this **GUARANTEE**—If a Hallam Fur Garment does not satisfy you when you receive it simply send it back and we will at once return your money in full.

Hallam's is the only firm in Canada selling Furs exclusively by mail from trapper to wearer and guaranteeing them. No matter where you live (in Canada) the prices are the same to everybody—everywhere.

Black Manchurian Wolf Scarf is of medium quality, glossy, durable and hard wearing. Trimmed with paws, heads and tails and measures about 47 inches in length and about 7 inches wide. Lined with Poplin. M 375. Scarf, delivered to you **\$8.00**

Muff to match is made pillow shape, large and roomy, with cosy, soft bed. It is trimmed with head and tail and lined with satin Venetian. Complete with wrist cord and ring. M 376. Muff, delivered to you **\$7.95**

The above scarf or muff will be sent promptly on receipt of money.

ADDRESS IN FULL AS BELOW

John Hallam Limited

The Largest in Our Line in Canada

(Department No. 1051) TORONTO

At Your Service Wherever You Live

The woman in town, or country, has the same advantage as her sister in the city in expert advice from the best-known firm of Cleaners and Dyers in Canada.

Parcels from the country sent by mail or express receive the same careful attention as work delivered personally.

Cleaning and Dyeing Clothing or Household Fabrics

For years, the name of "Parker's" has signified perfection in this work of making old things look like new, whether personal garments of even the most fragile material, or household curtains, draperies, rugs, etc.

Write to us for further particulars, or send your parcels direct to



Parker's

Dye Works Limited
Cleaners & Dyers
791 Yonge St. Toronto

When writing advertisers will you kindly mention The Farmer's Advocate.

The Windrow

The world's greatest wireless station is about to be built on Long Island, near New York. It will be equipped for both wireless telegraph and wireless telephone.

Scientists are now trying to find annual plants that can be used for making paper. Among those thought promising are bamboo, maize, sorghum, broom, papyrus and other reeds, nettles, flax wastes and certain grasses.

Between pity toward "beasts" and goodness of soul there is a very close connection. One might say without hesitation, when an individual is wicked in regard to beasts, that he cannot be a good man. One might also demonstrate that this pity and the social virtues have the same source.—*Our Dumb Animals.*

Dominion Experimental Farms Exhibit at Ottawa.

One of the most interesting annual features of the Central Canada Exhibition at Ottawa is the splendid educational and display exhibit of the Dominion Experimental Farms System. There is seldom any more valuable exhibit on the grounds for farmers than this, and it always attracts a large number of visitors—everyone in fact who is interested enough in the exhibition to enter the Horticultural Building. There is usually a separate part of the exhibit for each division of the Experimental Farms System, and this year the representative of "The Farmer's Advocate" looked the whole exhibit over carefully so as to be able to reproduce more or less fully, so far as words can do so, the valuable features with respect to each branch of agriculture.

The Forage Plants Division is specializing now in the production of home-grown seed, and visitors were told that "Home-grown seed will give at least as good crops as high-priced, imported seed." Farmers were also advised to "insure alfalfa and red clover against winter-killing by using home-grown seed." Illuminated photographs of seed crops were shown in various stages of culture, while several types and varieties of crops were shown, including the following: turnips, mangolds, parsnips, home-grown seed of alsike, alfalfa, field carrots, timothy, sweet clover, red clover and swede turnip. Samples of corn and sunflowers grown for silage purposes were also included, and from the latter a yield has been secured this year of 32½ tons.

The Tobacco Division was largely a display of the various types of Canadian-grown tobacco, among them being: Yamaska (cigar, binder leaf), Warne (plug, pipe and cigarette), Comstock Spanish (cigar, binder leaf), Havana Seed Leaf (pipe, cigar filler and binder), Shoestring Dutch (pipe and cigar filler), Little Dutch (pipe and cigar filler), Gold Leaf (pipe and plug), Hickory Pryor (pipe, plug and cigarette), White Burley, Broad Leaf (pipe and plug) cigar filler tobacco (stripped and unstemmed). Interested persons were told that "Canada consumes 35,000,000 pounds of tobacco per year and imports about 20,000,000 pounds. There should be room for 10,000,000 pounds more of Canadian-grown tobacco. There is practically no limit for the production of flue-cured Bright tobacco in Canada, provided it is the right kind. The growing of this tobacco in Canada is just beginning. More of it is wanted by the home industry and England could absorb any available surplus." Growers were also told that "every dollar spent on fertilizers for tobacco will return \$2 to \$3." Interesting photographs were also shown.

The Animal Husbandry Division exhibit would have been interesting and valuable to nearly every farmer. Models and plans of a portable hog cabin, a small piggery, a self-feeder for hogs, a combination bank barn for a small farm and a general-purpose barn for a small farm were prominent and fully or partially constructed, in detail. Barn plans such as were shown are free, and many valuable building pointers were possible in this connection.

"The Scotchman's Medicine Chest" was given some prominence. The following "standard medicines and preparations



333—Full split gun pattern, four-inch imitation leather cuff.

300—Gun pattern, horsehide palm, thumb and strap, cuff and back of split, outseam reinforced cuff.

NO matter what your job may be—driving, firing, farming, motoring, or railroading—you'll find your size and your style of Work Gloves in the Carhartt line. Although Carhartt Gloves are good looking, do not forget that they are made to work with. Cut out of fine leather, shaped to the hands, and with strongly sewn seams, they take all kinds of punishment without flinching. The specially prepared leather offers a sturdy resistance against inclement weather, steam and dry warmth. You'll like Carhartt Work Gloves, because they're dependable. Their ability to give long wear makes their purchase a distinct economy. They are easily identified by the Carhartt label.

HAMILTON CARHARTT COTTON MILLS, LIMITED
Toronto Montreal Winnipeg Vancouver
Also manufacturers of Carhartt Overalls and Allovers for Men and Boys

CARHARTT GLOVES

Assistant to Dominion Animal Husbandman

Required for Central Experimental Farm, Ottawa, Ont. Salary \$1,440 to \$1,800, by annual increments of \$60.

Candidates must have graduation in Agriculture from a school or college of recognized standing, with special training in Animal Husbandry; considerable experience in general farm work, particularly with reference to live stock previous to and, if possible, subsequent to graduation; preferably some office experience; good address and ability to deal with the public.

Preference allowed candidates who have been on active service. Application forms, to be obtained from the undersigned, must be filed with the Civil Service Commission, Ottawa, not later than October 23rd, 1920.

WM. FORAN, Secretary.

Ottawa, September, 1920



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

TERMS—Five cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 75 cents.

FOR SALE—GOOD FARM, TWO HUNDRED acres, five miles from town; first-class buildings. Apply R. Scarlett, Seaforth, Ont.

DAIRYMEN WANTED AT ONCE—MUST be good milkers; steady employment. Apply Dairy Dept., Speedwell Hospital, Guelph, Ont.

PURE-BRED SCOTCH COLLIE PUPPIES—Intelligent and good workers; females only. Apply Urias Cressman, New Hamburg, Ont., Co. Waterloo.

WANTED BY CAPABLE WORKING MAN—AGER (married) position on stock or dairy farm; good worker, best references; would consider shares. Apply Box 64, Farmer's Advocate, London, Ont.

WANTED—A MARRIED MAN FAMILIAR with general farming, capable of handling pure-bred stock and making milk records; also fitting and showing both cattle and hogs. He will be expected to board the other help. State experience and wages expected. Box 60, Farmer's Advocate, London, Ont.

160 Acres, \$8,800, With 7 Horses, 27 Cattle and

10 shoats, 2 mowing machines, 4 plows, cultivator, harrow, grain drill, fanning mill, wagon, blacksmith equipment, some household furniture; immediate possession; in one of best grade grain-growing sections in Ontario, near big Canadian city; 140 acres gently rolling loam fields, immense crops, wheat, oats, clover, alsike; spring-watered pasture; valuable wood and timber, good apple orchard; roomy house, magnificent view; 90-ft. barn, various out-buildings; owner left alone, closing out, includes everything at \$8,800, part cash, balance easy terms. Details this and other farms in Ontario, Nova Scotia, Alberta and 33 States, Strout's Big New Illustrated Catalogue Farm Bargains. Just out. Write for free copy.

STROUT FARM AGENCY
306 S. Manning Chambers, Toronto, Canada

Superior Barred Plymouth Rock Cockerels

For Sale—From 12 best bred-to-lay families in both countries.

Pen No. 1.—Park's Supreme Ringlets imp., laying record 313 eggs in 1 year.

Pen No. 2.—Thompson's Imperial Ringlets, imp., record 312.

Pen No. 3.—Holderman's Aristocrats, imp., record 311.

Pen No. 4.—Riley's Delights imp., record 309.

Pen No. 5.—Taylor's Regals imp., record 308.

Pen No. 6.—Bryant's Standard imp., record 307.

Pen No. 7.—O. A. C., Guelph, record 310.

Pen No. 8.—Guild's, record 283.

Pen No. 9.—Coldham's Canadian Ringlets, record 260.

Pen No. 10.—Clark's, record 258.

Pen No. 11.—Donaghy's, record 256.

Pen No. 12.—Jameson's, record 255 eggs.

Price—First 6 pens \$9.00 each; remaining 6 pens \$5.00 each.

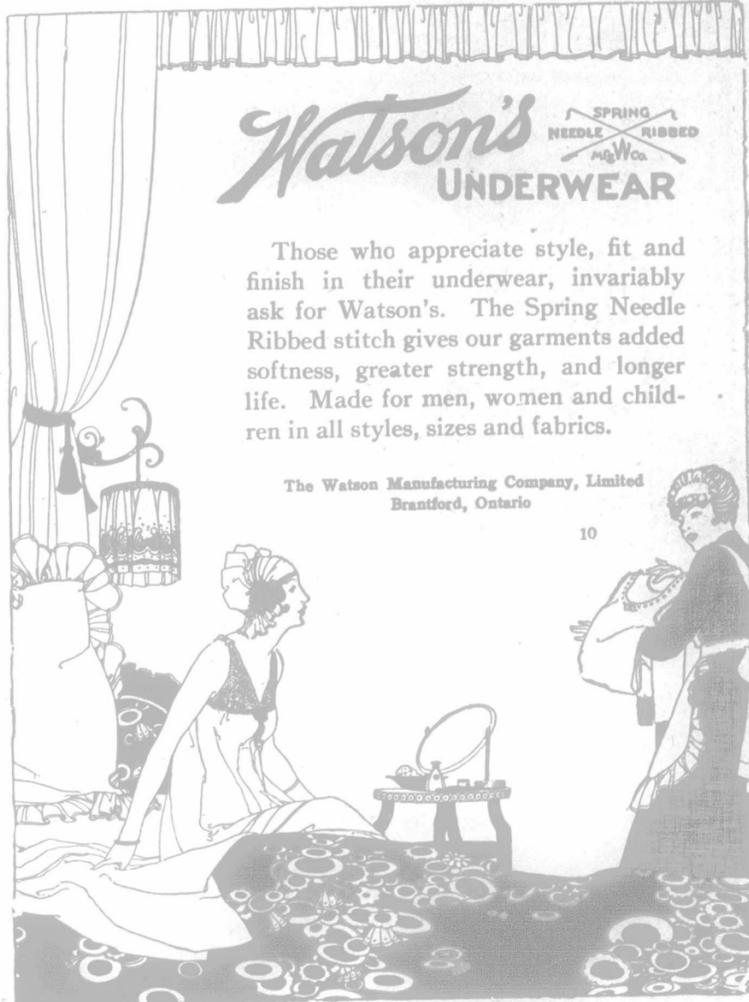
It is many times proven fact that the cockerel transmits the laying qualities to his pullets which he received from his dam.

H. A. CROZIER, Box 16, Meadowvale, Ont.

Poultry Wanted

We require large quantities of live poultry every week, and can pay top prices for any number of birds of good quality. If you want the best market for your poultry sell to

C. A. MANN & CO.
78 King St., London, Ont
Phone 1577.



Watson's UNDERWEAR

Those who appreciate style, fit and finish in their underwear, invariably ask for Watson's. The Spring Needle Ribbed stitch gives our garments added softness, greater strength, and longer life. Made for men, women and children in all styles, sizes and fabrics.

The Watson Manufacturing Company, Limited
Brantford, Ontario

10

FOUNDED 1866

FUL Wolf Set

Illustration of values shown in 1921 Book of... which will you

FREE

ns 48 pages il- with reproduc- actual photo- age after page is a beautiful bar- Coats and Sets opper to wearer"

allam Fur Gar- sold with this FREE—If a Hal- arment does not when you re- ply send it back at once return in full.

is the only firm selling Furs by mail from wearer and guar- em. No matter live (in Canada) are the same to everywhere.

he Largest in Our Line in Canada

ONTO

Service

country, has her sister in ice from the Cleaners and

sent by mail same careful ed personally.

Dyeing

hold Fabrics

"Parker's" has in this work of look like new, ments of even the, or household s, etc.

er particulars, or ct to

er's Limited Dyers Toronto

Farmer's Advocate.

Might Have Saved \$18,500

This sum belonging to a lady was lost while being transferred from one bank to another in New York City.

The money was the proceeds of a life insurance policy.

It is a great pity the amount was not transferred by cheque, but the beneficiary preferred the cash, and it was lost.

Had the Insurance been paid to her in monthly instalments in place of a lump sum, there would have been no possibility of disaster.

We issue policies payable by monthly instalments throughout life; 240 being absolutely guaranteed.

Mutual Life of Canada
Waterloo-Ontario

110

White Blossom Sweet Clover

A limited quantity of first quality seed at \$15 per bushel. Orders with cash enclosed will be filled in the order received. Bags free.

G. K. PRATT, Pickering, Ontario

You can earn a lot of money by securing new subscribers to the Farmer's Advocate and Home Magazine. Write for instructions.

Mark Well!

Your safeguard is the name

"SALADA"

B720

This is the genuine 'tea of all teas'.

If you do not use Salada, send us a post card for a free sample, stating the price you now pay and if you use Black, Green or Mixed Tea. Address Salada, Toronto



Peaches

are the most valued treasure on the preserve shelf.

Lantic pure Cane Sugar, with its fine granulation, is best for all preserving.

10, 20 and 100-lb. sacks
2 and 5-lb. cartons

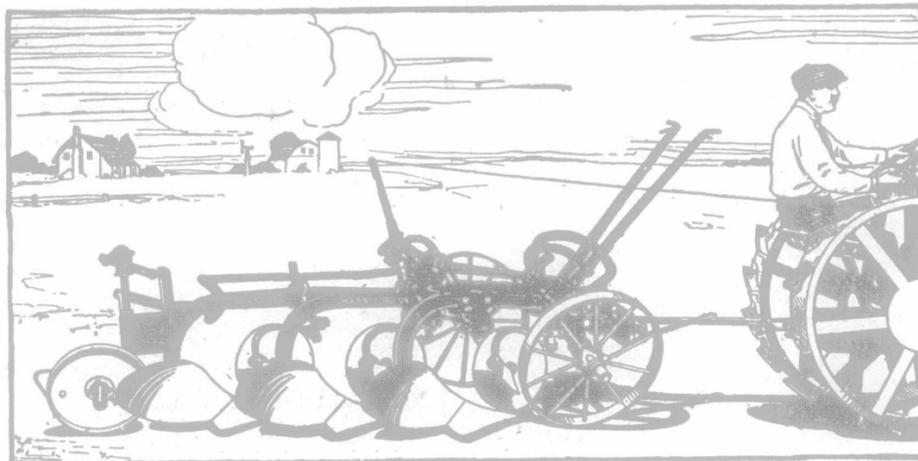
Send us Red Ball Trade-mark for free copies of our three new Cook Books.

Atlantic Sugar Refineries Limited

MONTREAL, QUE. ST. JOHN, N.B.



COCKSHUTT



Cockshutt "Victory" Plow

Used successfully with any make of Tractor

Power farming is revolutionizing the farm by making it possible to accomplish a great deal more work with a great deal less help. Cockshutt implements have played a big part in this development and have always kept abreast of the times. With our "Victory" Plow we are ready for the light tractor user with an implement of modern design, great strength and unusual adaptability.

It can be converted from a 2-furrow to a 3-furrow plow with a few minutes work, and vice versa.

In the field it runs itself—it is controlled by the tractor operator; but he can practically forget it is behind him. Set the levers regulating depth of cut and levelling of plow and it needs no more attention.

A pull of the cord raises the bottoms high and level

Built in 2-furrow and 3-furrow sizes and with 10", 12" or 14" bottoms. See our nearest Agent or write us for full particulars.

Cockshutt Plow Co. Limited
BRANTFORD, ONT.

Sold in Eastern Ontario and Eastern Canada by

The Frost & Wood Co. SMITHS FALLS, ONT.
Montreal St. John, N.B.

at the end of the furrow. Another pull lowers them to their work again.

Break-pin coupling. Hitch is adaptable to any make of Tractor and permits outfit to be backed up.

