

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

PERSEVERE
SUCCEED
FOUNDED 1880

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LIV.

LONDON, ONTARIO, AUGUST 28, 1919.

No. 1405



Flying Sparks die out on Brantford Asphalt Roofing

The best way to economize

The best way to economize is to buy roofing with the quality put into it that will make it last longer than ordinary roofings. Asphalt is one of the most enduring materials known to science—especially if the hard, brittle asphalts are blended with the soft, pliable kind, which produces an asphalt of remarkable toughness, elasticity and durability. This is what we do to get the very best grade of asphalt for the saturation and coating of

Brantford Asphalt Roofing

The saturation of the felt in Brantford Roofing is done at the high point of more than 350 degrees. This makes the saturation complete, every fibre of the felt being soaked through and through with the asphalt.

Brantford Asphalt Roofing does not evaporate under the heat of the sun. Neither does it absorb moisture, freeze or crack. It is also a wonderful fire-resistant, the insurance companies classifying it as a non-combustible. Farmers need not hesitate to put it on barns or other buildings close by railroad tracks, because flying sparks from locomotives or threshing engines that fall on Brantford Asphalt Roofing are harmless and quickly die out without injuring the roofing.

If the interior of a building should catch fire, a Brantford Asphalt Roof acts as a blanket and helps smother the fire. It never sends embers flying through the air to spread a fire.

Brantford Asphalt Roofing has been on the market for many long years—long enough to have proven its lasting quality beyond question. The first roofs covered with it are still doing yeoman service in resisting rain, snow, hail, frost, heat and wind.

Farmers who have roofed one building with it, choose it for the next building requiring a lasting roof. Unlike most other things, Brantford Asphalt Roofing has had a very small advance in price since the start of the war. By enlarging our output and installing new labor saving machinery we have lowered the cost of production, which helps offset the increased cost of raw materials. You need, therefore, not postpone doing the necessary roofing this spring on account of a price consideration. The outstanding value of Brantford Asphalt Roofing, considering to-day's conditions, makes roofing with it a real economy.

Brantford Asphalt Roofing is made in three thicknesses. No. 1 is 60 lbs. per square. No. 2 is 70 lbs. No. 3 is 80 lbs. Both surfaces are sanded, which adds to the weight and durability of the roofing.

Brantford Rubber Roofing

has the same high quality asphalt saturation and coating as Brantford Asphalt Roofing, but it has a smooth rubbery surface instead of being sanded. It is also in three weights.

No. 1 is 40 lbs. No. 2 is 50 lbs. No. 3 is 60 lbs.

Leatheroid Roofing

Slightly lower quality than Brantford Rubber and used for same purposes. Has a leathery surface. Exceptionally good roofing at a low price—35 lb., 45 lb., and 55 lb. weights. Samples and prices mailed on request.

Standard Mohawk Roofing

This roofing is made of same materials as Brantford Asphalt but is lighter in weight. It is the best quality of any low price roofing on the market. It is a standard that has been tested for years and given entire satisfaction. Sanded on one side. One weight only—40 lbs.

Climax Sheathing Paper

A tough kraft paper coated with high-grade asphalt. For use between footing and foundation of a building, between foundation and wall, between foundation exterior and the earth, below basement cement floors, underneath floors in houses, on walls before lath and plaster are put on—unequalled for damp-proofing and wind-proofing purposes.

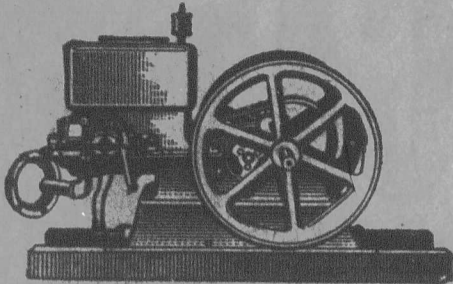
Brantford Roofing Co., Limited

Head Office and Factory: BRANTFORD, CANADA
Branches at Toronto, Montreal, Halifax

QUALITY—DURABILITY—EFFICIENCY

ARE COMBINED IN THE MAKING OF JOHN DEERE IMPLEMENTS

"WATERLOO BOY" KEROSENE ENGINES



The gold medal winner at numerous competitive international expositions. Over 25,000 manufactured and sold in a single year. Twenty-three years the recognized leader in reliable economical power. Built in sizes from 2 to 25 H.P.

The "Waterloo Boy" is built upon ORIGINAL kerosene principles.

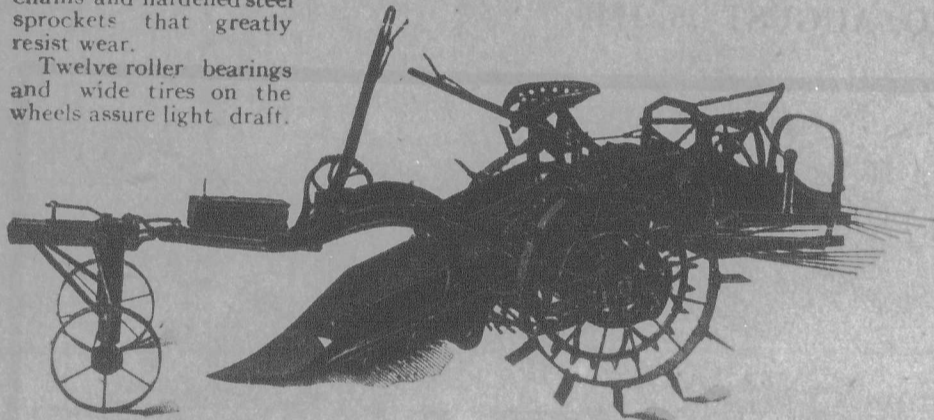
THE HOOVER POTATO DIGGER

THE HOOVER POTATO DIGGER digs up all the potatoe in the field and piles them in neat rows where they can be handled with minimum labor.

The shovel is of best quality high-carbon crucible steel and shaped so as to gather the potatoe with the least possible loss. No danger of cutting the potatoe to the extent that a plow or hoe does.

Solid steel frame, strong main sides of Bessemer steel, beams of best quality charcoal malleable castings, and steel chains and hardened steel sprockets that greatly resist wear.

Twelve roller bearings and wide tires on the wheels assure light draft.



Four Sizes:—No. 300, 304, 308, and 311
4 HP Cushman Engines can be supplied to all sizes of Hoover Diggers



JOHN DEERE
WELLAND, CANADA
THE TRADE MARK OF QUALITY
IMPROVED BY YEARS OF EXPERIENCE

THE JOHN DEERE LOW-DOWN "The Spreader with the Beater on the Axle" MANURE SPREADER

Below is an extract from a letter received from a customer in Eastern Ontario:

John Deere Mfg. Co. Ltd. Welland, Ont., May 13th, 1919
Gentlemen:—

I have made considerable enquiry re your machinery especially your Manure Spreader, and this morning was advised by my brother, who spent four years with the Co. as salesman, to buy a John Deere Spreader. I would like the large "C" size fitted with wide-spread and three-horse trees.

We have omitted the name of the above company, but do not hesitate in saying that it is one of the largest Manure Spreader manufacturers in Canada.

Each day's mail brings us recommendations from farmers who realize the superiority of John Deere Implements

CONSIDER THE EXCLUSIVE ADVANTAGES OF THE JOHN DEERE MANURE SPREADER

The PATENTED FEATURE of mounting the Beater on the Axle of the JOHN DEERE SPREADER has practically revolutionized the art of spreader building. It has made possible the Low-Down machine without sacrificing the LARGE DRIVE WHEELS, and has eliminated nearly 150 WORKING PARTS AND CASTINGS that are necessary on other makes of Spreaders on the market TO-DAY. This insures LIGHT DRAFT and practically NO TROUBLE.

The John Deere Low-Down Manure Spreader is GUARANTEED to give satisfaction TO THE MOST PARTICULAR FARMER.

See your nearest John Deere dealer, or write direct. Beautifully illustrated folders on request. Make it a point to see our exhibit while at Toronto.

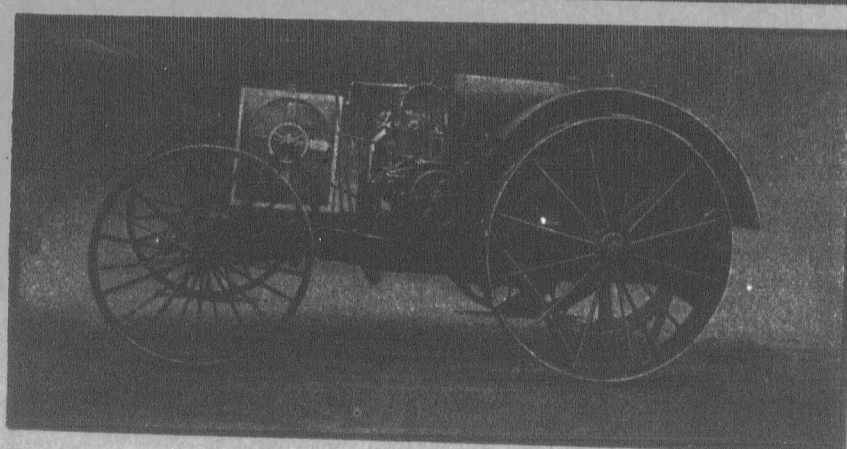
John Deere Mfg. Co. Ltd.

GET QUALITY AND SERVICE



JOHN DEERE DEALERS GIVE BOTH

Welland, Ontario



Use this Kerosene Tractor for all work

IT IS the all-year-round helper that takes the "arm" out of "farm."

Built to last and give thorough satisfaction at every point. Its light weight causes it to run on less fuel than others, and prevents it packing the soil; yet it has plenty of power for its work and is strongly constructed to meet the hard usage a tractor will get.



sets new standards among tractors for Economy, Simplicity and Durability. It will do all kinds of field work and all your heavy belt work besides. Forty years of experience makes it make good. Read how it works for you all year 'round:

SPRING	SUMMER	AUTUMN	WINTER
Plow, harrow, drill, pull manure spreader, cultivate, haul loads.	Pull binder, hay loader, drive clover huller, thresher, plows.	Run cutting box, corn sheller, hay baler, plow, haul grain, fill silos, etc.	Run saw, feed grinder, and do all other belt work you have.