Cockshutt Victory at the International Plowing Match

Mr. J. B. Cooperthwaite won FIRST PRIZE in the Tractor Plowing Competition held at Chatham last October, with his Cockshutt 3-furrow "Victory" plow, against 27 Tractor outfits—with 19 of them pulling Cockshutt Plows. Most tractor manufacturers as well as most farmers prefer these plows.

that every stockman should have on hand" were shown in a neat medicine chest with injunctions to "1, keep them in a cupboard for the purpose; 2, keep them always on hand; and 3, keep them tightly stoppered;" creolin, raw linseed oil, lime water, Epsom salts, boracic acid, sodium carbonate, lead acetate, sulphur, iron sulphate, gentian, crude vaseline, hydrogen peroxide, aromatic ammonia, castor oil, sweet spirits nitre, turpentine and iodine. Accompanying the display of these medicines was the following advice: "Few stockmen are veterinary surgeons. Sickness comes sooner or later and the practitioner may save you hundreds of dollars. Call him in time and give him a fair chance. But—you may often prevent serious illness and loss by having on hand and knowing how to use a few medicines and simple appliances." Some of the latter were shown, included among which was a pump for milk fever treatment.

The milk scales and Babcock tester were also shown with the following placarded statement: "Have you a pick pocket in your herd? This good detective is looking for a job. Use the Babcock tester and weed out the low-testing cows." Samples of feeds were shown for the benefit of the feeder of cattle, sheep and swine; who was told that "A mixture of a number of feeds is more economical than one or two," and that "a balanced ration for cattle, sheep and swine can be mixed by the farmer from the feeds shown." As illustrations of good mixtures the following were given:

Fattening ration for sheep and lambs:
Oats..... 4 parts
Bran..... 2 parts
Oil cake..... 1/2 part
Approximate cost, \$3.36 per 100 lbs.

Good grain ration for fattening beef cattle:
Bran..... 3 parts
Ground oats..... 3 parts
Ground barley or ground corn..... 2 parts
Oil cake meal..... 2 parts
Approximate cost, \$3.12 per 100 lbs.

Well-balanced ration for milch cows in winter:
Bran..... 5 parts
Brewers' grains..... 2 parts
Ground oats..... 2 parts
Gluten feed, or ground corn or barley..... 2 parts
Oil cake meal..... 2 parts
Approximate cost, \$3.14 per 100 lbs.

Finishing ration for hogs:
Shorts..... 3 parts
Ground oats..... 3 parts
Ground barley..... 1 1/2 parts
Ground corn..... 1 1/2 parts
Oil cake meal..... 1 part
Approximate cost, \$3.25 per 100 lbs.

A good calf meal mixture:
Fine ground, sifted oats. 2 parts
Ground corn..... 2 parts
Ground flax..... 1 part
Approximate cost, \$4.26 per 100 lbs.

Next was the exhibit of the Flax Division. Here was shown by chart and by the various products themselves the various uses to which the parts of the flax plant are put in commerce and industry. Use is made of both the seed and the straw as follows:

The seed is used for the production of linseed oil, linseed meal, and oil cake. From the straw is secured the retted fibre, green tow, and shive. Each of these three by-products of straw give rise again to several others. From the retted fibre is manufactured thread, twine and yarn, while from the yarn various products, such as fine linen, canvas, sail-cloth, aeroplane wings, and fish nets are secured. The green tow produces a large array of further products, such as paper, rags, fibre-board, oakum, binder twine, linen batting, and upholstery material. The paper appears on the market as wrapping paper, cartridge paper and fine linen bonds. The linen batting is used for the making of comforts and mattresses, while the fibre-board is used for building purposes, insulating board, trunks, valises and counter soles.

The exhibit of the Poultry Division was both interesting and instructive. Six different pens of chicks were shown, to illustrate the effect of different rations on the growth and maturity of chickens after five weeks' feeding. All had been given a basic ration of cornmeal, shorts and bran. The following are the figures showing the average percentage mortality

ckman should have on
own in a neat medicine
ctions to "1, keep them
for the purpose; 2, keep
hand; and 3, keep them
ed;" creolin, raw linseed
Epsom salts, boracic acid,
te, lead acetate, sulphur,
gentian, crude vaseline,
ide, aromatic ammonia,
t spirits nitre, turpentine
companioning the display
ines was the following
stockmen are veterinary
ness comes sooner or later
itioner may save you
llars. Call him in time
fair chance. But—you
t serious illness and loss
and and knowing how to
dicines and simple ap-
e of the latter were
d among which was a
ever treatment.

ales and Babcock tester
wn with the following
ment: "Have you a pick
herd? This good-de-
ing for a job. Use the
and weed out the low-
Samples of feeds were
benefit of the feeder of
nd swine; who was told
e of a number of feeds is
l than one or two," and
d ration for cattle, sheep
be mixed by the farmer
shown." As illustrations
the following were given:

ion for sheep and lambs:
..... 4 parts
..... 2 parts
..... 1/2 part
e cost, \$3.36 per 100 lbs.

ration for fattening beef
..... 3 parts
..... 3 parts
ley or ground
..... 2 parts
al..... 2 parts
e cost, \$3.12 per 100 lbs.

ration for milch cows
..... 5 parts
ains..... 2 parts
s..... 2 parts
d, or ground
ley..... 2 parts
al..... 2 parts
e cost, \$3.14 per 100 lbs.

on for hogs:
..... 3 parts
s..... 3 parts
ley..... 1 1/2 parts
n..... 1 1/2 parts
al..... 1 part
e cost, \$3.25 per 100 lbs.

al mixture:
d, sifted oats.. 2 parts
n..... 2 parts
..... 1 part
e cost, \$4.26 per 100 lbs.

he exhibit of the Flax
was shown by chart and
products themselves the
which the parts of the
put in commerce and
is made of both the seed
follows:

ed for the production of
eed meal, and oil cake.
is secured the retted fibre,
shive. Each of these
ts of straw give rise again
s. From the retted fibre
hread, twine and yarn,
yarn various products,
inen, canvas, sail-cloth,
and fish nets are secured.
produces a large array of
s, such as paper, rags,
um, binder twine, linen
holstering material. The
n the market as wrapping
e paper and fine linen
n batting is used for the
orts and mattresses, while
is used for building pur-
g board, trunks, valises

the Poultry Division was
and instructive. Six dif-
chicks were shown, to
fect of different rations
and maturity of chickens
' feeding. All had been
ation of cornmeal, shorts
following are the figures
rage percentage mortality

and the average gain in ounces per bird
with the different rations.

Lot Number	Basic Ration +	Average Gain	Per cent. mortality
1	meat meal	1.76	40
2	skim-milk	1.27	50
3	greens	1.58	45
4	meat, eggs, greens, skim-milk	4.73	7.5
5	meat, greens, buttermilk, eggs	5.08	5
6	meat, greens, sour skim-milk	—	20

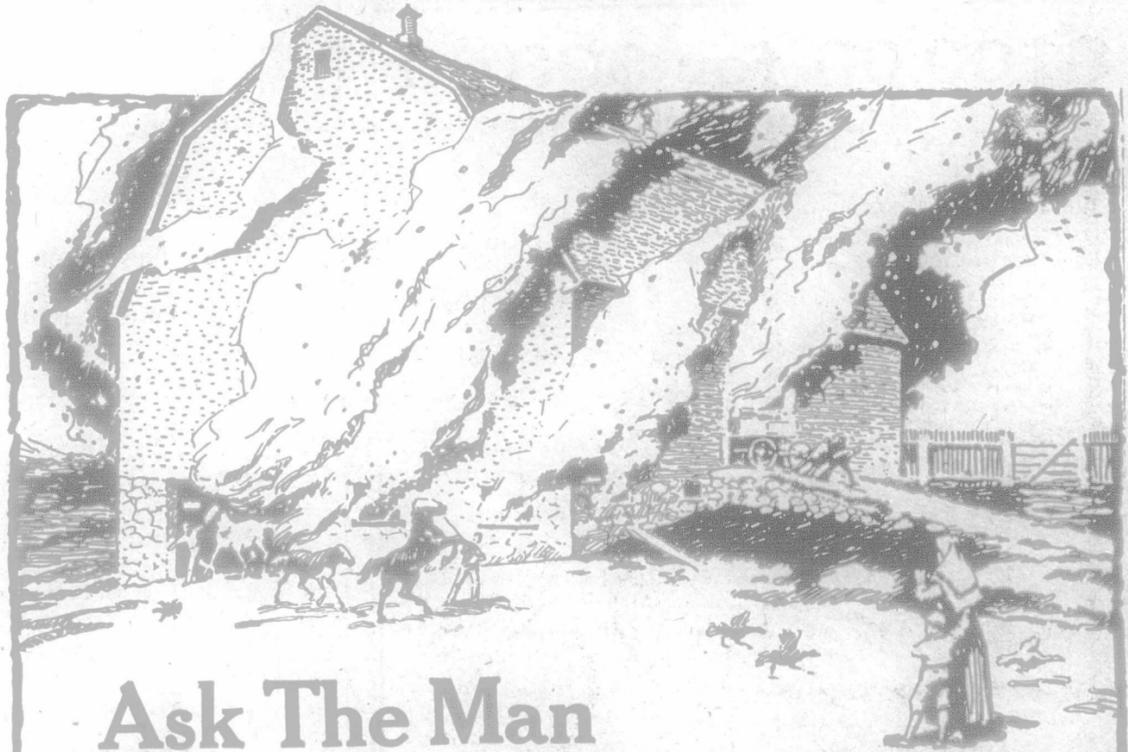
There were also on exhibit a caponized and uncaponized cockerel to illustrate the much more rapid growth made by the former. Killing and plucking demonstrations were also given daily, and a model of a movable colony house, which may be made in sizes either 8 feet by 8 feet, 10 feet by 10 feet, or 10 feet by 12 feet, was shown adapted for use as a brooder. Visitors were informed that such a house could be used as a brooder house for from 300 to 500 chicks. It can be used as a chick shelter without a stove, or as winter laying quarters when fitted with roosts and nests. A model of a field hopper for grain and mash for chicks on free range was also shown, as well as models of a fattening crate, a turkey or hen coop, a green feed rack, a grate for broody hens, trap-nest, mash and grit hoppers, portable colony house for 25 hens, and a back-yard poultry house for 15 hens. The following information was also prominently displayed: "Fertile eggs from healthy parent stock, properly incubated, will produce healthy chicks. Your success in raising them and your profits depend on your rations and management. Last winter the average price received for eggs would feed a hen on the farm for one month. One hundred hens averaging ten eggs each per month from November 1 to April 30 will pay a profit over cost of feed of \$216. Fresh air, clean houses, good feed and regular attendance are essential. April-hatched chicks from vigorous stock insure good winter egg yields."

The Bee Division showed samples of all of the common kinds of equipment necessary for the proper care of the apiary—including honey of various kinds, hive, bees, honey plants, combs, smoker, screens and wax. The new aluminum comb which is still in an experimental stage was also on exhibit. We were informed that these can be secured for about sixty cents each, but so far their satisfaction has not been proven.

The Botanical Division had a special mushroom exhibit, containing specimens of the only two poisonous types that are known, and about twenty-eight edible species. Visitors were informed that the Division of Botany is prepared to advise on questions of fungus and bacterial diseases of all kinds of plants and their control. Also on the production of certified seed; the habits and properties of native plants of Canada; the use of nitro-culture for peas, beans, alfalfa, clover and vetch. Placards informed the public that "Fungi and bacteria are responsible for very large annual losses on our farms and in our forests. A few of the most important fungous diseases are: Loose smut of wheat, striped disease of barley, loose smut of barley, stinking smut of wheat, loose smut of oats, wheat scab, ergot of grasses, corn smut, blossom-end rot of tomatoes, club root, blackleg of potato, rhizoctonia, late blight and potato canker."

The Division of Chemistry specializes on the importance of a pure water supply for the farm home. The following was prominently displayed: "An unpolluted water supply is essential to good health. Of the samples of water sent for analysis to this division, 50 per cent. showed pollution. What about yours? The Dominion Chemist will make an analysis of well water free of charge. Write for instructions. Information about water supplies, feeding stuffs, fertilizers and soils furnished by this Division."

The Cereal Division carried samples of various varieties of grain, some of which were originated by the Dominion Experimental Farms System. The following information was displayed on placards in this portion of the exhibit: "Where the



Ask The Man That's Been Through It!

—he'll tell you that a barn burnt out is a full year's "Knock-out"—insurance or no insurance.

Insure by all means, but for real protection against loss look to Fire Prevention rather than Fire Insurance. Commence your prevention where most fires start,—the roof—where sparks fall and lightning strikes. The proper prevention here,—the easy, safe and certain prevention,—is to put on a roof of

Metal Shingles

Metal Shingles, properly grounded, are proven protection against

lightning, and they simply cannot burn, so sparks cannot harm them.

And they are more than spark-proof and lightning-proof—they are rain-proof, snow-proof, wind-proof and practically time-proof. Metal Shingle roofs laid upwards of 35 years ago are still sound, and have many years of service still ahead of them.

Use and recommend Metal Shingles for Barns, Houses and sloping roofs of all kinds. They are the "100 per cent." roof for Canadian Weather and Canadian Fire Prevention.

Prices and full information from any of these firms:

The Metallic Roofing Co. Limited Toronto

The Metal Shingle & Siding Co. Limited Preston

The Pedlar People Limited Oshawa

The Galt Art Metal Co. Limited Galt

The McFarlane-Douglas Co. Limited Ottawa

USE METAL SHINGLES for SAFETY and PERMANENCE

25

Protection and Profit

When money is in a Savings Account in The Merchants Bank, it is absolutely safe from loss, as far as you are concerned. All the time it is here, it is earning interest—so that the bank actually pays you to let it take care of your money. Don't carry unneeded sums on your person or hide them at home. Protect them against loss, theft and fire by opening a savings account.



THE MERCHANTS BANK OF CANADA

Head Office: Montreal Established 1864. With its 149 branches in Ontario, 47 branches in Quebec, 1 branch in New Brunswick, 3 branches in Nova Scotia, 44 branches in Manitoba, 44 branches in Saskatchewan, 87 branches in Alberta and 11 branches in British Columbia, serves rural Canada most effectively.

WRITE OR CALL AT NEAREST BRANCH.

growing season is short do not neglect any precaution likely to hasten germination. Insure steady growth and as far as possible guarantee early ripening. Too many varieties are grown. Specialize on the variety best suited for your own district and your district will become noted for that variety. Liberty Oats (hullless), a high-yielding hullless oat as feed for live stock is unsurpassed; high in protein, low in fibre. Marquis Wheat total crop, 1903, one plant; total crop, 1918, 300,000,000 bushels. Marquis wheat, originated by the Dominion Experimental Farms, has extended the profitable wheat belt and has made millions for the prairie farmer, Huron Wheat—This wheat should be grown on all light soils in Eastern Ontario.

The exhibit of the Division of Horticulture was in the nature of a display very attractively arranged and situated in the centre of the part of the building devoted to the Dominion Experimental Farms. It consisted principally of well-colored specimens of different varieties of fruit similar to the ones which were

\$100.00 for \$93.00

—Plus Good Interest

When you buy a 1934 Victory Bond you actually save \$7.00 on every \$100.00 invested, and for fourteen years your money earns a profitable rate of interest. At maturity the Dominion of Canada will pay you full value.

This is an excellent opportunity for those already possessing bonds to buy more and raise the interest yields on their total investments to a higher average—approximately 5.90 per cent.

The present bargain prices cannot last long.

Details are as follows:

Due	Price	To Yield
1922.....98	and interest.....6.45	per cent.
1923.....98	and interest.....6.22	"
1927.....97	and interest.....6.02	"
1933.....96½	and interest.....5.88	"
1937.....98	and interest.....5.68	"
1924.....97	and interest.....6.33	"
1934.....93	and interest.....6.25	"

All Bonds delivered to your Bank free of expense to you.

We solicit your order.

Canada Bond Corporation, Limited

11 King St. E., Toronto

DON'T WASTE YOUR SPARE TIME

Subscribers! Earn SIX MONTHS subscription FREE by sending us the name of a NEW SUBSCRIBER with \$1.50 to pay for his first year's subscription to

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

exhibited in the regular classes, and won for the Division of Horticulture twelve first prizes, seven second prizes and three thirds.

In other buildings were splendid exhibits prepared by the Poultry Division of the Live Stock Branch and by the Sheep and Swine Division of the Live Stock Branch. Both of these exhibits were exceedingly instructive and attractive as well. Both catered more or less to the housewife, pointing out the value of fresh eggs, and the difference between eggs of various grades, as well as the advisability of carefully dressing fowl for market. The exhibit of the Sheep and Swine Division was devoted to emphasizing the value of lamb and mutton as food for the Canadian people, and models of the various cuts and their relative uses were well shown. Models of sides of bacon were also displayed, accompanied by valuable information as to market requirements and other points interesting to the farmer.

Gossip.

Sale Dates.

Oct. 7.—Curry-Bowes & Bowes, Markdale, Ont.; Scotch Shorthorns.

Oct. 7, 20.—E. Templeman, R. R. 1, Staffa, Ont.; Shorthorns.

Oct. 12, 1920.—J. J. Merner, M. P., Scotch Shorthorns; (sale at Clinton).

Oct. 12, 1920.—Mitchell Bros., Gorrie, Ont.; Herefords.

Oct. 20.—Ontario Aberdeen-Angus Association, Western Fair Grounds, London, Ont.; Jas. Bowman, Guelph, Sec'y.

October 20, 1920.—B. R. Barr, R. R. 1, Mossley, Ont.; Holsteins, Horses, etc.

November 3, 1920.—James Page, dispersion sale, Dutton, Ont.; Herefords.

Nov. 9, 1920.—Western Ont. Consignment Sale Co., London, Ont.; Shorthorns.

November 10, 1920.—Elgin Shorthorns Breeders' Sale, St. Thomas, Ont.

Dec. 10, 1920.—Ontario Hereford Breeders Third Annual Sale, Guelph, Ont.