Write for illustrated folder, "Doing the Impossible."

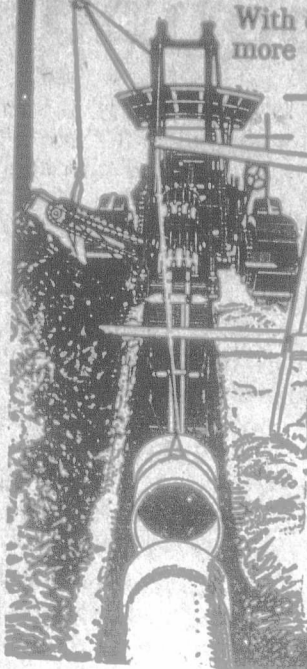
E. LEONARD & SONS LIMITED London Canada

Mason Made \$2500 Net In Five Months

Nice amount of money for five months' work, isn't it? You can do it as well as Mr. Mason and hundreds of others are doing. The demand for traction ditching is enormous. You can make big money with a

READ THIS LETTER
Work has been so plentiful that I have turned away more than I have done. The machine has given entire satisfaction and far exceeded my expectations. I find it very easy to average 130 rods working ten hours. The machine has been in operation for five months and during that time I have done work amounting to \$4000 which netted me \$2500.
VICTOR MASON
Mt. Pleasant, Iowa

"A Perfect Trench at One Cut" **BUCKEYE** Traction Ditcher



With one helper you can dig more ditches each day than can fifteen men by hand. You make a perfect ditch at one cut. Farmers want traction ditching—it's better, can be done quicker and at less cost. When they know you have one, you'll be kept busy; you won't have to look for work, it will come to you. Many Buckyeye owners have six to twelve months' work ahead. \$15 to \$20 daily is the net average earnings of hundreds of Buckyeye owners. Here is a proposition that will give you a standing and make you a big profit each year.

Send For Free Book

A book of solid facts, tells how others are coining money, how they get the work, how much it costs to do it and all the details of operating. Our service department is at your call to get you started and keep you going, to tell you the prices to charge and how to make big money with a BUCKEYE. Send now for the book, you can make big money too.

THE BUCKEYE TRACTION DITCHER CO.
201 Crystal Ave., Findlay, O.

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

DOWN-DOWN
the Axle"
DER

ed from a customer in
t., May 13th, 1919
Welland, Ont.

your machinery especially
by my brother, who spent
four years with the—
Co. as salesman, to buy
a John Deere Spreader.
I would like the large
"C" size fitted with
wide-spread and three-
horse trees.

We have omitted
the name of the
above company,
but do not hesitate
in saying that it is
one of the largest
Manure Spreader
manufacturers in
Canada.

Each day's mail brings
us recommendations
from farmers who realize
the superiority of
John Deere Implements

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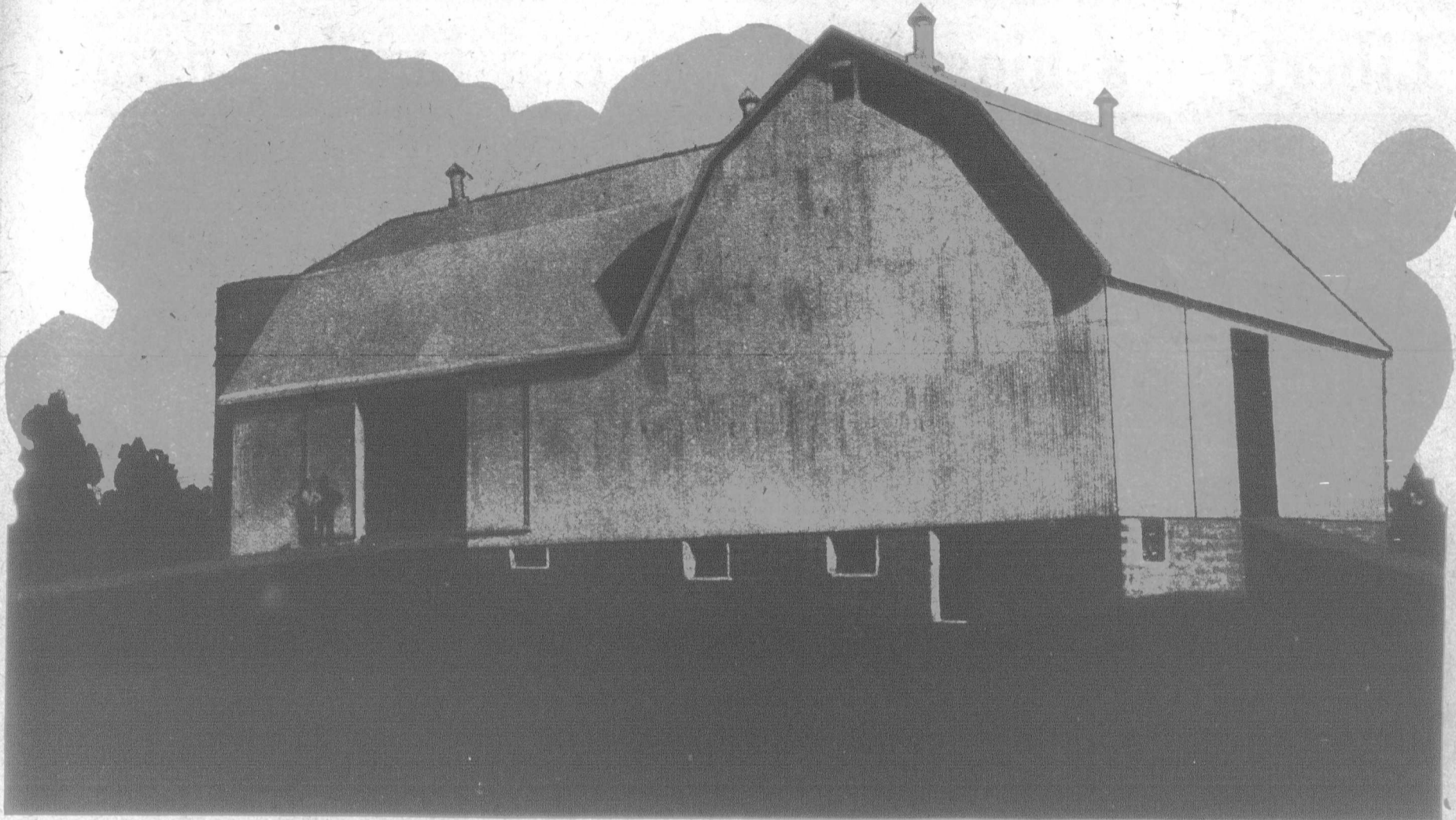
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DITCHER CO.
Findlay, O.



PRESTON STEEL TRUSS BARN

ALL TYPES OF BUILDINGS FOR ALL KINDS OF FARMS

By the Preston Method, it takes less than two weeks to erect a fine new Barn.

In strong contrast to the old-fashioned "barn-raising," with its thirty or forty men to be boarded, the Preston System places the material on your farm all ready to be put together. The fitting and riveting of the steel work is done at our factory. Erecting the barn is a simple matter of a few days, completed by a group of less than a dozen expert mechanics.

When a new barn is needed in a hurry, there is nothing like the Preston System—whereby the erection of a fine new barn is the matter of "days" instead of "weeks."

And when your Preston Barn is completed, you will have a Barn to be proud of.

Preston Steel Truss Barns—with the Preston system of lightning protection—are safe from the worst electric storm. They are, moreover, fire-proof—cannot be set fire from without, from any cause whatever.

Preston Steel Truss Barns are built to hold all the crops of any Canadian Farm of whatever size.

Write us, stating the size of your farm, and get the benefit of our experience in designing all types of buildings for all kinds of farms.

Let us show you how to lay out your entire farm—furnishing plans that indicate the most efficient layout of fields, lanes, fences, gates, windbreaks, orchard and shrubbery. This service is designed to aid you in handling crops and stock economically, and includes approved directions for "crop rotations" on the whole farm.

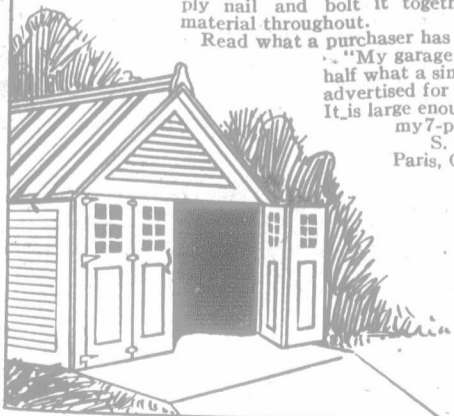
By utilizing our service, you not only obtain an ideal barn, but you also secure expert assistance in raising the produce that is to fill your barn, with lightened labor and increased profits.

Farmer's Garage

This garage comes to you, ready to erect; every piece cut and marked. No saw required—you simply nail and bolt it together. High-grade material throughout.

Read what a purchaser has to say:

"My garage cost me about half what a similar garage was advertised for by another firm. It is large enough so I can run my 7-passenger car in."
S. WAY KENT,
Paris, Ont.



Our Big Barn Book

gives detailed information about the Preston Service, and shows the complete Preston Line. With the book, we'll send you free our set of Standard Designs for "Rural Landscape Architecture." In writing state the size of your farm.

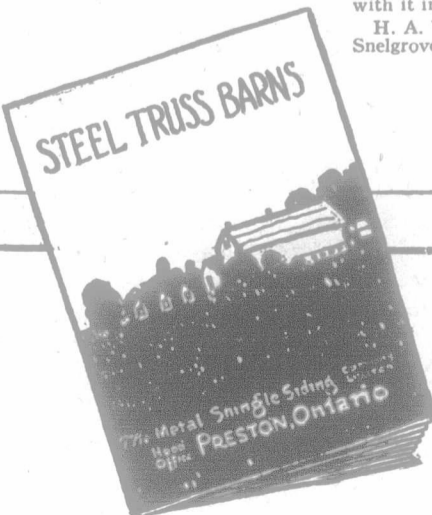
The Metal Shingle & Siding Co., Limited

PRESTON
120 Guelph St.
TORONTO
40 Abell St.
MONTREAL
86 De Lorimier Ave.

Implement House

This building is framed, marked and ready to erect. A ready-made building—fire-proof, strong and tight. Safe against any storm. Read what is said of it by one farmer who recently bought one:

"The Ready-made Storehouse which I bought from you last summer is all you claimed. I am perfectly satisfied with it in every way."
H. A. WATSON,
Snelgrove, Ont.



Please send me full particulars of your Stable Plans, Rural Landscape Architecture, and a copy of your Barn Book.

Name

Address

R.R. No

Liberty Washing Machines and Lundy Engines



LIBERTY Washing Machines are now made in Canada. This splendid line of "Belt Driven" and "Electric Power" machines will be on

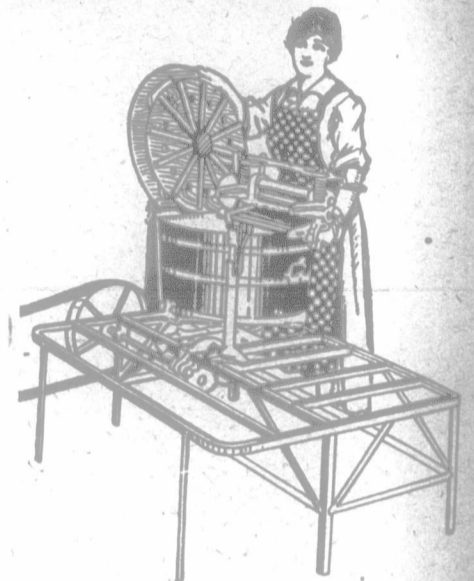


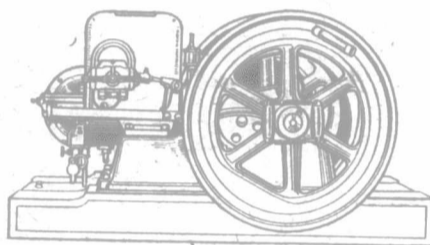
Exhibit at
Toronto Exhibition

Under the Grand Stand

BE SURE YOU SEE THE "LIBERTY"

Lundy Kerosene - Gasoline Engines will also be on display on the Grounds under tent.

These engines are now better than ever.



The Lundy Engine embodies:

**SIMPLICITY, DURABILITY
and RELIABILITY**

The sizes are 1 1/2, 3, 5, 7 and 10 h.-p.

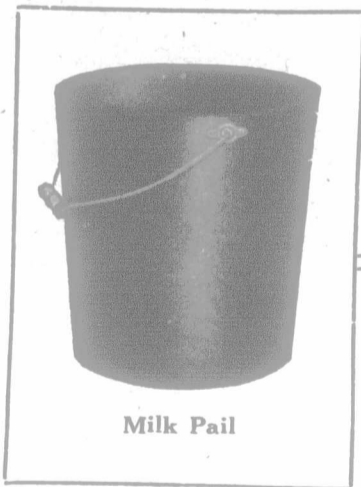
You will be able to see and examine "SHARP POINT" Steel Posts at either of our Exhibits.
Illustrated literature of any or all of these lines mailed on request, also prices on farm and lawn fence.

257 King Street West

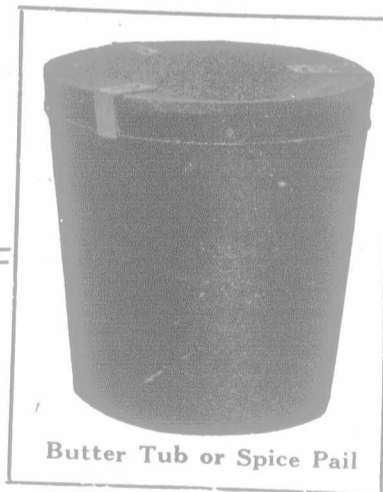
A. R. LUNDY

TORONTO

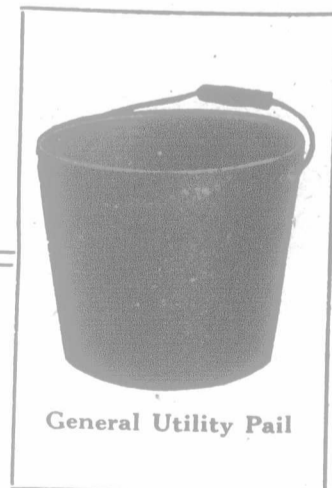
MILK PAILS BUTTER TUBS STABLE PAILS



Milk Pail



Butter Tub or Spice Pail



General Utility Pail

EDDY'S INDURATED FIBREWARE

Eddy's Milk Pails are labor-savers—moulded in one piece, they have no seams or corners and are very easy to clean. They keep clean and sweet. They will not break nor become battered.

Eddy's Butter Tub is the ideal container. Its hard glazed surface will neither absorb odors nor impart them, as wood is liable to do. Being unbreakable they will last for many years. The first cost is not high—and the saving effected is great.

For stable use and general use around the farm, Eddy's General Utility Pail is very popular. No metal to rust. No seams to open. Hard and durable. It will outlast any other. Yet it is very light and easy to handle.

EDDY'S INDURATED WARE is economical and long-wearing. Lighter than metal or wood and much more serviceable. No seams, no rusting, no hoops. It's moulded in one piece from pulp, then dipped in solution and baked a succession of times until it is as hard as granite and practically unbreakable—yet it is light and easy to handle. It will pay you to use these Eddy products. Ask your dealer. He has them.

The E. B. EDDY CO., LIMITED

HULL, CANADA

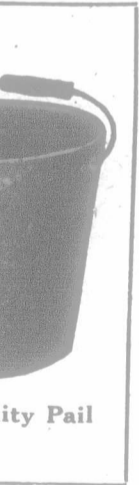
Engines



QUALITY
RELIABILITY
and 10 h.-p.

TORONTO

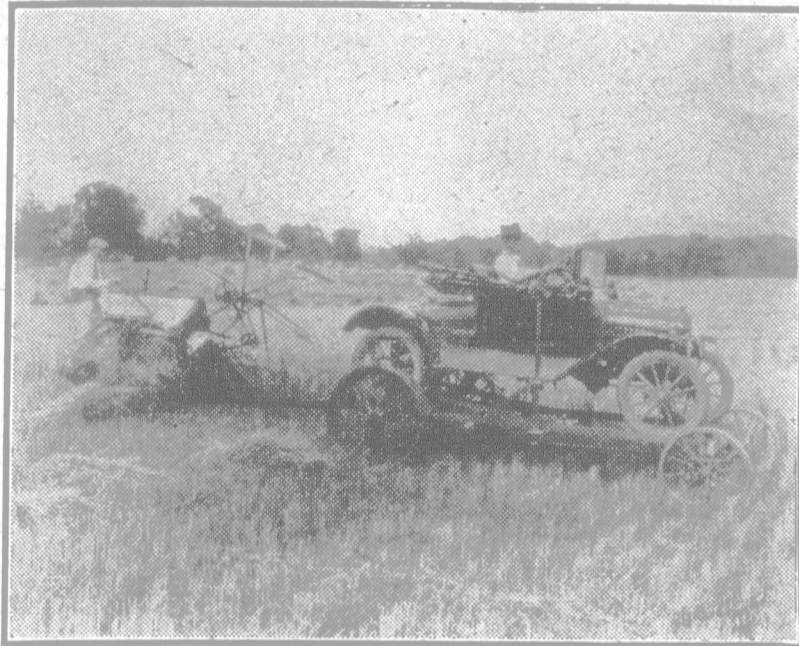
PAILS



ARE

use around
Utility Pail is
to rust. No
durable. It
yet it is very

NADA



S. A. T. with Ford Car Cutting Harvest Expenses



S. A. T. with Ford Car Answering the Hurry Call in Ploughing

See It At The Canadian National Exhibition

The most important mechanical device ever shown at the Canadian National Exhibition. Makes it possible for practically every farmer to own an automobile and a farm tractor.

No matter what kind of automobile you own, you can, without altering it, marring its appearance or injuring it in any way, use it with the S. A. T. to form a practical, efficient farm tractor. Used with a Ford car, S. A. T. will do the work of four horses on any farm. Used with a larger car, S. A. T.'s capacity for work increases correspondingly, and S. A. T. can be used with any car, from a Ford to a Packard.

S. A. T. is not a make-shift or an experiment. Its merits have been proved by years of tests and four years of actual work on many farms. It will plough, harvest, pull the cultivator or grain drill. It will, in fact, do any job that horses will do. It also saves time and adds to the farmer's convenience by grinding, sawing, running the cream separator and on all belt jobs.

S. A. T. is thoroughly dependable. It is simple in design and well constructed of the best materials. There is nothing to get out of order, and every part used in its construction can be replaced by any good hardware dealer. It is more easily operated than other farm tractors. It cuts forever the drudgery out of the hardest farm jobs.

Were S. A. T. to sell at three times its price, no farmer who owns an automobile could afford to be without it. It makes the automobile pay dividends when it would otherwise be idle. It enables farmers who cannot afford a motor for pleasure only to buy a car. In a word, it makes it possible for practically every farmer to own an automobile and a farm tractor. The price, f.o.b. Orillia, is \$448.

S. A. T.

Schofield Automotive Tractor

Price, f.o.b. Orillia, Ont. \$448

Made in Canada

WHAT IT IS:

S. A. T. is a device simply and durably constructed on which you can drive your motor car, whether Ford or Packard, and by making a few simple adjustments convert your car into a practical, efficient, easily-operated farm tractor. S. A. T. is so simply constructed and so well made that repairs are seldom necessary. Every part used in its construction can easily be replaced in any good Canadian town or city. There is no special threading; nothing that will entail long delays or big expense to renew or replace.