Dec. 15, 1920.—Oxford Holstein Breeders' Club, Woodstock, Ont.; Holsteins.

Dec. 16, 1920.—Perth District Holstein Breeders, Stratford, Ont.

Interprovincial Pressed Brick

COMBINES QUALITY AND DURABILITY
RED, BUFF AND FIRE-FLASHED COLORS

Increased Production Guarantees Prompt Shipment.

Write for Free Samples.

INTERPROVINCIAL BRICK CO., OF CANADA, LIMITED

Office: 30 Toronto St., Toronto.

Plant: Cheltenham, Ontario

Cheese Markets.

At the Kemptville Cheese Board, on Saturday, October 2, there were 563 boxes of colored cheese offered, of which 458 were sold at 25½¢. There were 1,172 boxes of colored and 91 boxes of white sold at 25½¢. at Belleville, on the same date. Two factories boarded 235 boxes of cheese at London, but there were no sales, the highest bid being 25¢. At Cornwall there were 1,694 boxes of colored cheese sold at 25¼¢. There were 200 boxes of cheese offered at St. Hyacinthe. The highest bid was 24¢. but there were no sales, while at Danville 1,169 boxes sold at 24¾¢. On the New York market the receipts were 1,562 boxes. State, whole milk, flats, current make, white and colored, specials, sold at 28½¢. to 29½¢.; State, whole milk, twins, average run, 27½¢. to 28¢. At Chicago, Cheddars sold at 28¢.; twins, 28¢.; double daisies, 27½¢. to 28¢.; single daisies, 22½¢.; long-horns, 30¢.; square, 33½¢.; Swiss, 42¢. to 54¢.; Limburger, 34¾¢. to 35¢.; brick, 30¢. The total sales of the United Dairymen Co-operative, Limited, Montreal, were 1,590 boxes, which sold as follows: 547 boxes No. 1 colored, 25½¢.; 227 boxes No. 2 colored, 25 1/6¢.; 294 boxes No. 1 white, 25 7/16¢.; and 30 boxes No. 2 white, 24¾¢. There were 492 boxes No. 1 colored not sold, the best bid being 25 13/16¢. and 25½¢. asked.

The Ontario School Trustee's Association.

School trustees in any country or in any province do not always appreciate the trust or responsibility which they have accepted. They may do their duty and discharge their obligations to the best of their ability, but trustees in the Province of Ontario are not putting as much time on school questions as they ought, nor are they as a rule going outside their own sections for ideas and suggestions. There is a Trustees' Association for the Province of Ontario, of which the President is Judge J. H. Scott, Perth, and the Secretary-Treasurer, W. M. Morris, Orangeville. Trustees would be acting wisely if they got in touch with the Association and endeavored to obtain from others suggestions regarding educational matters in rural districts. Regarding the Trustees' Association of Ontario, Mr. Morris says: "I may say these Associations are not for trustees only, but for all the ratepayers, irrespective of race, creed or politics. We are planning to provide the means whereby all the people may come together in conference to discuss their own educational problems. There is the question of the low average attendance in the rural school, the shortage and inexperience of rural teachers the frequent changes of teachers, and the necessity of boys and girls having to

Joseph and His Brethren were Farmers.

The reason we hear more about Joseph than we do about his brethren is because he put by his substance in the seven fat years, and his brothers didn't.

The farmers of Canada are in for seven fat years, and they deserve it. And many of them—the wise ones—are taking advantage of this prosperous condition. They are laying aside a part of their present earnings to provide for the lean years that are sure to follow soon or late.

A favorite form of investment among farmers is Imperial Endowment insurance. Such an investment encourages systematic thrift. And it enables a farmer to provide for his family in case he should die early as well as for his own old age.

Ask us to send you our free booklet "Penniless Old Men" which tells all about it. A post card will do.

THE IMPERIAL LIFE Assurance Company of Canada

HEAD OFFICE - TORONTO

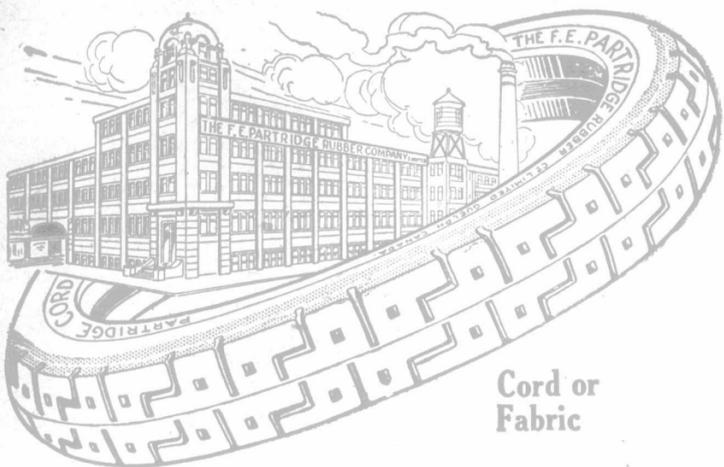
Branches and Agents in all important centres



leave home at a young age to receive high school training. I know of a little girl who has just passed the Entrance, who had thirteen teachers in seven years. These and many other features of our educational system go to show that we are not obtaining the results we might; not because of any fault in the system itself, as much as the lack of interest on the part of the people. We believe the people of Ontario have intelligence enough to find solutions for their own problems, if they will but come together in conference to discuss them. This is a purely democratic movement, not for the purpose of advocating any particular scheme in the administration of school affairs, but simply to help people realize the importance of our public schools in preparing the boys and girls of to-day for the privileges and responsibilities of citizenship tomorrow."

Wool Stocks on Hand.

In the early spring many were very pessimistic about the wool market, and sales were made at a remarkably low figure. Since then, however, there has been a little more activity in the wool market, and owing to strict grading, Canadian wool handled through the Co-operative has brought a price which should be satisfactory to the wool producer, especially considering the spring outlook for a market. The Canadian Co-operative, Toronto, up to the 22nd of September has sold some 300,000 lbs. during the month, bringing the total sales for the season to over 2,000,000 lbs. It is expected there will be about 5,000,000 lbs. to handle this year. The foreign market service of the Bureau of Markets, in the United States, reports that there is an accumulation of 1,300,000 bales, of 330 lbs. each, of raw wool in Australia. In the Argentine the estimate is 295,681 bales, of 932 lbs. each. In South Africa the estimate is 130,000 bales, of 375 lbs. each. The surplus stock in England is supposed to be around 1,000,000 bales. With this large amount of wool on hand at this time of year, producers can readily understand that those looking after the marketing of wool have a difficult problem to contend with. Under the circumstances a fairly large quantity of Canadian wool has been disposed of to manufacturers at a reasonably satisfactory price.



Cord or Fabric

Strength obeys reality and not appearance. Strength is according to quality.

The reality which produces the strength and dependability of Partridge Tires is the exceptionally good quality of all material used—and the skill which converts them into agents of comfort and economy.

You can't buy better tires than Partridge—so why not buy Partridge?



127A

PARTRIDGE TIRES

Game as Their Name

“Do You Collect Sale Notes?”



“The Bank of Toronto is always glad to handle farmers' notes, and makes a feature of this business.”

“There are three ways in which we commonly deal with sale notes:—

“We collect them when due, depositing the proceeds to your account.

“We discount them for cash, advancing their value, in whole or in part, as circumstances may require.

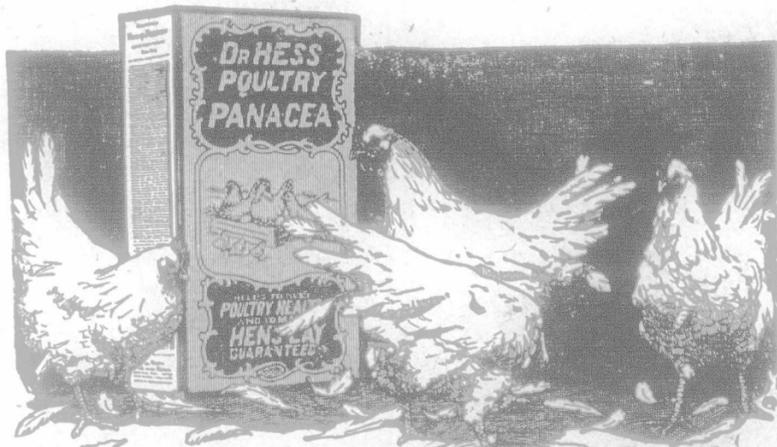
“Or we hold them in the bank for safe-keeping until due.”

If you expect to hold a sale this Fall call and arrange with our nearest Manager to handle it for you.

THE BANK OF TORONTO

Assets over \$100,000,000
Safety Deposit Boxes to Rent

48



Help your Moulters Mould

Moulting time is the time that a hen needs assistance. It is the off-season in the life of the hen.

Think of the amount of a hen's energy, vitality and red blood that's required to reproduce a thousand feathers! (which is only an average plumage).

A moulting hen needs good health, good appetite and digestion. That's just what Poultry Pan-a-ce-a does for a moulting hen—gives her appetite and good digestion, so that she'll eat more and digest more.

Dr. Hess Poultry PAN-A-CE-A

Helps your poultry through the moult. And starts your pullets and moulted hens to laying.

It contains Tonics that produce appetite and good digestion—Tonics that tone up the dormant egg organs—Iron that gives a moulting hen rich, red blood and a red comb. It contains Internal Antiseptics that destroy disease germs that may be lurking in the system.

No disease where Pan-a-ce-a is fed

Pan-a-ce-a helps your poultry to stay at par during the moult. They don't become run-down, pale and thin. That's why a Pan-a-ce-a hen gets back on the egg job quickly instead of sitting around all fall and winter as a bill of expense while regaining her normal vitality.

Always buy Pan-a-ce-a according to the size of your flock. Tell your dealer how many fowls you have. He has a package to suit. Good results guaranteed.

5c, 8c, and \$1.75 packages.
25 lb. pail, \$5.00. 100 lb. drum, \$15.00.

DR. HESS & CLARK

Ashland, Ohio



Dr. Hess' Book Tonic keeps hogs healthy, drives out worms.

Dr. Hess Instant Louse Killer Kills Lice

A Banking Service at Your Farm Gate

Banking by mail is a great convenience to the farmer.

He has no time in his busy season to be driving to town to deposit cheques or pay his bills.

But, having a bank account with us, he can do all this by mail.

Consult the Manager.

THE DOMINION BANK

786

BOY'S AND GIRL'S You can earn a lot of money by securing new subscriptions to THE FARMER'S ADVOCATE AND HOME MAGAZINE You can do it in your SPARE TIME. Write for instructions THE WILLIAM WELD CO., LTD., London, Canada

10 to
20 times
the amount taken

That is the nourishing power (passed by independent scientific experiment) of

BOVRIL



Expand Your Farm

SOMEWHERE, not far from your present holdings, in the Prairie Provinces, there are probably parcels of good raw farm land which the HUDSON'S BAY COMPANY offers at prices as low as \$10.00 to \$25.00 an acre—with seven years to pay.

These fertile lands are usually in Sections 8 and 26 within Townships South of North Branch of Saskatchewan River in Saskatchewan, Alberta and Manitoba.

It might profit you to acquire one or more of these good parcels. Like many other progressive farmers you could extend your present holdings at small cost or provide new land upon which your sons can work out their future prosperity.

Hudson's Bay Company's lands are being sold every day. Early action is advisable.

Write today for FREE book, "Opportunities in Canada's Success Belt" and Map of Lands.

Address—

Land Commissioner, Desk 20

HUDSON'S BAY COMPANY
WINNIPEG

L.S. 19



Farm for Sale

On Vancouver Island,
British Columbia

Near to thriving village. Has comfortable four-roomed cottage. Reasonable terms. Apply with references to:

332 Gore Ave. W. CUMMINS Vancouver, B.C.

317 Carleton St. H. C. HABKIRK Winnipeg, Man.

341 University St. T. R. TUDGE Montreal, Que.

Please mention Advocate.

Vegetable Growers Field Crop Exhibit.

The field crop competition among vegetable growers creates a good deal of interest and friendly rivalry. Winners are eligible to exhibit products of their fields at three large exhibitions in the Province. There is usually a good showing. The following are the awards at London and Ottawa.

London—Western Fair:

Cabbage: 1, Chas. Aymer, Humber Bay; 2, Brown Bros., Humber Bay; 3, T. K. Aymer, Humber Bay; 4, Dunlop Bros., St. Catharines; 5, Thos. Purdy, Cataquai. Celery: 1, C. E. Post, Brighton, R. R. 4; 2, G. W. Bycroft, London, R. R. 7; 3, Art. Carlton, Lambton Mills; 4, P. A. Bell, Humber Bay; 5, Geo. Harris, Belleville. Melons: 1, Jas. Cox, Ottawa, R. R. 1; 2, Jos. Nelson, London; 3, N. T. Sanderson, London; 4, G. W. Bycroft, London; 5, P. T. Jean, London. Onions: 1, Brown Bros., Humber Bay; 2, Chas. Aymer, Humber Bay; 3, C. W. Dempsey, Stratford; 4, T. K. Aymer, Humber Bay; 5, Geo. Stone, Tecumseh. Potatoes: 1, T. K. Aymer, Humber Bay; 2, Chas. Aymer, Humber Bay; 3, W. J. Davis, London; 4, Dunlop Bros., St. Catharines; 5, N. T. Sanderson, London. Tomatoes: 1, T. K. Aymer, Humber Bay; 2, C. W. Dempsey, Stratford; 3, G. W. Bycroft, London; 4, Geo. Harris, Belleville; 5, F. F. Weeves, Humber Bay.

Ottawa Central Canada Exhibition:

Cabbage: 1, Chas. Aymer, Humber Bay; 2, T. K. Aymer, Humber Bay; 3, I. A. Farquharson, Aylmer, Que.; 4, John Baker, Cataquai; 5, Wm. Trick, Ottawa; 6, C. A. Wilson, Sarnia, R. R. 3. Celery: 1, C. E. Post, Brighton, R. R. 4; 2, Geo. Harris, Belleville; 3, Wm. Trick, Ottawa; 4, P. A. Bell, Humber Bay; 5, G. W. Bycroft, London, R. R. 7; 6, Art. Carlton, Lambton Mills. Melons: 1, Wm. Trick, Ottawa; 2, Jas. Cox, Ottawa, R. R. 1; 3, Jas. Little, St. Catharines; 4, W. S. Thompson, St. Catharines; 5, P. T. Jean, London; 6, G. W. Bycroft, London. Onions: 1, Brown Bros., Humber Bay; 2, Wm. Trick, Ottawa; 3, Conrad MacConnell, Aylmer, Que.; 4, E. Crandall, Ingersoll; 5, Chas. Aymer, Humber Bay; 6, T. K. Aymer, Humber Bay. Potatoes: 1, Chas. Aymer, Humber Bay; 2, T. K. Aymer, Humber Bay; 3, Cooke Bros., Cataquai; 4, Dunlop Bros., St. Catharines; 5, Jno. McMullen, Cummings Bridge; 6, Jno. Macfarlane, Eagle Nest. Tomatoes: 1, Geo. Harris, Belleville; 2, Wm. Trick, Ottawa; 3, Edgar Worgan, Weston; 4, Cooke Bros., Cataquai; 5, Jno. McMullen, Cummings Bridge; 6, T. K. Aymer, Humber Bay.

The 1920 Tobacco Crop.

The Tobacco Division of the Central Experimental Farm, at Ottawa, is trying to determine for the benefit of the tobacco growers of Ontario just how many acres are planted to tobacco in 1920. In the past the Division has done this work alone, but it now proposes to give each grower a part in the work and it will be unfortunate if the growers cannot see the benefit to themselves or fail to enter heartily into the co-operative movement. All interested in the tobacco industry except the growers have their own organizations for determining exactly the annual acreage and production of tobacco. In the letter being sent out by the Division each grower is given a chance to help build up a permanent organization for securing the same information for himself and fellow growers. This organization will help to guard against over-production of tobacco and its ruinous results, it will show how much tobacco is required to meet the demand of our home markets, and it will help to stabilize tobacco prices.

The letter being sent by the Tobacco Division to each tobacco grower in Ontario states very plainly and truthfully the objects and purpose in view, and asks him to state the acreage and kind of tobacco that he is growing and to return the letter immediately. Every grower should see that it is to his interest to speed the work up not only for himself but for his community by talking it up to his neighbors and having them speed the good work along.

GOMBAULT'S CAUSTIC BALSAM

The Perfect Liniment For External Use on The Human Body

SERIOUS RESULTS through Blood Poisoning are liable from scratches, cuts or wounds from rusty nails or other metal.

It is astonishing how quickly

Caustic Balsam

- relieves
- STIFFNESS and
- LAMENESS
- RHEUMATISM
- NEURALGIA
- STRAINS
- SPRAINS
- LUMBAGO
- BACKACHE
- SORE THROAT
- CHEST COLD
- STIFF JOINTS

This Great Remedy

applied at once will prove a preventive; is a perfect anti-septic; soothes while it heals.

What it has done for others--
It will do for you

Write us for any information desired. \$1.75 per bottle at druggists or sent parcel post on receipt of price.

The Lawrence-Williams Co., Toronto, Ont.



COUNTESS SELMA 4th, with calf
At Lisonally Farm, Oakville, Ontario
The Highest Priced Short Horn Heifer in Canada. Purchase price, \$5200

BURLINGTON STEEL FENCE POSTS

Are used on the Lisonally Farm, at Oakville, to protect the owner's high priced thoroughbred cattle.

Burlington Steel Fence Posts will give you the same protection.

Made of high carbon steel, rust resisting, extra heavy and covered with rust-proof paint, they will not bend, break nor burn.

Frost will not cause them to heave. They can be driven into any soil in less than a minute. No post holes to dig. They save labor and expense. Properly erected they last a lifetime.

Use them for repairing and building new fences this fall. For sale by fence, hardware and implement dealers, or direct from the factory. Immediate shipment.

Our Free Booklet tells all about their many advantages. Write for it.

BURLINGTON PRODUCTS LIMITED
300 SHERMAN AVE. N.
HAMILTON, CANADA

The Ontario Aberdeen-Angus Assn. Sale

OF ABOUT

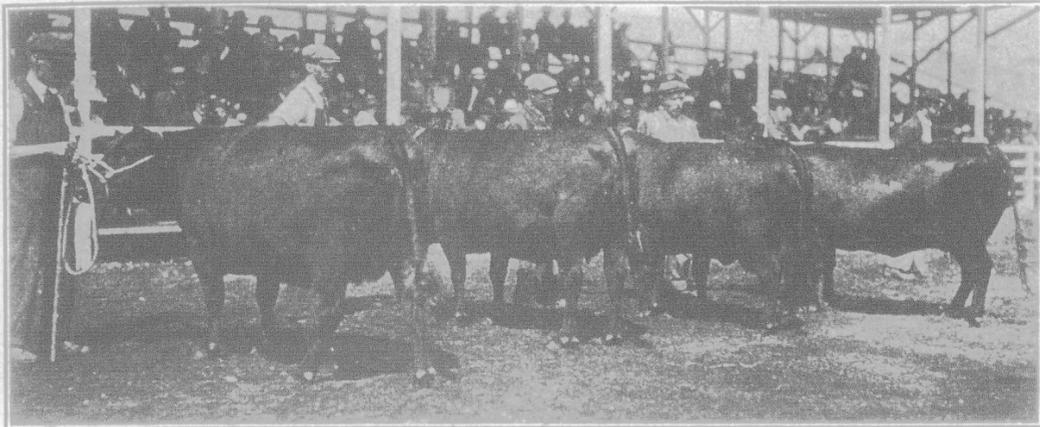
FIFTY-FIVE HEAD—FIFTY FEMALES, FIVE BULLS

About twenty young cows with calves at foot and re-bred

AT WESTERN FAIR GROUNDS

Enchantresses, Ericas, Adite Roses, Prides of Aberdeen and others

London, Ont., Wednesday, October 20th, 1920



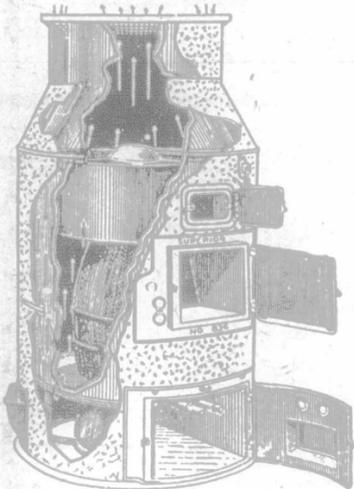
One of This Line-up, With Calf at Foot, Included in Sale.

Sir Edmund Walker consigns three of his herd. James Bowman his Grand Champion female, Toronto, 1920, also a Toronto Champion of 1916, along with six other good ones. J. D. Larkin three of his winning herd at Toronto and London. Col. R. McEwen his first-prize two-year-old bull and junior yearling heifer at London. G. C. Chamnon, Oakwood, several of his winners. Lowe and Heibein two good ones, and E. S. McLean at Toronto, C. McDougall, Guelph, and other contributors are putting in cattle that should satisfy every buyer.

For Catalogues write: **JAMES BOWMAN, Guelph, Ontario**

Auctioneers: JOHN T. KIELY, Toledo, Iowa; CAPT. T. E. ROBSON, London, Ont.

The Pilot Superior Heat for Business Buildings



Hundreds of successful Pilot Superior Installations have been made in stores, factories and other business buildings. Due to its original construction, the Pilot Superior has proved a safe and economical system in buildings of this character. It requires very small space and reduces the fire risk to a minimum. No valuable floor room is necessary, and stocks of goods may be stored in the basement without fear of damage. A Pilot Superior Pipeless Furnace can be installed in six hours. Write for particulars.

Manufactured by
The Hall Zryd Foundry Company, Ltd.
Hespeler :: Ontario



The four essential points are here
Strength and Looks—Price and Wear
Johnson Ideal Halter Co., Sarnia, Ontario

LOUDEN LITTER CARRIERS

Save Hours of Drudgery

You are going to be short of labor this winter. Are you going to make the situation worse by using the wheel-barrow for cleaning your stables or are you going to reduce your labor by equipping your stable with a litter carrier outfit?

Pushing the loaded wheel-barrow over uneven ground through the snow and up a plank on to the manure pile is back-breaking, labor-wasting drudgery.

Pitching the manure out the windows keeps the stables dirty and unsanitary, breaks the windows and damages the walls of the building where piled against them.

This is not necessary.

This heavy, disagreeable chore can be made one of the easiest and shortest about the barn if a Louden Litter Carrier is used. It will save the liquid manure—the most valuable part for fertilizing purposes—and enable you to keep your stable cleaner and more sanitary. And if desired the manure may be carried from the stalls to the manure-spreader or pile, clear of the stable without re-handling.

Louden Litter Carriers are not an expense, but a highly profitable investment which will yield you 10, 20, yes, even 40 per cent. on its cost in labor and time saved.

They work easily, no cranks to strain on in lifting the load. The

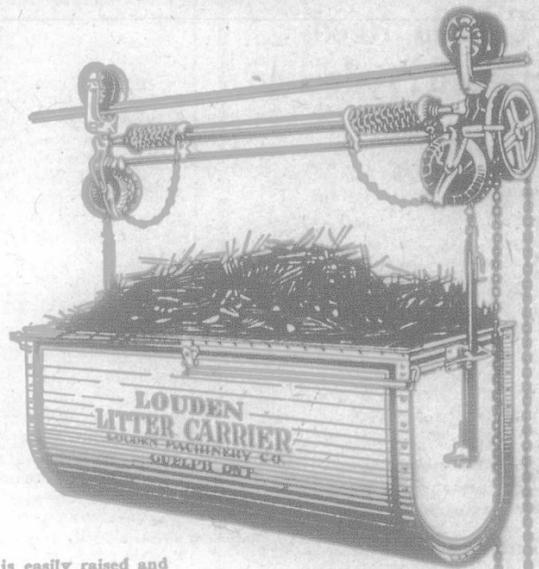
loaded bucket is easily raised and lowered by a small boy, thanks to Louden's Chain-Hoisting device—the only one of its kind in existence (we discarded clutches, breaks and ratchets years ago).

Running on the Louden Double Beaded Steel Track, the roller-bearing track wheels of carrier run so easily under load that a boy of twelve years can move four times the load a man could wheel on a barrow.

Louden Litter Carrier Systems can be built to meet any stable conditions.

The cost—it is small when compared with the service it will give.

Mail us a rough sketch of your stable, and we will show you how to equip it. The Louden Litter Carrying System is so simple in construction you can easily install it yourself.



Barn Plan Book—FREE

If you are considering building a new barn or remodeling an old one this 112-page book of modern barn plans will be of service to you. It is free. Fill in and mail the coupon before it gets lost.

Louden Machinery Company of Canada, Limited

No. 680 Crimea Street, Guelph, Ont.

Please send me information about Louden Litter Carriers. Also send copy of Louden Barn Plan Book.

I expect to build or remodel a barn

about (date).....

Name.....

P.O.....

Prof.....

Louden Machinery Co. of Canada, Limited

No. 680 Crimea Street, Guelph, Ont.

Branches at Winnipeg, St. John, N.B., Quebec and Vancouver

AUTOMOBILES, FARM MOTORS AND FARM MACHINERY.

Gasoline and Oils Must Come Down.

EDITOR "THE FARMER'S ADVOCATE":

It is believed in various quarters that the present market situation of gasoline, kerosene, and lubricating oils as compared with the rapidly declining grain prices, and the wonderful prospects of ensuing crops, may be literally considered as the writing on the wall to one of the greatest of the world's industries, that of the manufacture of the internal combustion engine. It is quite readily apparent that the

Crescent Cleansing Soda



is especially prepared for all HOUSEHOLD CLEANING

Effective and Economical

Conveniently put up in 5-lb. bags for Household Use.

Made in Canada by
BRUNNER, MOND CANADA LIMITED
AMHERSTBURG, ONTARIO

Selling Agents:
WINN & HOLLAND, Limited
137 McGill Street MONTREAL, P.Q.

Ask Your Grocer

Canada Needs Increased Production

in order to bring the balance of trade in her favor. She could do a splendid export trade to Great Britain in heavy horses if they were procurable, but they cannot be picked up anywhere. The only way is to import typical Shire stallions and mares, and breed what is required.

Mr. A. B. Charlton, 12 Hanover Square, London W., England, Secretary of the English Shire Horse Society, will give you every assistance in securing animals for export to Canada.

G. DE W. GREEN

Secretary, Canadian Shire Horse Assn.
58 Grenville St. Toronto

W **ABSORBINE** **STOPS LAMENESS** from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone, or similar troubles and gets horse going sound. It acts mildly but quickly and good results are lasting. Does not blister or remove the hair and horse can be worked. Page 17 in pamphlet with each bottle tells how \$2.50 a bottle delivered. Horse Book 9 R free. **ABSORBINE, JR.**, the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; heals Sores. Allays Pain Will tell you more if you write \$1.25 a bottle at dealers or delivered. Liberal trial bottle for 10c stamps. **W. F. YOUNG, Inc.**, 256 Lyman Bldg., Montreal, Can.

small farm cannot dispense with the horse as a means of locomotive power, and it is becoming more apparent day by day that the tractor talk of late years is passing off into oblivion only to be resurrected by manufacturer's advertising and other propaganda from the same source, the origin of which cannot be so readily traced.

At the same time the horse market is awakening considerably and in a short time is very liable to be showing brilliant action. In many parts of Ontario at least, the gasoline and lubricating oils are not of the high standard that they once were. The reason is readily apparent from the annual statistics regarding crude petroleum, which has not at all increased in production in the same proportion as has been the increase in the use of gasoline. Therefore, with decreased quality and power efficiency, together with a rapidly rising cost, it becomes quite evident that the situation is serious indeed; not only to engine manufacturers, but also to those people who have been operating these machines when conditions were quite different from what they now are.

Many of these wish to dispose of their various power implements without involving a financial loss to any unreasonable extent, with an ultimate result that the machine is merely dumped onto someone else who will have to run the gauntlet in a similar manner. In the locality in which the writer is situated this condition has been quite readily marked. During the last twelve months small gas engines have been replaced by windmills and tread-powers for various jobs around the farm, such as pumping and grinding. It is being wondered if these small power machines are a necessity and labor savers, or whether they are a luxury and an additional expense. The same applies to automobiles. Quite a number have sold their cars and bought driving horses, while for business purposes the motor cycle is being substituted on account of the extra mileage which can be obtained, and the bicycle is again returning to its own.

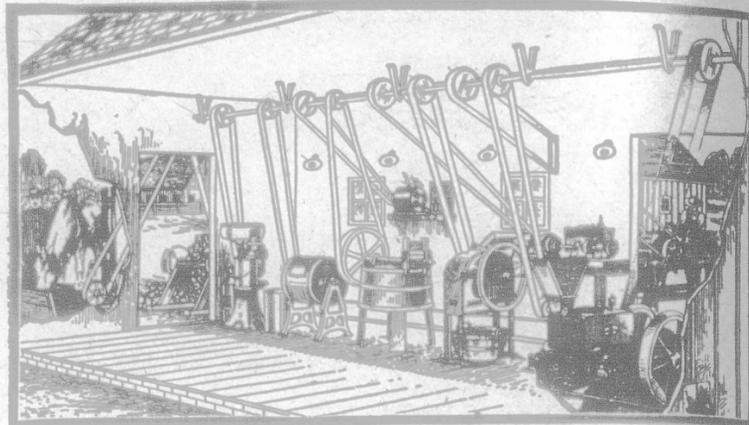
The whole situation is indeed critical and is rapidly passing off to seed. Any further increase may be considered as the last straw which will break the camel's back, and if the oil dealers do not get down to business with the engine manufacturers, and endeavor to produce a fuel suitable for the different types of motors in order that it may develop a sharp, snappy one hundred per cent. power, together with a lubricating oil in which there is some last, both the motor and oil producers may find their trade sadly wrecked and dislocated on the rocks of excessive and inflated costs from all angles.
Lanark Co. MACK PINE.

War Plant's Peace Products

The electric furnaces of a southern plant have been diverted from war-time products to the manufacture of phosphoric acid and potash, such materials as synthetic pig-iron, ferro-manganese and ferro-silicon being found no longer profitable. In the new industry, as described by "The Iron Age," phosphate rock is smelted in the electric furnace, the phosphorus being driven off as phosphoric oxide suspended in the gases. Collection of the gases and treatment by electrical precipitation yields the phosphorus as a fine powder, which on further treatment and concentration becomes a superior product, free from the impurities usual when sulphuric acid is the disintegrating agent. American shales are similarly treated for the production of potash, the potassium oxides being formed in the gases, and precipitated and collected.

Weakening of Cement.

Testing the effects of age on cement, the U. S. Bureau of Standards has used samples that had been stored for varying periods up to two years or more. Keeping more than a year seemed to cause impairment, and cement that had been stored more than two years showed about the same strength as fresh cement only when the sand and gravel in a concrete mixture were reduced about 25 per cent. Mixing the old cement with a 5-per-cent. calcium chloride solution instead of water, greatly increased the strength.



"WATERLOO BOY" Kerosene Engine

Takes the drudgery out of farm work.

Every farm needs a good stationary or portable engine. Its use leads to the elimination of farm drudgery. Its use makes farm work profitable and pleasant.

Get a "Waterloo Boy" to run the washing machine, to pump water, to grind feed, to run the churn or grindstone, the hay baler, the ensilage cutter, the wood saw, etc.

ECONOMICAL TO OPERATE

The throttle governor principle of this engine produces a perfect mixture. A steady flow of kerosene is fed to the mixer by a pump located in the mixer body. The butterfly throttle valve controls the speed of the engine by suitable connection to the governor.

IGNITION—SIMPLE, SAFE AND RELIABLE

All "Waterloo Boy" engines are equipped with oscillating magneto, and require no battery. It gives a hot spark. It is safe and reliable.

ALL PARTS FIT PERFECTLY

On the "Waterloo Boy" the machine work is accurate, which insures perfect working of all parts. The valves are ground to a perfect seat. The Crank Shaft is made from one piece of solid steel, machined and ground to perfect size and high finish. Connecting Rods are "I" beam of finest grade malleable iron, insuring strength and reliability. Piston and Piston Rings are carefully ground to size, insuring good compression.

All sizes, 2 to 25 h.-p., portable and stationary. John Deere quality and twenty-five years' experience is back of these engines. You can depend on them. Ask the John Deere dealer about them.

JOHN DEERE MFG. CO., LIMITED
WELLAND, ONTARIO

Where Did the Clover Come From?

A farmer in Ontario, to whom we sent a ton of SYDNEY BASIC SLAG last Fall for trial on pastures, now writes in part as follows:

"I put the trial ton on some old hay land. There was no sign of clover in the field at all in the Spring, but now the clover is quite thick all over the field."

The average Ontario farmer could very profitably use a carload of

Sydney Basic Slag

Possibly the most satisfactory investment he could make. If you don't care to undertake a carload at the start, but would first like to get an experience of the goods, then let us hear from you at once, and we will gladly arrange to send you a ton for trial on grass lands this Fall. Don't put it off till too late—write at once.

Our literature, which is FREE, gives some very interesting facts.

The Cross Fertilizer Co., Ltd., Sydney, N.S.

Address to our General Sales Agent
A. L. SMITH, Dept. 'A,' 220 Alfred St., KINGSTON, ONT.

HEAVES CURED

Capital Heaves Remedy never failed to prove this. We will send you a full week's treatment free on receipt of 5c. to cover mailing and packing. Write today to
VETERINARY SUPPLY HOUSE
750 Cooper Street Ottawa

For Sale—Fine Hackney Mare

Sired by Polonius, out of Sonata. She is full sister to District Belle, dam of two champion stallions, Madison Square Garden Show. Is registered in Canada as "District Charm." Should make a good brood mare; has won sixteen prizes in very strong competition, Eastern States. Is now in Nova Scotia. Address:
A. N. FAULKNER, 1,167 1st Ave., New York
Or **B. P. HILL, Great Village, Nova Scotia**



"BOY"
 engine
 farm work.
 engine. Its use leads
 farm work profitable and
 hine, to pump water, to
 hay baler, the ensilage
RATE
 produces a perfect mixture.
 ump located in the mixer
 speed of the engine by
AND RELIABLE
 oscillating magneto, and
 and reliable.
ECTLY
 accurate, which insures
 to a perfect seat. The
 machined and ground to
 "I" beam of finest grade
 Piston and Piston Rings
 ion.

ience is back of these
 Deere dealer about them.
CO., LIMITED
ONTARIO

Come From?

SYDNEY BASIC SLAG
 follows:
 ay land.
 the field
 e clover.

ably use a carload of

Slag

he could make. If you
 ut would first like to get
 you at once, and we will
 s lands this Fall. Don't

gives some

, Sydney, N.S.