S. A. T. has been fully tested under every condition of service. It is now offered for the first time to Canadian farmers.

WHAT IT DOES:

S. A. T. will plough, harvest, harrow or cultivate. With a Ford car as motor, it will do all that four horses can do. It will do all sorts of belt jobs, such as grinding, running the cream separator and sawing the wood, that horses cannot do.

S. A. T. is ready to work at any hour of the day—every hour of the day if desired. It does not tire out; it does not get sick or die on your hands, as a horse may. It costs less than a good team to buy and very much less to maintain.

Do not miss the exhibit and demonstration at the Canadian National Exhibition. Ask for literature at our exhibit, or write to us at Orillia, Ontario.

Implement Dealers, Hardware Dealers, Automobile Dealers, Read This!

S. A. T. offers a 'golden opportunity for increased profits. It sells for a small part of the price usually asked for a farm tractor. It will require little, if any, special services from dealers, and our proposition to dealers is interesting and liberal. Remember, that in selling S. A. T. you are introducing a device that will benefit every purchaser and one that is absolutely guaranteed to be satisfactory and free from defects. Territory is going fast. If unable to see us at the Canadian National Exhibition, write to us at Orillia for our dealers' proposition.

Orillia Tractors Limited

ORILLIA

ONTARIO



All-Canadian Company with headquarters in Toronto
will manufacture

CHASE TRACTORS

Hereafter the well-known Chase Tractor will be produced only in Canada.

Not only the big Canadian market, but also Great Britain, the United States and foreign countries will be supplied from the Toronto plant.

This will give Canadian farmers a real tractor service.

For, the men who make the Chase Tractor are Canadians, successful manufacturers, who know Canadian farming conditions and who are interested in Canada's agricultural development.

See the Chase Tractor at Toronto Exhibition

You cannot help but see that the Chase Tractor is a sturdy, well-made, powerful machine. You will like the way it is put together and the way it performs.

The motor of the Chase is underslung, bringing the weight close to the ground.

This gives the Chase better traction and makes it thoroughly safe for side-hill work or travelling on rough land.

There is no differential gear in the Chase.

Both wheels get equal power from the engine. The result is equal pulling power under all conditions. When turning, either wheel may be thrown out of gear, and the Chase will turn in her tracks.

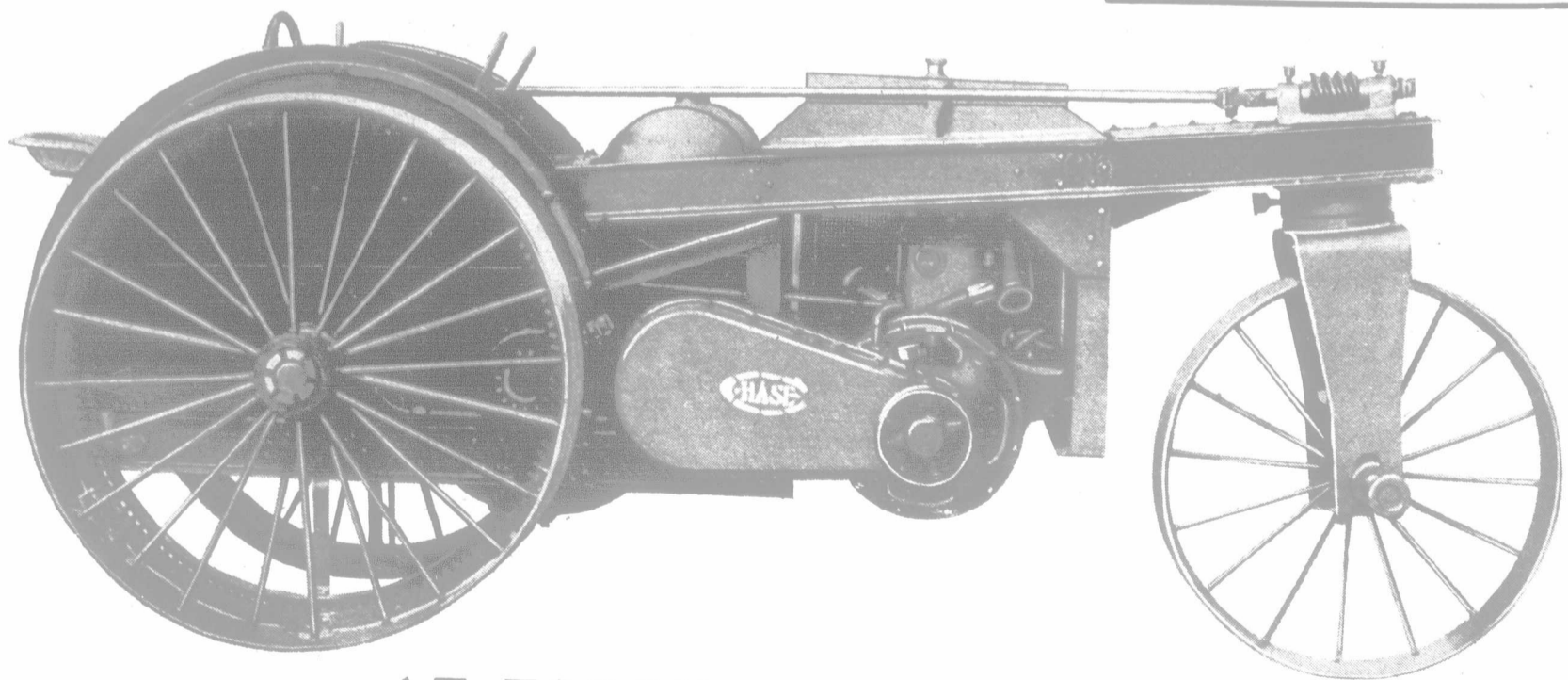
The motor is set across the frame, the belt power coming direct from the crank shaft. Driving power is delivered to the rear wheels without bevel gears. Note that the drive is on the rim of the wheels, where it should be to get the greatest power.

The Chase not only supplies power for plowing. It can be put on any land and will do good work. It will disc, harrow and seed. It will pull out stumps, drag boulders or haul a stone boat. You can put it on your saw, silo-filler, pump or anything up to a 36-inch separator.

See the Chase at the Exhibition, or, if you can't get in this year, write for full information and illustrated literature.

CHASE TRACTOR CORPORATION LIMITED

28 Atlantic Ave., Toronto



AT TORONTO EXHIBITION

Specifications:

Plowing Capacity.—Two 12-inch plows of any standard make, under all conditions, and three 10-inch plows in stubble or favorable soil conditions.

Transmission.—Chase, two speeds forward, one reverse; sliding gear, in oil-tight, dust-proof case. Gears operate in oil. Hyatt bearing throughout.

Speed, Miles Per Hour.—High, 2½; low, 1¾; reverse, 1. Speed may be changed by a single governor adjustment.

Belt Power.—All forms of farm belt work requiring up to and including 18 horse-power.

Motor.—Chase Budd long stroke, heavy duty type, 4 cylinder, 4 cycle, water-cooled.

Ignition.—High tension magneto, having set spark equipped with impulse coupling for starting. No batteries.

Wheels.—Front wheels or steering wheel spring mounted, 36 inches in diameter, 8-inch face. Equipped with front extension wheel, 34 inches in width. Rear driving wheels 48 inches in diameter, 12-inch face. Equipped with rear extension rims, 22-inch face each.

Kind of Fuel.—Gasoline, distillate and kerosene.

Number of Wheels.—Two driving in rear, one steering in front; with extensions applied to both front and rear wheels tractor becomes a roller covering the entire ground. 84 inches in width.

Dimensions.—Length, 11½ feet; width, 68 inches; height, 57 inches.

Weight.—4,700 pounds.

Motor Clutch.—Internal expanding shoe located in engine flywheel. Bierman type.

Brake.—Powerful contracting band applied to bull pinion shaft.

Cooling System.—Enclosed radiator equipped with fan shroud and powerful cooling fan. Water circulated by centrifugal water pump, having large shaft and bearings.

Carburetor.—Automatic float feed. All air going to the carburetor is cleaned and thoroughly heated by a special cleaning and heating device.

Lubrication.—Automatic splash system and force feed pump, giving positive lubrication for motor.

Draw Bar.—Adjustable.

Farmers Buy *Ford* Trucks Because

they save labor, save time, save money.

The Ford Truck is the most general-purpose implement on the farm.

The farmer can get his breakfast at home, take his produce to market, and be home again for dinner.

He can command the highest prices for his vegetables and fruit because he gets them to market while the dew is still on them.

He can take his hogs, sheep and other stock to market, as well as haul roots, potatoes and apples from the field.

The Ford Truck brings the city to the farmer's door.

It solves the problem of the shortage of labor.

A saving in horses, a saving in men.

Ford One-Ton Truck (Chassis only)

\$750, f. o. b. Ford, Ontario

Buy only Genuine Ford Parts

700 Canadian dealers and over 2,000 Service Garages supply them.

129



Ford Motor Company of Canada, Limited

Ford, Ontario

No Camouflage in This Price



We have reduced the Titan 10-20 price \$225. You can now get the world's standard 10-20 tractor at prices as listed here.