Agent
KINGSTON, ONT.

Fine Hackney Mare

onus, out of Sonata. She is full
 ct Belle, dam of two champion stat-
 Square Garden Show. In res-
 ada as "District Charm." Should
 rood mare; has won sixteen prizes
 g competition, Eastern States. In
 Scotia. Address:
KNER, 1,167 1st Ave., New York
HILL, Great Village, Nova Scotia



PREVENT BLACKLEG LOSSES
 by using
Scientifically Prepared Vaccines

Blackleg Vaccine
(Blacklegoids)

The reliable blackleg vaccine
 in pill form.

Blackleg Aggressin
(GERM-FREE BLACKLEG VACCINE)

A natural aggressin.

Blackleg Filtrate
(GERM-FREE BLACKLEG VACCINE)

An aggressin made from cultures.

WRITE FOR FREE INSTRUCTIVE BOOKLETS ON
BLACKLEG AND ITS PREVENTION.

Animal Industry Department of
PARKE, DAVIS & CO.
 WALKERVILLE, ONT.

Cream Wanted

Ship your cream to us. We
 pay all express charges.
 We supply cans. We re-
 mit daily. We guarantee
 highest market price.

ONTARIO CREAMERIES
 Limited
LONDON ONTARIO

Aberdeen - Angus

A few typey young bulls and females to
 offer, of choice breeding and individuality.

**Shropshire and
 Southdown Sheep**

Yearling Rams and Ewes for breeding
 purposes or fitted for the show ring.

Inspection invited, satisfaction assured.

Larkin Farms - Queenston, Ont.

**ALLOWAY LODGE
 STOCK FARM**

Angus—Southdowns—Collies
 Recent addition of Imp. Idealist of Maisemore as
 junior herd sire. Yearling rams and ewes,
 all of superior merit, priced to sell.
 No Collies at present.

ROBT. McEWEN, R. R. 4, London, Ont.

**Sunny Acres
 Aberdeen - Angus**

Present offering—A few young bulls
 ready for service.

G. C. SHANNON, Oakwood, Ontario
 Telephone—Oakwood. Railway—Lindsay.
 G. T. R. and C. P. R.

Aberdeen-Angus—Bulls and heifers for sale
 from a Toronto prizewin-
 ning sire. It pay to keep a pure-bred sire.
A. Dinmore, Mgr., "Grape Grange" Farm, Clarksburg
 1 1/4 miles from Thornbury, G.T.R.

CANADIAN
 SHOES FOR
 CANADIAN
 PEOPLE

The Price of Shoes
 vs.
The Price of Other Things

IT has been said that "comparisons are odious."
 And so they are—as a rule.

But it has been so repeatedly stated that shoe prices are
 "excessive" or "ridiculous," that we feel justified in making
 a comparison between the present price of shoes and the
 price of some other things that we buy:

The following prices are from Government statistics and
 cover the period from January, 1914, to January, 1920.

Advance in price of Iron and Steel	124 per cent
Average wholesale advance in all commodities	146.4 "
Advance in price of Fruit and Vegetables	153.2 "
Advance in price of Textiles	206.2 "
Advance in price of Western Grains	259.6 "
Advance in price of boots and shoes	118.2 "

Shoe prices had to increase—naturally. The price of every-
 thing that enters into a pair of shoes has gone up tremen-
 dously in late years. For instance, hides have advanced
 154.6 per cent. in six years. One of the principal materials
 used in making fine shoes has advanced 500% in the same
 period. In fact, there is no single commodity used in the
 manufacture of shoes that has not advanced by leaps and
 bounds during late years.

But in spite of this a close margin of profits, efficient manu-
 facturing methods, and keen domestic competition, has
 resulted in lower prices than the above advances would seem
 to make inevitable.

These comparisons will show why shoe prices are higher—
 they have simply followed in the wake of general advancing
 prices.

But, in Canada, they are neither "excessive" nor "ridiculous,"
 but proportionately lower than most other things.

The Shoe Industry in Canada is an efficient and competent one—
 making shoes for the Canadian people which, grade for grade, are as
 low, or lower in price, as shoes obtainable in any Country.

Canada produces footwear of every desirable type, and of
 standard quality in all grades. When you buy Made in Canada
 Footwear you are assured, at fair prices always, of the utmost
 that modern skill can produce in Comfort, Service and Style.

**SHOE MANUFACTURERS
 ASSOCIATION OF CANADA**

The Salem Herd of Scotch Shorthorns

HERD HEADED BY GAINFORD MARQUIS, CANADA'S PREMIER SIRE
 Write us about the get of Gainford Marquis. They have won more
 at Toronto and other large exhibitions than those of any other
 sire. We still have a few sons to offer, as well
 as females bred to Canada's greatest sire.

J. A. WATT, Elora, Ontario

Willow Bank Stock Farm

—Established 1855—Shorthorn Cattle and
 Leicester Sheep. Bulls in service: Browndale
 —80112, by Avondale, and Browndale Banner,
 Junior Champion at Toronto, 1919. A special good lot of young bulls and females to offer. Write
 for information, or come and see.

JAMES DOUGLAS, Caledonia, Ont.

Cedar Dale Scotch Shorthorns—Pleasing Cattle and Pleasing Pedigrees—Senior Sire, Excel-
 sior, by Gainford Marquis (imp.), Junior Sire, Matchless Duke,
 by Gainford Matchless, the \$12,000 son of Gainford Marquis (imp.). I have a number of choice bred
 heifers, and must sell a few to make room. Also have a couple of Scotch-bred bulls. Prices right
 at all times. **FRED. J. CURRY, Markdale, Ont.**

Messrs. A. J. Hickman & Co.
 Halse Grange - Brackley, England
 Exporters of all Breeds
 of Pedigree Live Stock.

Send for an illustrated catalogue and see what we
 can do for you. Whether you want show
 or breeding stock, buy direct from
 England and save money.

**AVONDALE FARM
 Shropshires**

Lambs of both sexes and two shearing
 rams, all of superior merit
 and priced to sell.

A. C. HARDY, Prop., Brockville, Ontario

Aberdeen-Angus

Meadowdale Farm
 Forest, Ontario

Alonzo Mathews, Manager
 H. Fraleigh, Proprietor

Mount Victoria Farms

T. B. MACAULAY, Esq., Owner
 Hudson Heights, Que.

Dual-Purpose Shorthorns, High-Stepping Shet-
 lands, Yorkshire Swine, Shropshire Sheep,
 R. I. Reds, Single and Rose Combs.
 Address all correspondence to
J. E. CHANDLER, Hudson Heights, Quebec

Balmedie Aberdeen-Angus

Nine extra good young bulls for sale. Also
 females all ages. Show-ring quality.
THOS. B. BROADFOOT, FERGUS, ONT.

One 9-18 Case Tractor

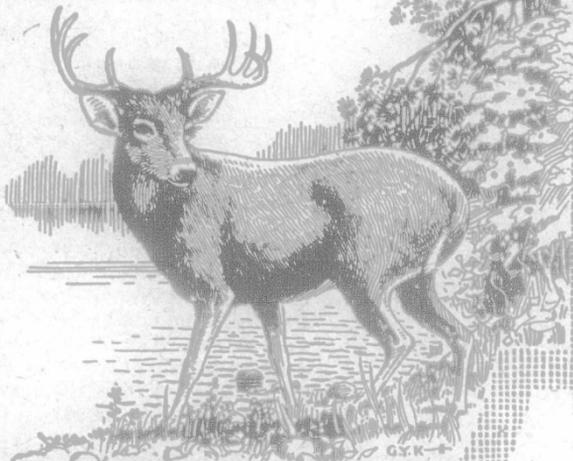
In use six months. Cheap for
 quick sale. Apply
 Box 62, Farmer's Advocate, London, Ontario

The White-Tailed Deer

—perhaps you know it better as the Virginia Deer—is the best and most widely spread representative of American big game. In one form or another it is found over the greater part of the continent. The splendid antlered heads that adorn the homes of many sportsmen are evidence of the popularity of this animal.

In Canada the White-Tailed Deer is represented by three sub-species. The typical form is found in the east, the prairie form in Manitoba westward to the Rockies, and the Columbian White-Tail or Cotton-Tail Deer, which is found in southern British Columbia, between the Selkirks and Cascade Ranges. West of these mountains the White-Tail is replaced by the Black-Tail or Coast Deer, light colored examples of which are sometimes taken for the White-Tail. The White-Tail of the west is known as the Red Deer.

The fleetness of the deer makes a well-placed shot necessary and the sportsman should be sure that his ammunition possesses the speed and accuracy of the new



DOMINION 30-30

This cartridge has an additional velocity of 200 feet per second and is one of the most popular cartridges in use. Look for the label on the box as well as the big "D."

Other popular Dominion calibres for big game are the .250 Savage, .33 Winchester, .30, .32 and .35 Remington, .351 Self-loading, .32 Special, .280 Soft Point, .303 British and .30 U.S.—all backed by the big "D" trademark.

Our new game book, "The Call of Canada", with illustrations of Canadian game birds and animals reproduced in full colors, contains valuable information that will interest you. Every sportsman should have a copy of this beautiful book in his library.

Send 50 cents for your copy to-day.
Advertising Department, P.O. Box 1200, Montreal, Canada.

Dominion Cartridge Co., Limited

Halifax Toronto Sudbury Winnipeg Vancouver

English Dual-Purpose Shorthorns

We offer a grand choice of young bulls and bull calves from imported dams and sire, bred on the English system for milk and beef. They will add value to any herd. The dual characteristics have been impressed by scientific treatment for continuous years. Prices moderate.

Always on hand, sows and boars of the most satisfactory breed of pigs, English Large Blacks.

F. W. COCKSHUTT
Lynnore Stock Farm, Brantford, Ont.

Mardella Dual-Purpose SHORTHORNS

Eight choice young bulls, 30 females, cows and heifers. All of good size, type and breeding. Herd headed by The Duke; dam gave 13,599 lbs. milk, 474 lbs. butterfat. He is one of the greatest living combinations of beef, milk and Shorthorn character. All priced to sell. Write, call or phone.

THOMAS GRAHAM, Port Perry, R.R. 3, Ont.

Please mention Advocate

Reyburn Milking Shorthorns

Herd headed by Victor 3rd, Imp., Grand Champion at Erie Show and Congress. Herd average over 9,500 lbs. milk per cow. Choice cows, heifers and herd-heading sires for sale.

R. R. WHEATON :: THORNDALE, ONTARIO
Long-distance phone and telegraph.

Dual-Purpose Shorthorns

Bulls from 3 to 7 months old for sale, also several cows. Inspection of herd solicited.

WELWOOD FARM, Farmer's Advocate LONDON, ONTARIO

MILKING SHORTHORNS

Young stock for sale, from Record of Performance cows, by imported sires.
G. L. SMITH, Credit Grange Farm MEADOWVALE, ONTARIO

SPRUCE GLEN SHORTHORNS

We have a few choice, well bred, thick, deep level, mellow young bulls of breeding age for sale; also heifers in calf to a right good sire. Write for particulars.

JAMES McPHERSON & SONS DUNDALK, ONTARIO

Shorthorn Bulls and Females—Herd headed by Ruby Marquis, a son of the great Gainford Marquis (Imp.). Our calves now coming are all by this sire. We are also offering a few females in calf to him. Get our prices before buying elsewhere.

PRITCHARD BROS., R.R. No. 1, Elora, Ontario

Questions and Answers. Miscellaneous.

Line Fencing.

Is a 5-line barb wire fence all drawn up tight a lawful line fence in Ontario?
Ontario. SUBSCRIBER

Ans.—It depends upon local municipal by-law. See your township clerk.

Game Laws.

1. Can anyone from Ontario go down to Quebec and get license to hunt deer?
2. Could anyone ship the deer out of Quebec into Ontario?
3. When does the hunting season for deer open in that Province?
A SUBSCRIBER

Ans.—Write to the Provincial Secretary Quebec, Que., for the game laws and regulations.

Falling Quarter.

A cow frequently gives bloody milk out of one teat. The milk flow is now decreasing. What can I do to stimulate this quarter?

2. Which has the lighter draft and does the better work, small or large plates on a disk?
J. P.

Ans.—Bathing with cold water might help the udder, but it is doubtful if you can stimulate the milk flow in this lactation. The trouble may be rectified when the cow again freshens.

2. We would prefer the larger disk.

Hens Too Fat.

We have an up-to-date hen house, with a run of $\frac{1}{2}$ acre, also running water. We have 45 hens, Plymouth Rocks, White Leghorns and Brown Leghorns. We have got only 3 dozen eggs since August 20th, and just now we only get one every other day. Sometimes we feed clear wheat; other times a mixture. We give them sugar beets, cabbage, and other vegetables. I killed two and they were very fat. We have no mites. We have a dust box which we keep plenty of lime in. About once a week I give them a hot mash of potatoes, and shorts, also we give them coal ashes and wood ashes and gravel. I would like to know why they don't lay. Some moulted in August, others are moulting now.
W. A. M.

Ans.—Evidently the hens are too fat. It very often occurs at this season of the year that the hens moult. This always curtails production, and if hens are over-fat they seldom lay. They should be fed just enough grain to keep them a little on the hungry side, and if possible they should be made to work for it. It is well to eliminate the mash for the present. It may be started again when cold weather sets in. Some flocks are inclined to lay only for two or three months in the spring, and then eat their heads off for the remainder of the year. If the flock has always had a tendency to be shy layers during late summer, fall and winter, we would advise getting rid of the birds and starting in with a strain that is from heavy producing stock. In practically every breed may be found a laying strain and what is commonly known as an exhibition strain.

Gossip.

High-priced Jerseys Come to Canada.

At the sale of Ayr & McKinney, Delhi, N. Y., on Friday, 17th of Sept., seventy head of Jerseys were sold for an average of \$801. The highest priced cow was Jap's Mertha Lass; \$6,500 was bid by B. H. Bull & Son, for her, but she was purchased by T. S. Cooper of Coopersburg, Pa., for \$6,600. The second highest-priced female was an imported yearling daughter of the Cid and was purchased by B. H. Bull & Son for \$3,600. The same firm purchased a six-months heifer calf for \$110.

Attention is drawn to J. J. Merner's Shorthorn sale, to be held at Clinton, on October 12. The offering contains several very attractive propositions. Among the families represented are Bruce-Fanny's, Crimson Flowers, Minna, Clarets, Beautys, Roan Ladys and May-flowers. Several of these lots are extra choice. However, they are all offered in field condition. Anyone wishing to secure foundation stock should plan to be at this sale. The catalogue is ready and may be had on application to J. J. Merner, Seaforth.



The Quaker Oats Company. Latrappe, June 23, 1920
Gentlemen: "We have had good results in Feeding Schumacher Feed, and can in all security recommend it highly to any dairy feeder or milk producer. We find that cows fed on Schumacher not only produce an abundant supply of milk, but, moreover, are kept in very good condition, and a good healthy condition is recognized as one of the requisites for long milk production."

LES PERES TRAPPISTES D'OKA.

The Quaker Oats Company. Howick, Que.
Gentlemen: "I have been feeding Schumacher for ten years, and am well pleased with the results obtained by its use. If I should happen to get out of Schumacher and use my own grain ration I notice quite a falling off in milk production, and an immediate gain when I again start to feed Schumacher."

M. DRUMM, Brookside Farm, Cobourg, Ont.

The Quaker Oats Company. R. R. NESS, DAVID T. NESS, R. NESS & SON.
Gentlemen: "We highly recommend Schumacher Feed as an ideal feed for cattle, horses, calves and hogs. We have used it for twenty years, feeding it to all the noted animals in our stables, which number about three hundred cattle and fifty horses."

The above letters are typical of what the dairymen of Canada have found out regarding the results obtained by feeding

SCHUMACHER FEED



Wherever Schumacher Feed is fed you will find a herd that produces to the satisfaction of the owner. Cows of every breed alike respond to the health-giving, milk-producing elements contained in this popular feed.

Containing the right nutrients for bodily maintenance, health maintenance, as well as for maximum milk flow, Schumacher Feed will not only increase production from your cows, but will improve the health and physical condition of your herd.

Give it a trial—ask your dealer for Schumacher.

The Quaker Oats Company

Peterborough and Saskatoon, Canada



Shorthorns

Present offering: Six young bulls, Reds and Roans; also a number of females. They have size, quality and breeding from good milking dams. Prices moderate. Satisfaction guaranteed.

CHAS. GRAHAM - Port Perry, Ont.

Shorthorns — Leicesters

Herd Sire: Bowling Duke Imp. Dual-purpose females, cows and heifers for sale; also ewes, one yearling ram and ram lambs from the Champion ram of 1917.

E. R. WOOD, R.R. 2, Freeman, Ont.

PATENTS Trade Marks and Designs Procured in all Countries. Special attention given to patent litigation. Pamphlets sent free on application.

RIDOUT & MAYBEE
156 Yonge Street Toronto, Ontario

Aneidia Farm Shorthorns and Shropshires

We offer Five Ram Lambs, one Shearling and one 2 shears. From Imp. and home bred Ewes. Alby Imp., Buttar ram. Also three bulls of different ages, 2 pure Scotch, one Scotch topped. All of high quality and priced to sell.

J. F. WERDEN & SON, R. R. 8, PICTON, ONT.

Spring Valley Shorthorns

—Herd headed by Sea Gem's Pride 96365. We have a number of good bulls for sale, including the Champion Ivanhoe 122760, and his full brother also, an extra well-bred Rosewood, and others. Write for particulars.

Telephone and telegraph by Ayr.

KYLE BROS., Drumbo, Ont.

Imported Scotch Shorthorns

For Sale—Three imported bulls, one yearling, one two-year-old and our three-year-old herd sire; also a choice two-year-old Orange Blossom of our own breeding, and three well-bred bull calves about a year old. Would consider exchanging an imported bull for Scotch females.

R. M. MITCHELL, R.R. No. 1, Freeman, Ont.

Puslinch Plains Shorthorns

Bulls for Sale—Royal Signet = 134979 =, red; born Oct. 7th, 1919. Sire, Royal Ramsden = 123067 =. Dam, Roan Lady 50th = 143772 =. Price \$500.00. Goldale = 138966 =, roan; born Dec. 15th, 1919. Sire, Browndale Reserve = 116615 =. Dam, Roan Bessie 11th = 140322 =. Price \$200.

A. G. AULD, R. 2, Guelph, Ont.

Morrison Shorthorn

Herd Bulls—We have at present several 8 to 12 month bulls, sired by our own herd sire, Augusta Mascott, that are extra individuals, and all are from good milking dams. Call and see us; also for bred heifers or young cows. We never had a stronger lot of Tamworth sows than those we have on hand at present.

CHAS. CURRIE (Puslinch Sta., C.P.R.) Morrison, Ont.

Preventing Spread of Disease in U. S.

The cleaning and disinfecting of railroad stock cars is an important means of preventing the spread of infectious diseases of live stock. In connection with federal control over the interstate transportation of live stock, administered by the Bureau of Animal Husbandry, it is required that all such cars or other vehicles which have contained animals affected with a communicable disease, such as tick fever, scabies of sheep and cattle, hog cholera, etc., be cleaned and disinfected before being again used in interstate commerce.

All live stock received at public stockyards or at official slaughtering establishments are inspected at the time they are received by employees of the Bureau of Animal Husbandry. If any animals are found to be affected with a communicable disease the carrier which brought them to their destination is at once notified to have the car or any other vehicle set aside and thoroughly cleaned. After that has been accomplished it is disinfected under the personal supervision of a federal employee.

Various states also have regulations requiring that cars must be cleaned and disinfected before being used in the transportation of certain classes of live stock. The Bureau of Animal Husbandry co-operates with such states by having its employees at central markets supervise the cleaning and disinfection of cars in compliance with the requirements of the state to which any stock may be destined.

An idea of the magnitude of this work may be gathered from the fact that during the fiscal year ended June 30, 1919, bureau employees personally supervised the disinfection of 44,843 cars. In addition, a large number of motor trucks were handled in the same manner.

The Future of the Country Boy.

EDITOR "THE FARMER'S ADVOCATE":

Even a very careless study of living conditions on farm and in city shows us some significant things. In every new country—in every successful country, the politicians and merchants build up the cities and neglect the rural districts. They can do this because the people of our rural districts are not organized. We all know of farming districts where neighbors never think of calling on each other—districts where there is an absolute absence of the community spirit. The country people being unorganized, do nothing but grumble as the big cities grow up all around them. The politicians do not pay much attention to them, and finally the district stagnates. The young men, sick of the conservatism of their elders, go away to the cities to be barbers, real estate agents, doctors, or teachers. The cities grow bigger and bigger, and more vicious as they grow, as wealthy middlemen and manufacturers hold out tempting opportunities to country workers. Finally the country districts become depopulated, and echo with the cries of discontent. Meanwhile the people in the over-populated cities shout for food, and curse the farmer when they have to pay for it. The young people are gradually drawn into a life full of viciousness, till they are absolutely lazy, irresponsible, shallow in mind, and shattered in health. We have these conditions in Canada right now. The present generation of young city men will have very few old men in its ranks. Not many of them will be able to move freely and think clearly when they are sixty. There is going to be a great movement back to the land—a great movement to draw more strength from the land, where it always reposes. The men of affairs in Canada in twenty years' time are not being raised in our vicious cities to-day; they are out on the farms, breathing clean air and living wholesome lives. So do not pity the farm boy of to-day, he is the leading figure of to-morrow. "The mills of the gods grind slowly, but they grind exceeding small." H.S.

FOUNDED 1866

g Spread of Dis
e in U. S.

and disinfecting of rail-
s is an important means
the spread of infectious
re stock. In connection
ontrol over the interstate
of live stock, administered
of Animal Husbandry, it
t all such cars or other
have contained animals
communicable disease,
ver, scabies of sheep and
era, etc., be cleaned and
ore being again used in
erence.

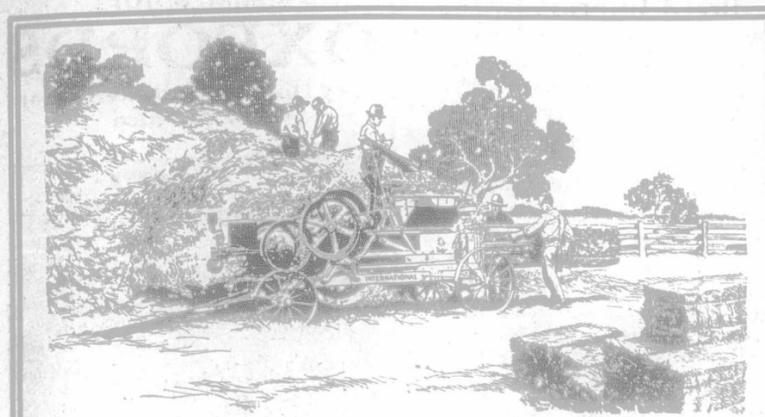
received at public stock-
ial slaughtering establish-
cted at the time they are
mployees of the Bureau of
dry. If any animals are
cted with a communicable
rier which brought them
tion is at once notified to
or any other vehicle set
roughly cleaned. After
accomplished it is dis-
the personal supervision
mployee.

es also have regulations
cars must be cleaned and
ore being used in the
of certain classes of live
Bureau of Animal Hus-
ates with such states by
loyees at central markets
cleaning and disinfection
pliance with the require-
tate to which any stock
l.

the magnitude of this work
l from the fact that during
ended June 30, 1919,
ees personally supervised
n of 44,843 cars. In
e number of motor trucks
n the same manner.

of the Country
Boy.

ARMER'S ADVOCATE";
careless study of living
arm and in city shows us
t things. In every new
ry successful country, the
merchants build up the
lect the rural districts.
this because the people
istricts are not organized.
f farming districts where
think of calling on each
where there is an absolute
community spirit. The
being unorganized, do
umble as the big cities
and them. The politicians
ch attention to them, and
ct stagnates. The young
he conservatism of their
to the cities to be barbers,
nts, doctors, or teachers.
y bigger and bigger, and
s they grow, as wealthy
manufacturers hold out
tunities to country work-
the country districts be-
ted, and echo with the
nt. Meanwhile the people
opulated cities shout for
e farmer when they
or it. The young people
drawn into a life full of
ll they are absolutely
ible, shallow in mind,
n health. We have these
Canada right now. The
ion of young city men
few old men in its ranks.
nem will be able to move
k clearly when they are
s going to be a great
k to the land—a great
draw more strength from
it always reposes. The
Canada in twenty years'
ing raised in our vicious
ey are out on the farms,
air and living wholesome
t pity the farm boy of to-
ding figure of to-morrow.
he gods grind slowly, but
ding small." H. S.



Tuck your hay into
snug, tight bales—

Stacked hay or hay in the mow does not represent hay at its best. Tuck your hay into snug, tight bales with an INTERNATIONAL HAY PRESS and get all of it under cover. And, too, your live stock will appreciate INTERNATIONAL-BALED hay because of its clean freshness and unimpaired food content. You can ship these snug, tight bales to the outside markets and command top prices. You can bale for your neighbors and make a good profit from such service. You can bale straw just as well as hay—keep the outfit busy during odd weeks between seasons.

Your light tractor will furnish ample power to operate an INTERNATIONAL POWER PRESS. If you do not have separate power, a 6 h.-p. FRICTION CLUTCH INTERNATIONAL KEROSENE ENGINE can be mounted on the front end of the frame of the two smaller size presses and belted direct to the baler—always ready for immediate service. The extra-large drive gears compound the engine's power enormously—and make the snug, tight bales of uniform weight that are so characteristically INTERNATIONAL.

INTERNATIONAL HAY PRESSES are made in three sizes—14x18, 16x18 and 17x22—horse and power styles. See your nearby International agent about one—and meanwhile let us mail you a catalogue. Just send us a post card.

INTERNATIONAL HARVESTER COMPANY

OF CANADA LTD.
HAMILTON CANADA
WESTERN BRANCHES—BRANDON, WINNIPEG, MAN., CALGARY, EDMONTON, LETHBRIDGE, ALTA., ESTEVAN, N. BATTLEFORD, REGINA, SASKATOON, YORKTON, SASK.
EASTERN BRANCHES—HAMILTON, LONDON, OTTAWA, ONT., MONTREAL, QUEBEC, QUE., ST. JOHN, N. B.

MANOR FARM HOLSTEINS

A Producing Herd Where Quality Excels

I have at present just the bull calf you need for your next herd sire. Visit Manor Farm yourself and select him from the choice lot of youngsters now in the pens—all are sired by our great son of Lulu Keyes, King Korndyke Sadie Keyes. The records of the dams of these calves we would like to show you run from 20-lb. two-year-olds to almost 35 lbs. for matured cows—quality and production considered, they are priced exceptionally low.

GORDON S. GOODERHAM, Manor Farm, CLARKSON, ONT.

RAYMONDALE FARMS

Our Junior Herd Sire, King Korndyke, Raymondale
"One of the best bred bulls of the great Holstein breed."

His sire, Avon Pontiac Echo, is one of the most noted sons of the world's greatest cows, May Echo Sylvia; while his dam, Korndyke Queen De Kol 6th, is three times a 30-lb. cow, and twice a 35-lb. cow—her best 7-day record being 37.26 lbs. of butter and 781 lbs. of milk. She has 3,101 lbs. of milk and 150.9 lbs. of butter in 30 days, and 10,125 lbs. of milk in 100 days. The dam and sire's of this junior sire average 896.5 lbs. of milk and 39.14 lbs. of butter in 7 days; 3,682.55 lbs. of milk, 160.35 lbs. of butter in 30 days, and 137.30 lbs. of milk for one day. He is a splendid individual, and is proving himself a great sire.

Let us send you particulars regarding the few bull calves we have by this young sire. All are from good record dams in our own herd.

RAYMONDALE FARMS
Vandreuil, Que. D. RAYMOND, Owner
Queen's Hotel, Montreal

Hospital for the Insane, Hamilton, Ont.

HOLSTEIN BULLS ONLY FOR SALE

Senior sire is from one of the best sons of King Segis Alcartra Spofford. Junior is grandson of the noted May Echo Sylvia, by Champion Echo Sylvia Pontiac.

Write to the Superintendent for prices, etc.

A Real Foundation in Holsteins—Three full sisters, ages 3, 2, 1. Sire, King Walker Pride.

Dam's record, butter, 7 days at 4 years, 27.18 lbs.; milk, 479 lbs.; average test, 4.54; milk one year at 3 years, 12,512 lbs.; butter, 615 lbs.; average test, 3.93. Write for extended pedigree and description.

Fenwick Station, T. H. & B.

C. V. ROBBINS, Wellandport, Ont.

Clearing Sale of
Registered Holsteins
Farm, Horses, Feed
and Implements

Wednesday, Oct. 20th, 1920

Sale at 10 a.m.

Stock sale 2 p.m.

The entire herd of Homestead Holstein Stock Farm.
45 head of choicely-bred females.

Among them four daughters of Aaggie Prince Pietertje C, sire of Laura Aaggie Netherland, with 30.66 lbs. butter in 7 days, the cow that topped the Toronto sale in Dec., 1918, at \$2,300. Four are daughters of Judge Hengerveld De Kol VIII, an imported sire, a grandson of Hengerveld De Kol, with 116 A.R.O. daughters. His dam, Pomona Aaggie Queen, has 5-year-old record of 32.92. The young cows and heifers are sired by Hengerveld Pontiac Butter Boy, whose two grandams averaged 31.28 lbs. butter in 7 days, and they are bred to Segis De Kol Netherland, a choice young herd sire that will also be sold. He is a show bull from a 31.72-lb. 5-year-old that has given 103 lbs. milk per day.

Byron E. Brooks will consign six head of good individuals. Among them Teake Ormsby Korndyke, a 3-year-old, with record of 20.22 lbs. butter, and Ralph Ormsby, 11-mos. old, a choice young bull ready for service, from a dam with record of 24.40 lbs. butter.

Farm is two miles from Harrietsville Stn., C. P. R. Write for catalogue.

T. MERRIT MOORE, Auctioneer

B. R. BARR, Prop., R. 1, Mossley, Ontario

Hamilton House Holstein Sires

Our young bulls of serviceable age have all been sold, but we have a number of the best young calves we have ever bred. All are from dams with good combination records for both milk and butter. Several are up to 700 lbs. of milk and 31 lbs. of butter for 7 days. If you are interested in a good calf, write or see them now—they can be purchased at considerably less than we will be pricing them next winter.

D. B. TRACY - All Railways - COBourg, ONT.
Bell 'Phone

HOLSTEIN HEIFERS

bred to a 29.12 lb. son of Avondale Pontiac Echo. These heifers are all well grown, and got by good sires. Their dams also, in most cases, own official records and we feel that there is no stronger lot in Ontario. Quality and breeding considered, they are priced exceptionally low. See these if you appreciate the best.

JOHN W. MOOTE

CANBORO, ONTARIO

HOLSTEINS FOR SALE

A 16 months' old bull from a 26-pound cow, a six months' bull from a 26,000-pound cow; also younger bulls, all sired by Hill-Crest Rauwerd Vale. These calves are well worth seeing.

W. FRED. FALLIS, R.R. 3, Millbrook, Ontario

Evergreen Stock Farm Registered Holsteins

Our motto: Choice individuals—the profitable producing kind. Nothing for sale now, but get in line early for your next herd sire.

A. E. HULET, - Oxford Co., G.T.R. - NORWICH, ONTARIO

Summer Hill Holstein Females

—We are at present crowded for room and are pricing twenty-five head of one and two-year-old heifers of our own breeding at prices which any good breeder should be pleased to pay for this sort of quality. See these if you appreciate the best. We have one young bull left—a show calf.

D. C. FLATT & SON, R.R. No. 2, Hamilton, Ont.

HOLSTEIN BULLS FROM 30-lb. DAMS

If you want 30-lb. bulls—good individuals—and priced right—you should see my present offering. I also have lower priced bulls, and am offering females bred to Ormsby Jane Burke. Correspondence solicited.

R. M. HOLTBY, Manchester G.T.R., Myrtle C.P.R., PORT PERRY, ONT.

"Premier" Holstein Bulls Ready for Service—I have several young bulls from dams with 7-day records up to 32.66 lbs. of butter, 755.9 lbs. milk, with 110 lbs. of milk in one day—over 3,000 lbs. in 30 days. All are sired by present herd sire, which is a brother to May Echo Sylvia. Step lively if you want these calves.

H. H. BAILEY - Oak Park Farm - PARIS, ONT.

Quality HALEY & LEE, Springford, Ont. Production

HOLSTEINS—If in need of a better herd sire, speak early for a son of one of our great show cows and by our 35-lb. bull, a son of Susie Abbekerk Colantha, with world's record for 5 months' milk and butter. Our cows were foremost in winnings at Toronto and London.

Holstein Herd Sire, \$150—Pontiac Hermes Cornucopia, a choice, well-grown youngster, just ready for heavy service—good individual and guaranteed right. Sire, Gipsy Pontiac Cornucopia, a 30-lb. son of May Sylvia Pontiac Cornucopia. Dam—a 21.19-lb. 3-year-old daughter of King Segis Pontiac Duplicate. We are also listing five younger calves, all sired by Gipsy Pontiac Cornucopia.

JOS. PEEL, Elmsdale Farm, Port Perry, Ont.

24,687 lbs. Milk—Butter 1,016 lbs.

Record of sire's dam. Write for extended pedigree and particulars of 1920 Holstein Bulls from him and R. O. P. cows.

R. HONEY & SONS Dartford, Ontario

BELTING

Used and new, at greatly reduced prices. Apply

L. S. TARSHIS & SONS Toronto, Ontario

400 Front St. East

Lister Grinder

"Good Old Reliable
LISTER QUALITY"

THE Lister Grinder will do more and better work than any other grinder of its size. Rugged efficiency and dependable quality are its outstanding features.

While doing more work, it will grind as fine as any other machine.

We guarantee it to do these things. Any Lister Grinder that does not fill this guarantee will be taken back by us without expense to the customer.

All Lister Grinders have bagger pulley and special large worm to force feed into plates. Frame permits drive at almost any angle. Feed may be delivered at side or bottom, as required. These are typical points of Lister superiority.

If you want to make sure of year-in-and-year-out reliability and efficiency you will use the Lister. Don't fail to get full particulars, which we gladly send on request. Write to-day.



Other Lister Lines:

- MELOTTE CREAM SEPARATOR
- LISTER MILKER
- LISTER SILO FILLER
- LISTER ENGINE
- AVERY TRACTOR

R. A. Lister & Co. (Canada) Limited
58-60 Stewart St., F 1, Toronto

Breed Improvement.