Titan 10-20

\$1,100

Cash, F. O. B. Winnipeg

Beginning July 8th, 1919, the 1920 price of the Titan 10-20 kerosene tractor is

\$1,100

CASH F. O. B.
Winnipeg and Brandon

\$1,135

CASH F. O. B.
Saskatoon and N. Battleford

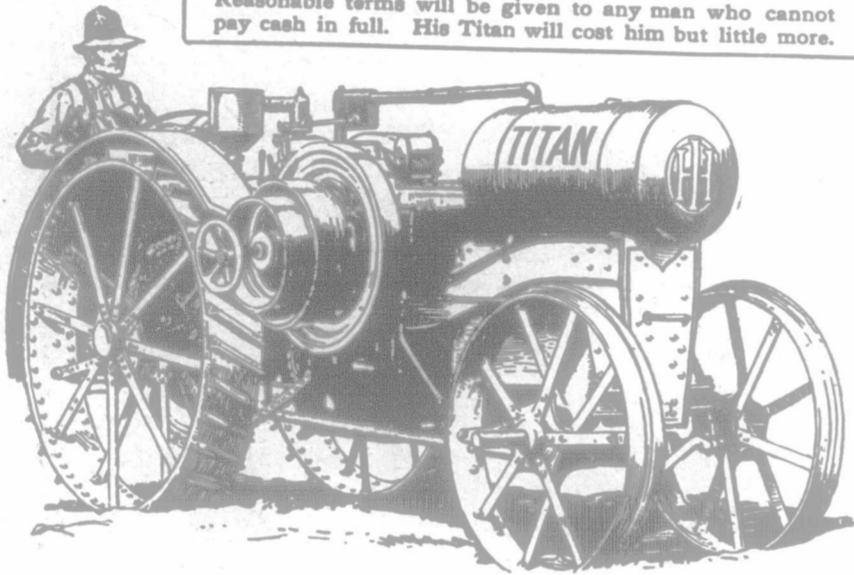
\$1,120

CASH F. O. B.
Estevan, Regina and Yorkton

\$1,150

CASH F. O. B.
Calgary, Edmonton and
Lethbridge

Corresponding Reductions Apply at Eastern Canadian Branches
Reasonable terms will be given to any man who cannot pay cash in full. His Titan will cost him but little more.



THERE is no "joker" in this price. We are not telling you one story in this advertisement and then leaving it for our agents to break the sad news that the advertised price won't buy a tractor unless you pay extra for a lot of necessary features. The Titan agent won't charge you extra for "starting and service" before he can deliver the tractor. He won't show you a machine stripped of any of these essential parts—belt pulley, fenders, governor, drawbar, tools—and then tell you that you can have these things by paying extra for them. The Titan at this advertised price is a complete 10-20 kerosene tractor, ready to give you best threshing and drawbar power.

Then there is another thing. We are not experimenting at your expense when we sell you a Titan 10-20. There is real farm machine and tractor manufacturing experience back of it. We have been in the farm machine business for 88 years and have been supplying tractors for 14 years. Not another company in the world knows the farmer's power and machine requirements as the Harvester organization does.

Would you entrust your bank account to a man who had never had any experience in handling money? Will you risk your farm profits in a tractor built by designers whose knowledge of farming is limited to books and a drawing board? It will pay you to think about these things when you buy your tractor.

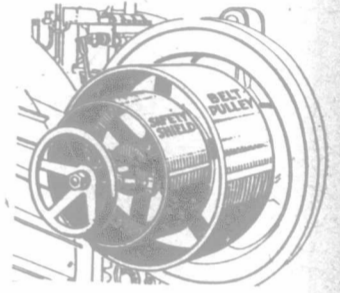
INTERNATIONAL HARVESTER COMPANY OF CANADA LTD.

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.

When you buy a Titan for threshing power and drawbar work, the original price includes:

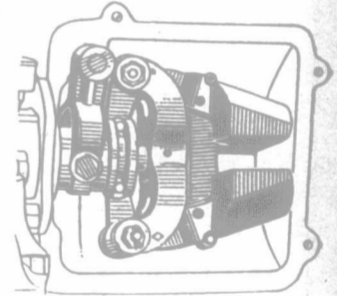
Friction Clutch Pulley

A large, wide friction clutch pulley, made in five sizes, equipped with safety shield, is mounted directly on the crank-shaft of the low-speed, steady Titan engine and delivers the full power to the driven machine. It has an 8½-inch face and 20-inch diameter. Titan owners will tell you here is remarkably steady threshing power. The Titan 10-20 can be quickly backed into the belt because of the location of the pulley and the belt clears the front wheels and other parts of the tractor by a generous margin. It is not necessary to dig holes for the front wheels to get belt clearance. The Titan pulley was not put on as an after thought. The designers did not overlook it in the first place. Some tractor builders committed this very serious error, due to lack of farm knowledge and experience. To remedy this error, they designed a small make-shift pulley, in one size only, attached in an awkward place and charge you \$35 to \$40 for it. The Titan 10-20 friction clutch pulley is furnished without extra charge.

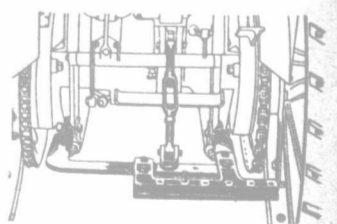


Throttle Governor

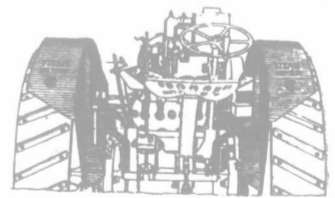
Some tractors are sold without governors because, perhaps, the designers did not know that one was needed. Which is the best economy—to pay an operator a salary just to sit on the tractor and adjust the fuel to the load variations when engaged in belt work or let a throttle governor do it without extra cost?—do it automatically, perfectly. The Titan throttle governor saves fuel, prevents grain losses by delivering uniform power to your thresher and lengthens the life of both tractor and driven machines. You get this governor without extra charge.



Drawbar Some tractor builders put a hook and eye affair on the tail end of their tractors—and call it a drawbar! They seem to have overlooked the fact that a farm tractor not only pulls plows, but also mowers, hay loaders, grain binders, etc., each requiring different hitch adjustment. Perhaps they didn't know about these other machines. Look at the Titan drawbar. Note the provisions for a wide range of adjustment both up and down and sidewise. The Titan drawbar fits every need and it is furnished without extra cost.



Fenders The designers of some tractors evidently did not know that the drive wheels throw dirt, dust or mud over the operator and machine unless fenders prevent it. The Titan 10-20 has such fenders. They are also a "safety first" feature. In some farming sections laws have been passed prohibiting the sale of fenderless tractors. Titan fenders are furnished without the \$40 to \$50 extra charge made by the "low price" manufacturers.



Tools A complete set of sixteen tools is furnished with every Titan 10-20. This handy tool-kit is provided in spite of the fact that Titan 10-20 tractors get out of order less frequently than the general run of tractors. Some tractor concerns whose tractors really need frequent adjustment and repairs, so good that it doesn't need adjustment. They tell you that their product is so good that it doesn't need adjustment. Do you believe this? As a matter of fact, they omit necessary tools for the same reason they omit the essential features described above—to make a low "camouflage price"! The Titan 10-20 complete tool kit is furnished without extra charge.

Starting and Instruction Service

Another "joker" of some tractor concerns is to charge you a large "starting and service" fee—extra. This is another way of getting a low price for advertising purposes. But you can't get the tractor without paying this charge. They make it compulsory. The International agent gives you this service without asking you to pay extra for it when you buy a Titan 10-20. Free tractor schools, inaugurated by us, also benefit Titan purchasers in all parts of the country.

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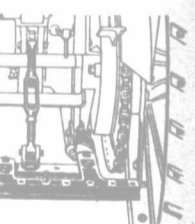
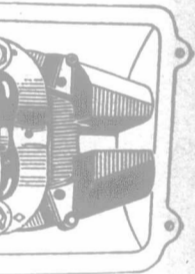
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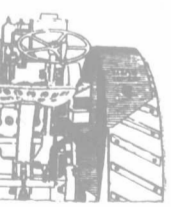
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The Farmer's Advocate and Home Magazine

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REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875

LIV.

LONDON, ONTARIO, AUGUST 28, 1919.

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EDITORIAL.

See the fair.

Being practical does not prevent one being progressive.

Watch the judging at the fair where there is something to be learned. The midway is a sham and out of date in this age and generation.

The size and broadness of a man can always be determined by the view he takes of matters that affect him personally and in a financial way.

Farmers are entitled to know exactly what enters into the composition of the feed they purchase, and they should make an effort to get a list of the ingredients making up the mixture.

The future ahead of the pure-bred live-stock breeders of Canada is excellent if they steer the proper course. Two objects must be in view, quality and health. The one is as important as the other.

Well-drained fields this year paid off a large part of the investment put into them. They were sown early and produced a fair crop, while late-sown fields were almost a failure. Good drainage pays.

The most successful breeders and feeders of swine are imbued with the importance of pasture and the necessity of allowing hogs to get in contact with the soil. Self-feeders, too, are featured on many modern hog farms.

A day spent off of the farm in promoting a school fair or other educational events for the young may, in a very slight measure, affect the farm crops, but the good influence it will have on the boys and girls will more than compensate for any loss.

In some parts of Western Ontario the Hessian fly is getting dangerously numerous. Late seeding will be practiced there, and when this is done an extra effort should be made to give the seed a good start this fall. Plenty of manure and readily-available fertilizer ought to be applied.

It is going to be very difficult for an animal without a clean bill of health and, in particular, free from tuberculosis to get into the United States in the near future. What are we going to do about our herds here in Canada? Are we going to let matters get gradually worse or are we going to clean up?

In spite of transportation difficulties and fairly high prices on this continent, Europe is taking almost weekly large numbers of work horses, breeding heifers and some cattle for slaughter. A redistribution of the world's live-stock population is taking place, but it will be some years before we are back to normal again.

The House of Representatives in the United States carried the repeal to the daylight saving law over the President's veto and obtained eight more votes than the necessary two-thirds majority. Opposition to daylight saving was shared in by both parties, for the vote showed 116 Republicans and 107 Democrats willing to override the President's veto. If the Senate does likewise there will be no more daylight saving in the United States, which will bury the last argument left for it in Canada.

Breed Tolerance.

Breed controversies will never seriously hurt any good breed of live stock. An enthusiastic admirer of one breed may have little use for another, but his partizanship, if conceived in loyalty and not in blind prejudice, will help to enlarge the popularity of his favorite breed of cattle without hurting the other recognized breeds. Clean competition always redounds to the credit of a good article.