We have often wondered just what progress is being made in the improvement of our modern breeds of live stock. How would what we consider our best breed to-day, compare with what was considered the nearest to perfection thirty or forty years ago? A writer in an old country farm paper has the following to say on this question:

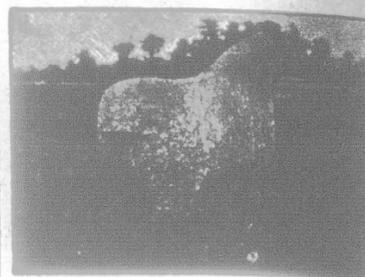
How often are faults excused or defended in this way? Is a Shorthorn patchy or is it uneven along its ribs? The half-excuse is apt to be forthcoming. "The breed has had more or less of this all along." And so with the older types of Border Leicester sheep, let one say. Many of them had wasteful, overhanging rumps, and the blubbery mutton with its minimum of lean tissues was prone to slip from the sides of the spinal column down to the mid-ribs. Should a Scotchman criticize the excessive amount of hair on the legs of representative Shire horses, he is reminded of the fact that the breed always had what seems to him an abnormal capacity for growing hair, some of it of a very harsh, curly nature. The snouts of the old-time Small White pigs were bred so short that the creatures could scarcely pick up a potato unless they had it in a corner. But the puggy snout went with the breed. In other breeds of pigs the ears tend to deprive the animals of sight. "Sure, sorr, them large cabbage-blade ears make them continted. They can smell the good and they can't see the ill!" That was the explanation and apology offered by a native of the distressful country.

In these days the poorest excuse for a fault from those who are concerned with animal evolution is—"It goes with the breed." It is to some extent at least a weak copy of the weary fatalism. "That which hath been shall be," but as it is forever in touch with the forces of civilization and tendencies to betterment it has no call to be shirked or set among the practically nonendable things. The aim ought to be perfection. That may rarely, if ever, be reached, but the first duty is to clear off the almost easily remediable faults. When these are disposed of, much is gained. On the whole, there have been very great general improvements during the lifetime of the oldest men who are now taking the round of the shows. The larger horses are sounder and better fitted for their work, if one takes them in the mass, and if something has been lost in a few of the smaller breeds, a good deal has been gained on the average. At times a veteran takes to what sounds like pessimism. He maintains that the modern champions in horses and cattle are not up to the standards of far past years. He can go back a quarter of a century or more for better champions in sheep, but he rather thinks that the moderns have the advantage in pigs. It is quite easy to go a considerable part of the way with the supporter of the older order. In the Clydesdale sphere, for instance, show goes with thirty or forty years of a range will agree that the like of Moss Rose, Sunray, Lady Margaret, Boquhan Lady Peggy, and Chester Princess are not going in these days. Looking back across thirty years, Aberdeen-Angus men of the older race will hold staunchly to the opinion that Prince Inca remains an easy first when set against the best of the more recent champions. From other sections they will select bygone approximations to perfection.

Some breeds are not nearly good enough after those long years of registration and selection. In many cases the animals have been partially lost in the race for mere pedigrees. Still, making every allowance, there has been general progress in the true sense of the term. When faults appear they are subject to franker criticism. There is less and less of a disposition to argue that something undesirable ought to be tolerated simply because it has come down through the generations. Amos Cruickshank would not accept the notion that the Shorthorn had been destined to produce more fat than flesh. On that point he had no doubt learned something from Wilkinson of Lenton—a man far in advance of his time. Judges have much in their power as breed improvers and as standardizers. When they have openmindedness and courage, along with the highest degree of skill and integrity, all is well.

SUMMER HILL OXFORDS

They Hold an Unbeaten Record
for America



We are now offering a number of ram and ewe lambs sired by Lord Milton at very reasonable prices, quality considered. This ram went to the Western Stock Ranches, Ltd., at \$500 immediately after the Chicago show. We also have shearing ewes and rams as well as a few two-shear rams. Can supply ram and ewes not related. We guarantee satisfaction. Follow our exhibit at the shows and get our prices.
Peter Arkell & Sons, Teeswater, Ont.
H. C. Arkell W. J. Arkell F. S. Arkell

FOR SALE

Shropshires AT Maple Shade

Ram Lambs, Ewe Lambs and
Fifty Imported Ewes.

WILL A. DRYDEN
Brooklin :: Ontario

Shropshire and Cotswold Rams

Your choice of 50 large, well-wooled ram lambs for \$30. Recorded in your name and express paid to your station. Also a few good yearling and two-shear rams at a low price.

JOHN MILLER, Claremont, Ont.

HIGH - CLASS OXFORDS FOR SALE

Including shearing rams, ewes and ram lambs. Sired by "Heythrop 42" (imp.), an extra choice ram imported by the McKerrow Farms, Wis. These sheep are the low-down, blocky kind, and have ideal skins, fleeces, color and covering. Write for prices and descriptions.
W. T. TILT, R.R. No. 6, Brampton, Ont.

Blairgowrie

Shropshires and Cotswolds

I have at present a real choice lot of ram and ewe lambs, as well as a few shearing rams and ewes of both breeds. Will price these sheep reasonable, and guarantee the best of both breeds.
JOHN MILLER, JR., Ashburn, Ontario

Registered Shropshires

FOR SALE

Fifty shearing ewes, thirty shearing rams and some choice ram and ewe lambs. Satisfaction assured.
WM. D. BURTON, R.R. 2, Brantford, Ontario
Long-distance Bell 'phone 239, ring 1-3.

Oxford Rams

We offer choice ram lambs, shearing rams; also ewes any age. All bred on the farm.

John M. Ross, Embro, Ont.

MILLBANK OXFORDS
For Sale—Registered Oxford lambs of both sexes, bred from Barbour's and Arkell's champion flocks. Prices reasonable. Phone or write.
FRANK WEEKES, (Huron Co.) VARNA, ONT.

Cotswolds—A choice lot of pure-bred Cotswold rams, 15 shearings and 30 well-forwarded lambs fit for service. Prices moderate.
Donald Sutherland, R.R. No. 2, Ingersoll, Ont.

Prospect Farm Jerseys

—Herd sire, Torono of Prospect Farm 12094, whose sire, Louis Torono 106614, dam and both grandams, have an average R.O.M. record of 14,261 lbs. milk and 966 lbs. butter, 85 per cent. fat. Louis Torono is a grandson of Hood Farm Pogis 9th, 55552, and Hood Farm Torono 60326, both Gold Medal bulls. Torono of Prospect Farm, dam Keetsa 333656, has a 2-year record of 10,627 lbs. milk, 617 lbs., 85 per cent. butter, and on retest has milked 60 lbs. milk a day. She is a daughter of Hood Farm Torono 99265, whose first 17 daughters, as 2-year-olds, averaged 8,746 lbs. milk and 600.01 lbs. butter, 85 per cent. fat. We have for sale young bulls sired by Torono of Prospect Farm and from R.O.P. cows, also choice young bulls sired by Brampton Bright Togo 5760, and cows and heifers bred to Torono of Prospect Farm, due to calve Sept. and Oct. Pure-breds and high-grades. The high-grades will make choice family cows.
R. & A. H. BAIRD, R.R. 1, New, Hamburg, Ont.

BRAMPTON JERSEYS

THE LARGEST JERSEY HERD IN THE BRITISH EMPIRE

At Toronto Exhibition, 1919, we won twenty-five of twenty-seven first prizes. We now have for sale first-prize young bulls from R. O. P. dams, as well as females of all ages.

B. H. BULL & SONS :: Brampton, Ontario

All Bulls of Serviceable Age Sold

A few young bulls sired by Financial Raleigh King, son of the \$6,000.00 Financial Beauty King, for sale, from R.O.P. dams.

JAS. BAGG & SONS (Woodbridge, C.P.R.; Concord, C.T.R.) EDGELEY, ONTARIO

CANADA'S MOST BEAUTIFUL JERSEY HERD
The Herd headed by Imported Champion Rowor, winner of first prize with five of his daughters on the Island of Jersey, 1914, second in 1916, and again first in 1917. We are now offering for sale some very choice bull calves, ready for service, sired by imported bulls and from Record of Performance imported prize-winning cows. Also some cows and heifers. Prices right. We work our show cows and show our work cows.

Laurentian Producing Jerseys—The oldest bull we have at present is a yearling Bright Villa, No. 5630, and from Brampton Astoria, one of the best imported cows in the herd. We also have others younger of similar breeding, as well as a few bred heifers for sale. **FREDERICK G. TODD, Owner, 801 New Birks Bldg. Montreal, P.Q. Farm at Morin Heights. F. J. WATSON, Manager.**

Ayrshires—Yorkshires—If you want a few large and well-developed Ayrshire heifers good enough to win in the show ring, we would like to have you call and see our present offering. From R.O.P. dams and sired by Snow King, the great show bull. Write us also for Yorkshire litters.

JAS. B. ROSS, Streetsville C.P.R., Stop 38, Guelph Radial, Meadowdale, Ont.

INGLEWOOD FARM R. O. P. AYRSHIRES

We are offering for sale at present a great bull calf from our 1918 four-year-old cup winner, Middy. This calf is sired by Briery Boy at Springbank, who was the son of the 14,131-lb. two-year-old Briery 2nd. We guarantee this youngster and will ship on approval. We also have cheaper calves, and are always pleased to show you our females. **Wilson McPherson & Sons, St. Anns, Ont.**

COTSWOLDS

Special offering: Ram lambs and ewes, all ages
Write:

R. HONEY & SONS - Dartford, Ontario

Shropshires—I am offering a number of good yearling rams and extra good ram lambs from choice imp. stock; also a few ewes two to four years old. Priced to sell.

ALEX. GRAY, R.R. No. 2, Claremont, Ont.
Phone 810, Markham.

Oxford Down Sheep, Pioneer Flock

—We are offering this season an up-to-date lot of yearling and two-shear rams; also imported two-shear ram and a number of yearling and two-shear ewes; also ram and ewe lambs.

H. ARKELL, 207 Sherman South, Hamilton, Ont., Phone Garfield 3172 W
Shipping Station—Corwhin.

Robertson's Dorsets

If you are looking for something choice in bred ewes, ram or ewe lambs, you will appreciate the lot I now have in the flock. The lambs are got by Heart's Delight, show winner, and the ewes offered are bred to him. Prices right. Correspondence solicited.

JNO. F. ROBERTSON, Acton, Ont.

SUMMER HILL FORDS
 and an Unbeaten Record for America



Now offering a number of ram heads sired by Lord Milton at reasonable prices, quality considered. Went to the Western Stock Show, at \$500 immediately after show. We also have several ram heads as well as a few two-year-olds. Can supply ram and ewe heads. We guarantee satisfaction. Exhibit at the shows and get the best prices.

FOR SALE
Shropshires
 AT
Apple Shade
 Rams, Ewe Lambs and
 Ewes Imported Ewes.
W. J. ARKELL F. S. ARKELL
 Ontario

Shropshire and Cotswold Rams
 Choice of 50 large, well-bred ram lambs for \$30. Selected in your name and paid to your station. A few good yearling and ewe lambs at a low price.
MILLER, Claremont, Ont.

CLASS OXFORDS FOR SALE
 Yearling rams, ewes and ram lambs. "Wythrop 42" (imp.), an extra choice by the McKerrrow Farms, Wis. The low-down, blocky kind, and fleeces, color and covering. Write for descriptions.
R.R. No. 6, Brampton, Ont.

Blairgowrie Shires and Cotswolds
 Present a real choice lot of ewe lambs, as well as a few rams and ewes of both breeds. These sheep reasonable, and the best of both breeds.
W. J. ARKELL, JR., Ashburn, Ontario

Red Shropshires
FOR SALE
 Yearling ewes, thirty shearing and some choice ram and ewe. Satisfaction assured.
W. J. ARKELL, JR., R.R. 2, Brantford, Ontario
 Phone Bell 239, ring 1-3.

Lord Rams
 Offer choice ram lambs, yearling rams; also ewes any age. All bred on the farm.
W. J. ARKELL, JR., R.R. 2, Brantford, Ontario

Bank Oxfords
 Registered Oxford lambs of both sexes. Barbour's and Arkell's champion ewes reasonable. Phone or write.
W. J. ARKELL, JR., R.R. 2, Brantford, Ontario

Duroc Jerseys
 My herd has won more firsts and championships in four years showing at Toronto than all other herds of Durocs combined. Write for prices.
CULBERT MALOTT, R.R. 3, Wheatley, Ont.

Bone Spavin

No matter how old the blemish, how lame the horse, or how many doctors have tried and failed, use Fleming's Spavin and Ringbone Paste. Use it under our guarantee—your money refunded if it doesn't make the horse go sound. Most cases cured by a single 45-minute application—occasionally two required. Cures Bone Spavin, Ringbone and Sidebone, new and old cases alike. Write for detailed information and a free copy of Fleming's Vest-Pocket Veterinary Adviser. Ninety-six pages, durably bound, indexed and illustrated. Covers over one hundred veterinary subjects. Read this book before you treat any kind of lameness in horses.

FLEMING BROS., Chemists
 75 Church Street Toronto, Ont.

Yorkshires

Three large litters of young pigs at price of ordinary pigs—all registerable. Also magnificent sire, "MacDonald George."

C. W. Edgar, Spring Brook Farms
 Christievillie, P. Que.

Tauwa Herd
 BIG TYPE
Chester Whites
 Cleaned up at Toronto and London, 1919. See our 1,000-lb. boar and 800-lb. sows.
JOHN G. ANNESSER, Tilbury, Ont.

Berkshires—Boars ready for service and boar pigs, rich in the blood of Lord Premier's Successor 161500, Grand Champion, 1914, Champion sire of 1915, 1916, 1917. His descendants have won Grand Champion honors at the largest and strongest shows of 1919. The Champion Berkshire barrows of 1918 International were double grandsons of Lord Premier's Successor. We have shipped many Berkshires to Canada with satisfaction to customers. Prices on request.
HOOD FARM, INC., Lowell, Mass.

YORKSHIRES
 Pigs of different ages, both sexes, from large litters.
WELLDWOOD FARM
 Farmer's Advocate, London, Ontario

Yorkshire Specials
 I have on hand at present as choice a selection of young pigs and bred sows as can be found in any one herd on the continent. Our sows are thrifty, regular breeders, and win in the show-ring too. Your inspection and inquiry is requested.
ARTHUR WELSTEAD, R.R. No. 1, St. Catharines, Ont.

FOR SALE
Registered Yorkshire Pigs
 Out of Ottawa Lass, bred by Director of Experimental Farms, Ottawa; by Oak Lodge Virus, bred by J. E. Brethour. The sire of this sow was Woodstock Royal Edward. Registration papers furnished. Apply to
H. FITZHUGH
 Northumberland Hall Cobourg, Ontario

Inverugie Tamworths
 Young sows, bred for September and October farrow. Choice boars of all ages.
LESLIE HADDEN, Box 264, Sunderland, Ont.

TAMWORTHS
 Boars and Sows of different ages for sale. Write or phone.
JOHN W. TODD :: CORINTH, ONT.

Prospect Hill Berkshires—Young stock, either sex, for sale, from our imported sows and boars; also some from our show herd headed by our stock boar, Ringleader. Terms and prices right.
JOHN WEIR & SON, R.R. 1, Paris, Ont.

DUROC JERSEYS
 My herd has won more firsts and championships in four years showing at Toronto than all other herds of Durocs combined. Write for prices.
CULBERT MALOTT, R.R. 3, Wheatley, Ont.

From Weaning Time to Market

Your profit on every litter of pigs depends upon the care given them and their feeding.

To shorten the time required for maturing means added profits for you.

Pigs fed liberally on Monarch Hog Feed develop bone and muscle quickly and add sound, firm flesh rapidly.

The ingredients of Monarch Hog Feed form an ideal combination containing the correct proportions of protein and fat to finish hogs in the shortest time.

This feed used along with the proper amount of roughage means better proportioned hogs. More lean and less fat. Hogs that ship with the least amount of shrinkage. Hogs that bring the highest price.

Pigs eat Monarch Hog Feed with eagerness. It has a flavor that hogs relish. It is as easily digestible as it is palatable. It is as economical to feed as it is profitable in results.

Guaranteed Analysis — Protein 15%, Fat 4%.

Try a ton. If your dealer cannot supply you, write us.

Monarch Dairy Feed	Sampson Feed
A milk producing feed. Protein 20%; Fat 4%.	A general purpose feed. Protein 10%; Fat 4%.

The Campbell Flour Mills Co., Limited, affiliated with
Maple Leaf Milling Co., Limited, Toronto, Ont.

Monarch Hog Feed

"GALT" Corrugated Steel Sheets
FOR ROOFING AND SIDING

We manufacture these Sheets both in Galvanized and Painted Steel, in lengths of 4, 6, 8 and 10 feet.

WE ALSO MANUFACTURE
 "GALT" STEEL SHINGLES, VENTILATORS
 ORNAMENTAL EMBOSSED STEEL CEILINGS, ETC.

The Galt Art Metal Co., Limited, Galt, Ont.

FEATHERSTON'S YORKSHIRES
 If you want a few bred sows you should call and see the present lot I have on hand. I also have several choice young litters and a few young boars. Can furnish pairs or trios not related.
J. K. FEATHERSTON, Streetsville, Ont.

ELMHURST LARGE ENGLISH BERKSHIRES
 From our recent importation of sows, together with the stock boar, Sudden Torredor, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.
H. M. VANDERLIP, Breeder and Importer, R. R. 1, BRANTFORD, ONTARIO
 Langford Station on Brantford and Hamilton Radial.