The voluble and dogmatic breeder who condemns, holus bolus, all other breeds which challenge the supremacy of the one he has chosen to support, is really an obstacle in the road of progress over which his fellow-breeders are swiftly travelling. He recognizes no other breed except the one he handles, and when discussing the others that exist he lets flow a silly torrent of abuse. His profuse phraseology amuses his listeners, and he is thereby encouraged to widen his vocabulary, while narrowing his viewpoint. In time he becomes a positive nuisance. It is well worth noting that a breeder of this type seldom produces good representatives of the breed he supports. In fact, earnest constructive breeders seldom stoop to throw mud at the products of other breeders.

A Prelude to the Fairs.

A series of exhibitions and fall fairs are starting in Eastern Canada, which before they conclude in October will afford practically everyone an opportunity of seeing the best produced this year in the way of farm products and live stock. Interested farmers will be discussing what they saw at this fair or at that, and, while in the minds of not a few a vision of the track and "tests of speed" will be recalled, yet the lasting features will be those exhibits of live stock, farm products, or any handiwork of man or nature that means better agriculture. The Exhibition Number of "The Farmer's Advocate" appears each year as a prelude to this series of fairs, and endeavors to prepare its readers for them, or to create an exhibition spirit, as it were. Withal, however, the downright practical is not lost sight of, for we are living in a world of stern realities and the most of us have to keep our feet on the ground. Nevertheless, one can be practical and at the same time progressive. He who is not progressive in these times is not practical. All should have an ideal to guide them and, while they may never attain to their own high standard in live stock or crop production, their ambitions ought not to be diminished. "Where there is no vision the people perish."

Some of the illustrations of animals in this issue are reproductions of winners at the best live-stock shows in the world, and farmers generally would never be expected to duplicate them. They are ideals, or the accepted standard in type, conformation, character, etc., of the breeds they represent. With these in mind, one has something to guide him even in the management of and breeding operations connected with a grade herd. The vast stores of beef, mutton, lamb, bacon, or animal products of all kinds, now required to feed the world are produced from grade stock, and such will probably be the case for a long time to come. A pedigree does not add two cents to the value of an animal for the block, but it may increase the value of a sire to get such stuff by hundreds of dollars. Good, well-bred stock, whether pure-bred or grade, is a paying proposition; he is extravagant who puts good feed into poor live stock. Our live-stock industry will never be established on a firm basis until we are able to say that no scrub sires are being used, and until we treat the scrub pure-bred just the same as we do a grade. That is what we mean by being progressive. "Near bulls" and "counterfeits" are worse than a heavy mortgage on the farm.

After all, our live-stock industry depends to a large

extent on the number and quality of our pure-bred herds and flocks. There is plenty of room for development in both regards, and progressive young breeders who are good stockmen, who will capitalize the experience of others and who will steer a straight course, have nothing to fear when laying the foundation for a pure-bred herd.

As it is with live stock, so it is with all farm products. Breeding and good seed tell. An exhibition which brings together the best produced this year, even though the season has not been a fat one, will serve a useful purpose by reviving our good intentions and kindling a fresh confidence in the minds of all. It is to be hoped that this will be the most successful fair season we have ever had, and that it will be the prelude to a more prosperous and progressive era in Canadian agriculture.

What the Hide Embargo is Doing.

At the beginning of this month an embargo was placed on hides and skins for the alleged purpose of preventing their exportation and reducing the price of finished leather goods to the buying public. Buyers of hides and skins at once took advantage of the situation, quite naturally, with the inevitable results—reduced prices to producers. Now, in all fairness, we will expect a reduction in the price of shoes, harness and leather goods of all kinds that farmers are obliged to purchase. If an embargo injuriously affects one part of the community without bringing relief to anyone, the enactment is a mistake and an injustice. After all is said and done our importations are of such character and magnitude that it is very doubtful if the quantity of hides retained in Canada as a result of the embargo will bring about the desired results.

Hides are going out of the country on the backs of cattle in increasing numbers since the embargo went into effect. Drivers claim that buyers on the Buffalo market are wise to the situation, and pay more for the cattle to the extent of twenty cents per hundred for the sake of the hides. Throughout August there have been a hundred carloads of stock weekly on the Buffalo market and from the West vast numbers have been going to Chicago and St. Paul. Last year 189,000 Canadian cattle went to the United States markets on the hoof, and it would not be surprising if 250,000 found their way across the line this year. The shortage of feed, no doubt, has something to do with this heavy liquidation of cattle stocks, but local drivers claim that a little better price for Canadian cattle on the Buffalo market, due to the hide situation, combined with the gain in the currency exchange, which now covers all expenses, is taking them to Buffalo rather than Toronto. In any case, hides are going out of the country on the backs of cattle in sufficient numbers to render the embargo abortive in so far as it may be of any use by piling up supply in Canada. It has reduced the price of hides all right, but we fear that that is as far as it will go.

More disturbing and serious still is the fact that United States farmers are becoming alarmed at the increasing number of Canadian offerings on their markets, and they are showing considerable hostility to the powers that be for permitting commercial stock to enter free of duty. They would like to see the bars put up. It would be unfortunate, indeed, if we should lose this market that annually absorbs so many of our cattle, and provides an alternative outlet. It would be sadder still if the embargo on hides forced more cattle on to those markets than would ordinarily go and stirred up greater antagonism in United States to the free importation of animals for slaughter or further feeding.

As a general thing, it is best to let trade flow along natural channels, and events in connection with the recent embargo are piling up evidence in support of this doctrine.

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.—25 cents per line, agate, flat. Live-stock advertising rates given on application.
4. THE FARMER'S ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payment of arrears must be made as required by law.
5. THE LAW IS, that all subscribers to newspapers are held responsible until all arrears are paid, and their paper ordered to be discontinued.
6. REMITTANCES should be made direct to us, either by Money Order, 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.

Nature's Diary.

A. B. FLU-H, M.A.

Musicians of the Day and Night.

During the summer and early fall most of the music of nature is made by the insects. The birds, most of which are molting, are nearly silent, while the spring-time chorus of the frogs has long since died away, and the only amphibian voices we hear are an occasional "mor-rum" from the Bullfrog and the squeaking note of the little Tree-frog in the woods.

But the insects take up the concert where the others have dropped it, and day and night, in field, wood, and marsh, the blended notes of many species are to be heard.

Of the insect musicians the great majority belong to the Orthoptera, the order embracing the grasshoppers, locusts, katydids, and crickets. All these insects make their characteristic sounds by stridulation, that is, by the rubbing together of two roughened surfaces. The very abundant Red-legged Locust makes its rasping note by rubbing a file on the femur of the hind leg over a roughened vein on the wing-cover. The male of the Common Meadow Grasshopper has a note which may be written "Zip zip-zip-zip-zee-e-e-e-e-e-e." This species is very common in long grass in moist places. The female lays her eggs in the stems of various pithy plants, first gnawing a gash and then inserting the ovipositor. The Cone-head, which is green like the Meadow Grasshopper, but has a pointed cone-shaped head, while the female has a very long sword-shaped ovipositor, sings a continuous high-pitched "Zee-zip," and utters this note by day as well as night.

One of the conspicuous insects songs of the night is that of the Northern Katydid. The note of the male of this species is a "shh-shh," frequently repeated. This sound is made by slightly raising the fore-wings, and rubbing a short, curved, thickened vein, which is toothed like a rasp, on the underside of the left wing, over a thickened, sharp-edged vein on the upper side of the right wing. A very characteristic night song is that of the Snowy Tree Cricket. This species is one of the most persistent of insect musicians, beginning its song of "Re-leet-re-leet-re-leet-re-leet" late in the afternoon and keeping it up, without a moment's pause, until just before dawn. When a number are stridulating together they synchronize their notes perfectly, so that what sounds like the note of one individual is really the product of a good number. There is a distinct relation between the temperature and the number of notes per minute, and if we let T stand for the temperature in degrees Fahrenheit, and N for the number of

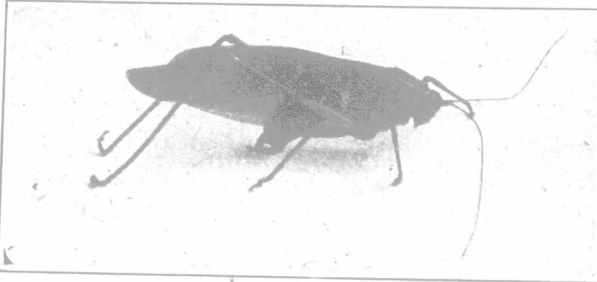
notes per minute, then $T = 30 + \frac{N}{4}$. Thus the higher the temperature the faster the notes, and if the Snowy

Tree Crickets are singing at the rate of 100 notes per minute the temperature is about 65 degrees F.

A close ally of the above species is the Bush Cricket, which makes a very high-pitched, continuous trill. Both these insects are about $\frac{3}{4}$ inches in length and are very pale green in color, and somewhat triangular in outline when viewed from above.

Two species of black Crickets, the Large Field Cricket and the Small Field Cricket, add their sharp notes to the insect concert, and produce these notes by raising the wing-covers at an angle of 45 degrees over the back and rubbing a file on one cover over a scraper on the other.

Perhaps the most intense of all sounds to be heard in our fields and woods, is that of the Cicada. Its note is a high-pitched "Zing-g-g-g-g-g" which is familiar to everyone but is commonly attributed to various animals, such as birds and snakes. This sound is pro-



The Northern Katydid.

duced by the stretching and relaxing of a pair of parchment-like membranes by means of muscles attached to their centres, and the rhythmic increase and decrease in intensity is due to the partial opening or closing of the sound-chambers. This species, which belongs to the Hemiptera or Bug Family, passes two years in the ground as a nymph. When the nymph is mature it crawls out of the ground and on to the trunk of a tree, where it sheds its skin and emerges as an adult. These nymph skins may frequently be found clinging to the trunks of trees. This species is a near relative of the famous Periodical Cicada of the United States.

The Excitement in Farming.

BY SANDY FRASER.

In the course of the past year I think I have read more than I ever did in all my life before on the subject of the young people of the country and their present tendency to leave the auld farm and strike out for the bright lights of the city. One writer puts the cause down as one thing and the next one as something else. Most of them make the recommendation that the father should give his young son a calf or a colt or a couple of wee pigs that he might raise as his ain, setting a kind of trap for him, as ye might say, and making the bait attractive enough to accomplish its purpose. According to all accounts, however, this plan hasn't worked out very well. It comes to be a pull between a calf on the one hand and the town on the other. And mainly the town wins out. When the cost of livin' gets that high that the prodigal has to tak' to eatin' husks he will, na doot, come back to the calf, but it will have to be pretty well fattened, a'richt.

The thing that comes in for most blame in this matter of the country movin' intae the city is what the writers call the "monotony of rural life." They practically all seem to have the idea that if there was something exciting going on out on the farm not only would it hold its present population, but it might bring about a regular "back-to-the-land" stampede. The country's a fine place for a couple of weeks or a month in the year, when we're needin' to get rested up a bit after a season of the "movies" and the general dissipation that goes on in high society, but for an all-the-year-round place to stay in, it's too much like livin' next door to a graveyard. Yer neighbors may be peaceable enough an' all that, but things are "too dead."

And so they gae on to hand out prescriptions that they guarantee to pit mair life intae us and our "environment," if we'll juist tak' them accordin' tae the conditions.

But before ye can get a mon to be takin' yer medicine ye generally have to convince him that he is sick. And it's right at this point that I find mysel' in disagreement wi' these chaps that are talkin' sae muckle about the "monotony" o' oor life on the farm. To my mind it's anything but monotonous. For one thing, I've seen me change my job a dozen times in the day, havin' to govern mysel' according tae the weather. Leave the auld wumman alone for huntin' up somethin' for ye to do about the hoose when it's rainin'. If ye happen to be a married man I'll warrant that ye'll no' find the time hang heavy on yer hands, that is provided ye're willin' an' anxious to work. An' gin ye're not ye are liable to be in for the excitement a' the same.

But, apart frae that side o' the case a' thegither I could never see that there wis muckle chance for a man to go to sleep over his wark on the farm; not till after dark anyway. Ye can believe me or no', but I've kenned mair than one farmer that had to gae off the job till he recovered frae a sickness that the doctors called nervous prostration, or some such name as that, and which comes, they say, from gettin' mair excitement than is guid for ye. And I wis no' surprised to hear about these chaps, either. I have had some experiences mysel' that I have na doot wad have given me that "prostration" sickness as we'd, gin I'd had a few

weeks to spare to be laid up wi' it. Juist as an example I might tell ye about what happened me no longer ago than last haying time. There wis mair than me in the scrape, but the point is that I proved tae mysel' and especially to the others concerned, that there is mair or less excitement about even sae common a thing as putting hay intae the barn.

Besides the hired man I had a chap frae the city wi' me this year. He wanted to "harden his muscles," as he said, and thought that a few weeks o' pitchin' hay wad be about the best way to accomplish his purpose. And I canna say that I tried to discourage him ony in the idea. Every little helps when ye are in a hurry, ye ken.

One day Jim, my hired man, took a notion to hitch up one o' the young horses that had been in the pasture all along, and along he came to the field wi' him in the wagon before I kenned anything about it. "He'll never be younger to learn," says Jim when I told him that the colt wis hardly old enough to hae the sense for a job like drawin' in hay. For ye ken I wis makin' the loads and daein' the drivin' o' the team as weel. It's a ticklish business when yer horses are young an' lively. Especially for an auld fellow that isn't as active as he was forty years back.

Well, I managed not too badly till I had the load juist about on. Then, as luck wad have it, this city chap that I tauld ye about (whose name wis Morrison, by the way) cam' along wi' a b'g forkful o' hay that he made an attempt to pitch up to me. But the wind wis over strong for him and it carried the hay along to the front o' the wagon and doon it came on top o' the young horse. I kenned what wad happen and I made the best time I could, tryin' to get to the lines that were fastened around the front part o' the hay-rack. But the hay wis all piled over them and, dae my best, I couldna get them. By this time my horses were going some, I can tell ye. There wis juist one thing for me to do an' I did it. Grabbin' hold o' as big a bunch o' hay as I could get in the time at my disposal, I let mysel' roll off the side o' the load, pittin' up a wee prayer that I might come doon wi' the hay underneath.

I landed safe enough, and when I got the dust out o' my eyes I saw the horses runnin' in a kind o' circle across the field. I took after them at a pretty guid rate for a man o' my age, I'm thinkin', and as the load had stayed on, I made oot to get ahead o' them an' bring them to a stop.

By this time Jim had come up, but Morrison wis standin' where I had seen him last, leanin' on his fork-handle and takin' it all in. When I drove back to where he wis, to get the balance o' my load, he says to me, "Weel, Mr. Fraser, ye cam' doon off the load in quite a hurry. I suppose, like the auld chap that wis going to build a load as fast as his two boys could pitch it on to him, ye cam' doon after more hay?"

I said naething, as I didn't feel in the humor for joking, and we started for the barn. When we got there Jim says, "We'll put that young horse on the fork an' make him tak' off the load. He can't run far wi' that." Sae we took him off the wagon an' hitched him to the rope. "Do ye want me to drive him?" says Morrison. "All right," I replied, "but dinna let him see that white shirt o' yours. He's not used to the likes o' that around here."

When everything wis ready Morrison gave the horse a slap wi' the lines an' told him to go to it. And he went. One look back an' he wis off like a shot. "Rin, Morrison," I yelled. "Get cot o' the way o' the rope." Morrison ran but he wisna quick enough for the horse. The rope gathered him in, along wi' all my milk cans an' pails that were on a stand near by, an' slammed the whole bunch up against the side o' the barn. It made a clean sweep, even to the iron pump that wis in the well. When the horse had got the full length o' the rope he had circled around the end o' the barn, which wis how he came to tak' in everything in sight.

I jumped doon off the load as quick as I could an' ran to see if there wis anything left o' Morrison to gather up. When I got to him he had managed to get cot from between the rope an' the barn, but the looks o' his face wis enough to hae scared ye. "Losh man, are ye killed?" says I. "No, I can't say that I am," he replied, "I seem to have scratched my nose on the barn though. It's bleedin' some."

"You sure seem to have been up against it," says I, referring to his general appearance as weel as the barn. "Ye'd better gae into the hoose an' lie doon for a bit." "Oh, I'm all right," he replied; but he went east to the hoose juist the same.

When Jim an' I came intae dinner, after gettin' everything as weel straightened up as we could, Morrison says to me: "I want to tell ye one thing, Mr. Fraser, an' that is that I've changed my mind on some points. I came to spend my holidays out on the farm this year because the doctor said I needed to get away from the rush an' excitement o' the city. 'You'll find the country very quiet and restful at this time o' the year,' says he. But, believe me, Mr. Fraser, the city is the place where ye can live the simple life, after all. I'm going back. Country life is too fast for me."

And back he went the next day after invitin' me to spend a few weeks wi' him in town, ony time I needed some "relaxation," as he expressed it.

I guess ye might hae some trouble tryin' to convince him that ony o' oor young people ever left the farm because of the "monotony" of the life. It's all in the point of view, I suppose. The ither fellow's job always looks good to us. Like the coos that we pit oot to pasture in the spring. If they juist get it intae their heids that the field on the ither side o' the fence is not meant for them they'll break their very necks to get into it.

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THE HORSE.

Fitting Horses and Showing at the Fall Fairs.

BY WHIP.

It is somewhat late in the season to discuss showing horses, as the season for the larger shows is practically here, and that of the smaller ones not far distant. To the habitual, and more or less successful, exhibitor of horses we do not presume to dictate or advise, as he has mastered all the rules of the game according to his own ideas which, for the purposes under discussion, are probably more valuable than ours, but to the young man or the beginner a few remarks on the subject may be considered timely and not presumptuous. Many exhibitors who are new at the game apparently consider that all that is necessary is to have the animal or animals in grass condition, with a good coat; others apparently consider that it is not necessary to take any pains to fit horses as to either condition or training. In order to be successful in the show-ring the exhibitor must forget that the success of the entry depends upon different factors, as condition, type, style, action, speed in some classes, and manners.

WHAT FITTING CAN BE DONE IN THE TIME AVAILABLE.

If at the present time the prospective "show horse" is quite out of condition, with a poor coat, etc., it will be wise to defer his entry into the show-ring until conditions change, but, if he be in fair working condition, a great deal may be done in a few weeks. On general principles we consider it unwise to administer drugs for the purpose, as any drug that will have appreciable effect in causing a horse to put on flesh quickly, if given in ample doses and for a sufficient length of time to have marked effect, has a very decided tendency to injure his general constitution. He should be kept in a comfortable, well-ventilated stable, and it is well to keep him covered with a light fly sheet, as this protects him when flies are present and also tends to keep his coat clean. He should be fed liberally on feed of first-class quality, which tends to produce both flesh and nervous energy. For this purpose, no doubt, hay and oats are the best. Hay should be fed in limited quantities, especially to the lighter classes of horses, not more than one pound for every one hundred pounds in weight as a day's ration; of this one-quarter should be given in the morning, the same or a little less at noon, and the remainder in the evening. The quantity of oats given should be of about the same proportion as regards weight, unless the animal is getting considerable exercise or work. The writer prefers rolled oats to whole, and the addition of a little linseed meal, say a teacupful, to each meal gives good results as it has a laxative tendency and also tends to improve the coat. He should be thoroughly groomed at least twice daily. If driven or worked until he perspires freely, he should be rubbed until dry, and in no case should he be allowed to spend the night with matted hair or dried perspiration on him. To improve the appearance of the feet they should be kept clean and dressed daily with some preparation that tends to cause a gloss. There are many commercial preparations that are highly recommended for the purpose, but probably nothing gives better results than neatfoot oil to which has been added a little lampblack. For white-footed horses the coloring should be omitted. The feet should be thoroughly cleaned before the application, which should be well rubbed in. A reasonable amount of daily exercise should be given, and when at exercise the animal or animals should be taught to go and perform in the particular style that is desirable or demanded in the particular class to which they belong. Of course, during preparation for show purposes the horse ought not to be exercised or worked too much. He should never feel tired, always appear anxious to "carry on." He should always be taken to the barn before he appears to have had enough. If linseed meal be not given as indicated, he should be given a feed of bran at least twice weekly, and also given a little green feed or a few raw roots. It is probably not necessary to mention that care ought to be taken to supply him with water of good quality as frequently as he needs it, and to see that he be given a drink after he has consumed his evening meal. During the "fitting" process a reasonable quantity of molasses gives good results.