BERKSHIRES
 Choice young stock for sale, all ages. English, Canadian and American strains. Can supply pairs not akin.
G. L. SMITH, Credit Grange Farm MEADOWVALE, ONTARIO

STORM WINDOWS & DOORS

SIZES to suit your openings. Fitted with glass. Safe delivery guaranteed. Write for Price List (E). Cut down fuel bills, insure winter comfort.

The HALLIDAY COMPANY, Limited
 HAMILTON FACTORY DISTRIBUTORS CANADA

Chester Whites—Choice young pigs, both sexes, sired by Qauwa Colaway Edd, (imported) No. 19831. Also a few gilts bred to same boar.
GEO. E. NORRY, R.R. 1, Tilbury, Ont.



The Wonders of a Puffed Grain

Each Puffed Wheat bubble is a whole grain puffed to eight times normal size. A hundred million steam explosions have occurred within it. Every food cell is exploded, so you see an airy, toasted morsel as flimsy as a snowflake. Puffed Rice is whole rice puffed in like way. The texture is enticing, the flavor is like nuts. The airy granules seem to melt away.

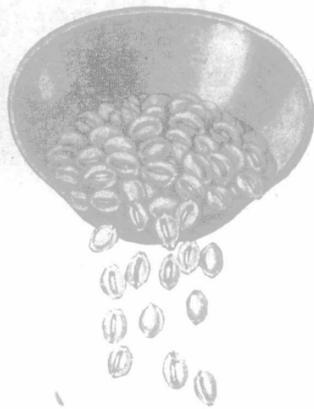
But think what they are

But these delightful bits are grain foods, fitted for digestion as grains never were before. Float the Puffed Wheat grains in milk and you have the greatest food in existence.

Serve with cream and sugar, mix with fruit. Douse with melted butter for hungry-hour delights. Use like nut-meats on ice cream.

In all ways these Puffed Grains are like flavory confections, yet they are supreme foods.

Millions now enjoy them. Serve all three in all the ways you can. No other grain food can compare with them.



Puffed Wheat

Bubble Grains 8 times normal size



Puffed Rice



The night dish

Serve Puffed Wheat in every bowl of milk. These flimsy, toasted grains supply whole grain nutrition, and they are easy to digest.

The Quaker Oats Company

Peterborough, Canada

Sole Makers

Saskatoon, Canada

3477

Our School Department.

A Championship Judging Competition.

School fairs are now carried on in practically every county of Ontario, and, in many instances, in every township in the county, most people are fairly familiar with the work that is conducted through the medium of these fairs. It is not, at present, merely a showing of roots, vegetables, live stock, and miscellaneous articles, but there is now a competition in the judging of live stock, grain and roots. These things are of great educational value to the boys and girls and should have an important bearing on the success of agriculture in the future. Oxford County is possibly as well organized for school-fair work as any in the Province, and, under the leadership of the Agricultural Representative, G. R. Green, the fairs are doing a big work in interesting the boys and girls in live stock and in developing live-stock judges.

Ten school fairs were held in the County this year, with a stock judging competition at each. Each school is expected to choose a team of three boys to represent the section in the competition. In all, forty-two teams competed. It was arranged that the two highest teams in each school fair would be eligible for the championship competition to be held at the Woodstock Agricultural Fair. While twenty teams were eligible, fifteen competed on Friday, September 24. The boys on the different teams were from ten to fourteen or fifteen years of age, and most of them gave evidence of having a knowledge of the different classes of stock. Last year the boys worked on sheep and swine, and this year horses and dairy cattle were judged. It was no haphazard judging; the boys in most cases had been ably coached by breeders in their school sections, by their teachers, or by members of last year's agricultural class. The honor of the school was at stake in these competitions, and everyone was keenly interested. Further interest was added by the fact that the Harris Abattoir Company, of Toronto, had donated two free trips to the Chicago International to the young men who coached the school-fair stock-judging teams winning the second and third prizes in the championship event, the provision being that the coach must have attended one of the four-week's winter short courses held in Oxford County. The Merchants' Bank donated a trip to Chicago to the coach of the prize-winning team. Then, too, the competitors themselves had something at stake. The winning team secured a silver cup, donated by the Sentinel Review Company, this to be the property of the school for one year. Then to each boy in the winning team was given a pure-bred Yorkshire pig; to each boy in the team winning second place, 100 Barred Rock eggs to be delivered next spring; and to the boys in the third-prize team, 50 "Rock" eggs. The boy who made the highest score received a pure-bred heifer calf, provided his father was a patron of the Toronto City Dairy Company, which Company was the donor of the prize. The Woodstock Fair Board donated liberal prizes in the championship classes of grain, roots, vegetables, potatoes, poultry, flowers, etc., besides giving all winners of first, second and third prizes at any of the local school fairs a complimentary ticket to the fair. School Section No. 2, Nissouri, won first place, with James Oliver, of Kintore, as coach. The competitors were Willie Oliver, Russell Fraser, and Gilbert Alderson. Blanford No. 7, coached by the school teacher, was second, with School Section No. 5 East Oxford, third. Thomas Pellow, of this school, secured the dairy calf. The coaches eligible for the trip to Chicago are James Oliver, Frank Cowan and Howard Hallock.

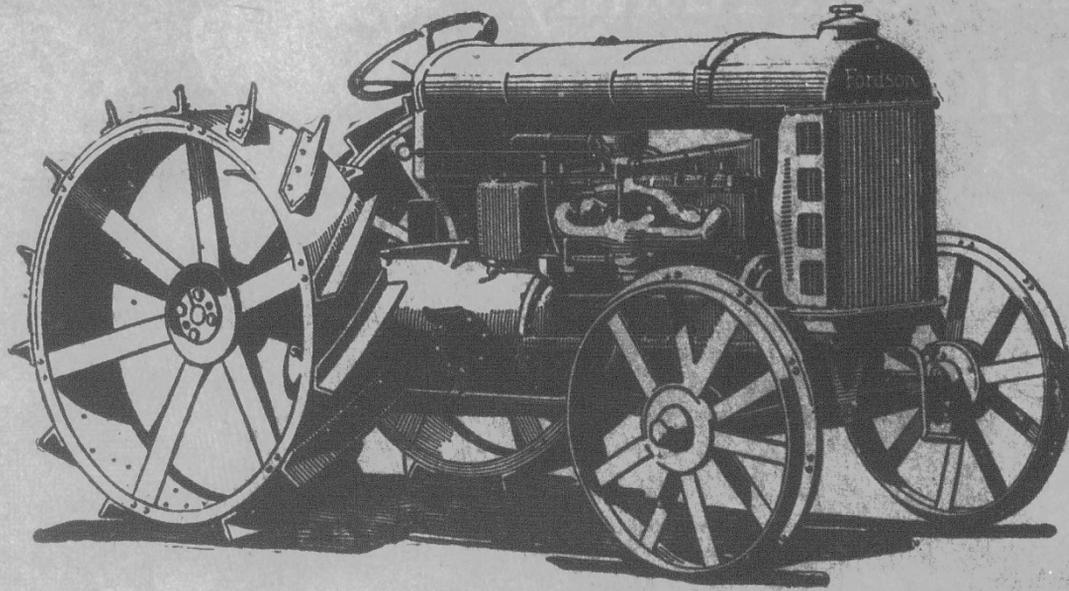
The result of this line of work is far reaching. Not only is it of educational value to the boys who are in the competition, but it is interesting to the older brothers and the fathers. These young agricultural enthusiasts, who, in their early teens are studying the art of judging live stock and farm products, are agricultural missionaries in their

respective school sections, and are the means of interesting their parents in better live stock and improved farming methods. The very fact that live stock breeders in the County will give of their time and energy to help the boys in their work is very encouraging. There are instances in Oxford County where the men have taken the judging team from their school section to visit neighboring herds and have a work-out in judging. Stockmen all through the County have willingly allowed the boys to work on their live stock, and have given them all the points they possibly could in picking out the best animals and giving reasons for doing so. This early training of the boys will, no doubt, develop future live stock breeders and judges. There is something in a competition which brings out the best in a person, and in this case not only were the competitors benefited but the older brothers and parents were, as well; they were at the fair and took a keen interest in the competition. There is room for such work in every country. Local competition between schools of the township are good, but when there is a county championship competition it creates further interest, as there is more at stake, and the local fair is thereby improved. Work of this kind which interests the boys and girls in agriculture is not wasted energy, but, on the contrary, is work which will have far-reaching results. One had to attend the championship school fair for Oxford County to appreciate the good work which is being done in this line.

The School and the Community.

THE school is the central institution of the community. It is representative of the homes, of the farms, and the numerous activities of the district. The teacher and pupils working together can, in addition to their regular duties, perform a service to the neighborhood that will make the little school an aid as well as a place of learning. Why should not the school be headquarters for scientific information in the community? The teacher should not be expected to know all the science or practice of farming, but the school library ought to contain the desired information, and the teacher ought to be the librarian. The young man or young woman in charge of a school is a teacher trained and educated for that purpose, and should not be burdened with the responsibility of guiding and directing the enterprises of the community. We make this statement because some rural folk are inclined to speak a little disparagingly of teachers when they appear not fully acquainted with the ways, customs and practices of the neighborhood to which they have recently come. This is a big world, and there is so much to be known that very few ever live long enough to learn more than one one-hundredth part—and there are thousands of subjects. If the new school mistress or master is a good teacher, that is an accomplishment worthy of the highest praise.

These remarks about the qualification of a teacher are subordinate, however, to the real theme of this article. The point we desire to make is this: The school ought to contain a good library of a rural character, and the teacher should become so fully acquainted with the books on the shelves that any point in question can be looked up in a few minutes. Books on farming and bulletins from both the Provincial and Dominion Departments of Agriculture should be gathered together there, systematically arranged, and, if necessary, indexed. The school then becomes the fountain of information in the rural community, not for the children alone but for the parents and adults as well. When a problem arises that is beyond the teacher or the library, the parties concerned might be directed to the Agricultural Representative, the Provincial Department of Agriculture, the Agricultural College, or Dominion officials, and the teacher ought to know where the best information can be obtained in the least possible time.



Power Farming

with the **Fordson**
TRADE MARK
TRACTOR

THE Fordson Tractor is taking care of every power job; it is taking the drudgery out of farm work and solving the labor problem. Power farming with the Fordson reduces the cost of preparing land to almost one half what it would be with horses, and saves a third to a half of the farmer's time. What machinery does for the factory, the Fordson Tractor is accomplishing on the farm—it is increasing production at lower costs and making farm life attractive.

Apply this power farming idea to your threshing. More and more farmers are making themselves independent of unfavorable conditions by using the Fordson tractor linked up with a light thresher. By seizing the right moment and being able to do the job without waiting and in quick time, crop losses are avoided and profits increased.

The Fordson operates with kerosene. When used on belt work, running at full power at 1,000 R. P. M., the fuel consumption does not exceed $2\frac{3}{4}$ gallons per hour. It will run the electric light plant, operate the milking

machines and straw baler—will take care of every kind of belt work.

The Fordson plows 6 to 8 acres in a 10 hour day, handling two plows with ease in the average soil. It requires an average of only $1\frac{1}{2}$ to 2 gallons of kerosene to the acre.

It is the ideal year-round tractor. It will pay for its fall and winter keep in many ways such as road work, hauling grain to the elevator, pumping water and moving granaries.

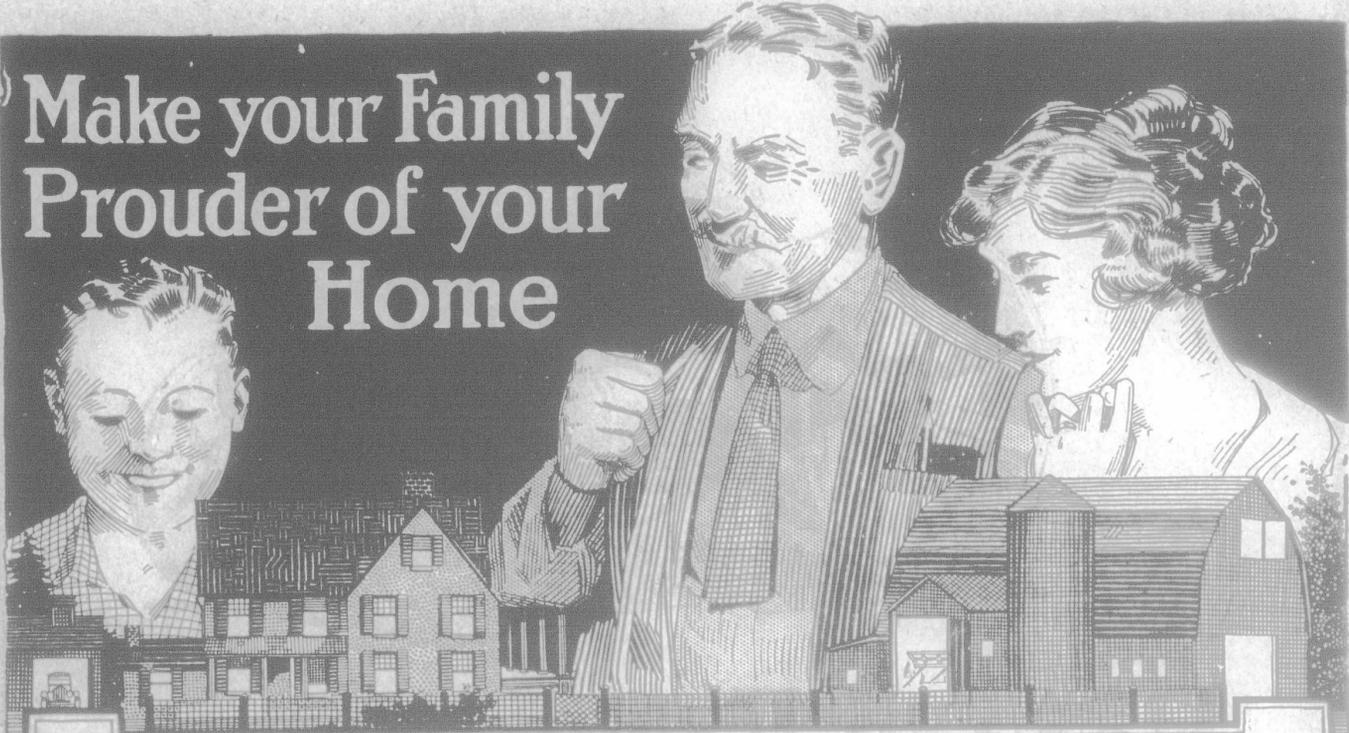
Your nearest Ford Dealer keeps a complete stock of repair parts, and Fordson mechanics are always ready to help you get best results.

Fordson dealers will welcome your inquiries and an opportunity to demonstrate Fordson superiority right on your own fields.

Ford Motor Company of Canada, Limited

Ford, Ontario

T2-20



Give Your Wife and Children the Same Comforts as Their City Friends

THOUSANDS of growing children throughout the rural sections are to-day enjoying better health. Hundreds of housewives are living a life free from hard work. Many a father is keeping his son on the farm and many a family is living a more happy and contented life because of the installation of a

**Northern Electric
POWER and LIGHT PLANT**

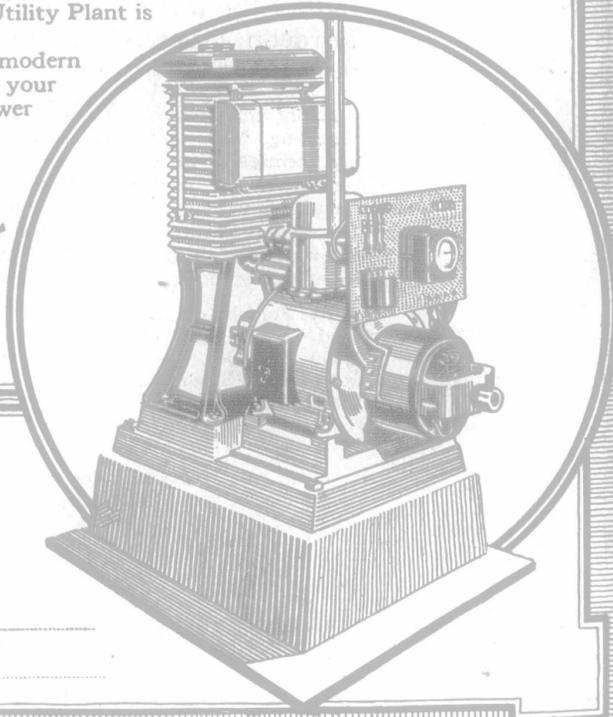
The Northern Electric Utility Plant not only benefits your household — it assures greater farm production. With electric light in your barns your livestock is better and more easily attended to. In their cleaner, brighter surroundings they are contented and thrive as never before. There is not a farmer or a farmer's family with a Northern Electric Power and Light Plant but who wonder how they formerly got along without it. The cost of a completely installed Northern Electric Utility Plant is trifling compared to what it gives and saves you. Let your wife and daughters enjoy all the labor saving of modern electrical devices. Protect your family's eyesight — give your household and the farm running water — equip a power dairy — do all this and more by electrifying your farm.

Learn how economically you can operate a Utility Plant. Get interesting facts from our nearest house

**Northern Electric Company
LIMITED**

"Makers of the Nation's Telephones"

MONTREAL TORONTO WINNIPEG CALGARY
HALIFAX LONDON REGINA VANCOUVER



L.F.A. 124 **Northern Electric Company**
LIMITED
(Address Nearest House)

Please send me free and without any obligation, copy of booklet entitled "Farmer's Power and Light Handbook."

Name.....
Address.....

Mail
the
Coupon