CLASSIFICATION.

Any horseman who attends the horse ring at fall exhibitions, or horse shows, either in the capacity of director, attendant, judge or spectator, cannot fail to

notice that mistakes in the classification of the exhibits are not rare. Exhibitors, either through carelessness or want of knowledge, not infrequently enter and exhibit an animal in the wrong class. Many high-class animals are shown in a class to which they do not belong, and, while an animal so exhibited may be more valuable than those with which he is competing, he is out of his class, hence should not win. Occurrences of this kind are unfortunate, and not infrequently subject the judge to severe and unjust criticisms. Some think that first place should be given to the most valuable animal in all cases, but this is a very unsafe view to take. In order to win in good company the animal must be shown in the proper class, and his right to win should be considered wholly as regards his development of the special characteristics demanded in horses of the class.

The aim of all exhibitors should be to encourage the production of the recognized and marketable classes. The classes that include most of the horses owned and exhibited by farmers are the draft, agricultural, general-purpose, carriage, roadster and saddler. The other classes as high steppers, tandems, trandems, four-in-hands, runabouts, hunters, etc., require animals that have the general characteristics of their class well marked, and have been subjected to a course of special training in order to develop these characteristics to the highest possible standing. Hence we may say that they are especially for the professional show man, the dealer, or the gentleman of means, who has the time and inclination to prepare his horses for exhibition or pleasure.



A Good Horse Well Hitched.

While appointments may not be called for they have a good influence.

The draft horse must be a good type of one of the draft breeds, as Clydesdale, Shire, Percheron, Suffolk, or Belgian Draft, and he must be not less than a certain weight, say 1,600 lbs. Many prize-lists state what shall be the minimum. The agricultural horse is one of exactly the same type and characteristics, but not up to the necessary weight, say 1,350 to 1,600 lbs. Horses of this type, but below the weight mentioned, while probably valuable animals, have no class for show purposes and are generally referred to as "chunks." The general-purpose horse is hard to describe, and it may be questionable whether the class should be recognized or breeders encouraged to endeavor to produce him, as there is a sufficient number of misfits produced—in endeavors to produce special-purpose horses—to fill the demand for the general-purpose one. He should be a strong, active fellow, must not be of draft type, must be clean limbed, of fair ambition and fair action and of sufficient size, say not less than 1,150 lbs.; we may say a horse of the large carriage, large roadster, or large saddle type, one that has not sufficient style or action to make him a high-class fellow of the class he favors. He must have sufficient substance and ambition to give reasonably satisfactory service when hitched, double or single, to a loaded wagon, farm implement, or machine, and have sufficient style and action to not look particularly out of place when hitched to a carriage, surry, buggy, cart, or under saddle. There are probably more mistakes made in the classification of the lighter classes, viz., carriage and roadsters. Of course, when the animal is pure-bred there is seldom difficulty in classification, but members of each class are often of composite breeding, and in such cases

classification often depends more upon action than general type and conformation.

The carriage or heavy-harness horse should be stylish, attractive, of fair size, say 14 to 16½ hands high, and symmetrical. Many think that size distinguishes between the carriage horse and the roadster, but this is a mistake. He must have style and attractive appearance whether standing or in motion, must hold head and tail well; his action, both fore and rear, should be flash; he should go high, straight and graceful, with extensive tread, neither paddling nor rolling in front, nor going wide behind, and the faster he can go the better, provided he retains the quality of action. He must not pace. The extreme action demanded in the modern carriage horse is congenital in the Hackney, but can be developed in many trotting-bred and coach horses.

Roadsters, like carriage horses, are often of mixed breeding, hence to some degree of different types. He should have good style, fair size and substance. He should be able to go fast, not necessarily at racing speed, but be able to draw two men in a buggy at a ten-mile clip and stay, and be able to show at least a three-minute clip when asked to. He must not require either boots or weights. While the trotting gait is preferable, we do not think that a pacer should be disqualified at exhibitions where a special class for pacers is not given. He should go straight in front, and while reasonably wide action behind is allowed, what is known as a "straight line trotter" is preferred.

Saddle horses are usually the produce of the Thoroughbred sire out of mares of mixed breeding. The nearer the saddler approaches the general type of the Thoroughbred the better, so long as he has sufficient size and substance. In action, he has not the height and flash of the carriage horse, nor the trotting speed of the roadster. He should go reasonably close to the ground, with an elastic, easy motion, whether at the walk, trot, or canter.

The combination horse is a mixture of the carriage and saddle horse. The aspirant for honors in this class should be of medium size. His appearance should be attractive. He should have more action than the saddler, and less than the high-class carriage horse. In some cases a horse can be taught to act higher in harness than in saddle, and this usually makes an ideal combination horse. He must have good manners in either class.

TRAINING AND SHOEING FOR THE VARIOUS CLASSES.

As already stated, care should be taken during preparation for show purposes to teach the animals to perform well in the manner desirable in horses of the class. As the height of action depends to a considerable degree upon the weight of shoes worn, especially in front, care should be taken (where height of action is a prime factor) to have the horse so shod that he will perform at his best. An exhibitor who has made a special study of the effect of the different kinds and weights of shoes will be able to give his shoeing-smith special instructions, but the exhibitor who has not a good knowledge of this will generally act wisely in allowing the smith to decide.

In the draft and agricultural classes special shoeing is seldom necessary. The horses should be taught to walk well, go well at a slow, easy trot, stand well and back well. The carriage horse should be taught to go as high and straight as possible. Heights can be increased by shoeing. Some horses of this class require more weight of shoes in proportion to their size than others. The horse that will go well without much weight is more desirable than the one that requires a great deal of iron. The exhibitor must determine, by experiment, about the weight of shoe his horse requires. A heavy harness horse acts better without calkins on his shoes, and with the bearing surface of the toe of the shoe bevelled from above downwards and backwards. Roadsters should not require heavy shoes. If a trotter shows an inclination to pace, a little more weight on the fore feet will tend to correct it, while if a pacer inclines to trot, light shoes in front and a little more weight behind tends to correct this, but it must be remembered that no set rules can be laid down for this purpose as each animal has his individuality, and a particular kind of shoe that will correct a fault in one animal may intensify it in another. Saddlers should, in all cases, be shod with rather light shoes, as it is not considered wise to have extreme action, hence shoes of sufficient weight to protect the feet are usually worn.

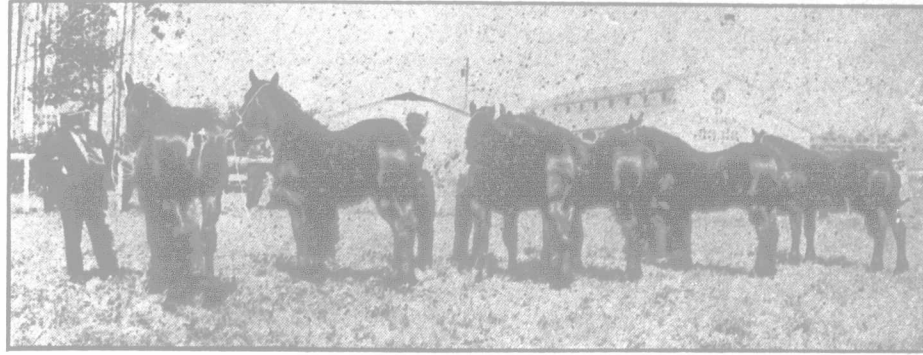
TREATMENT IMMEDIATELY PRIOR TO AND ON SHOW DAY.

When the animals have been properly fitted, no special treatment is necessary on or immediately before

Continued on page 1571.



Two Judges Placing a Good Class of Geldings.



A Line-up of Yearling Percheron Stallions.

LIVE STOCK.

Produce and Prosper.

BY H. S. ARKELL, LIVE STOCK COMMISSIONER.

One could wish that practical Canadian stockmen representative of all the Provinces of Canada could spend a fortnight, a month, two months in this great world metropolis, here to get a grip of the foundation upon which successful industry and effective international trade are developed and established. The debate in Parliament, in the Press, on the street, in the offices, at dinners, in the homes of London is of iron, cotton, coal, chemical research, manufacturing costs, foreign competition, exchange, food, labor, transport, shipping supremacy, government, and thus one understands how vital to the future of Britain is her industry and her commerce. Take one example of this debate—a quotation from yesterday's paper. Asked a question respecting imports and exports for the past twelve months, "Sir Auckland Geddes said the figures were as follows:—

United Kingdom—imports, 1,363 millions (sterling); exports, 626 millions.

U. S. A.—imports 538 millions; exports 1,415 millions.

Mr. Houston—Is it not a fact that if our exports do not increase and our imports decrease we shall be heading for bankruptcy?

Sir Auckland Geddes—"I think that must be obvious to everyone."

When one considers how great is the population of the United Kingdom, how small comparatively her area, how dependent she is for raw supplies upon outside sources, how exacting are her labor problems, how essential to national existence is her foreign trade, one can appreciate the grave significance of the question about which London is now thinking and arguing with so much concern. The thing that matters to Canada is how little importance is attached to the Dominion in the discussion of this problem. One may as well speak frankly and face the issue squarely. Does the talk turn upon manufacturing competition, steel, iron, motor cars, machinery, the thought is of the United States. Is it of dye stuffs, chemical research, the mind still turns to Germany. Is it of shipping supremacy, once again it is America or Germany that receive attention. Is it of food—wheat, Canada is but one amongst many sources of supply; cheese, it can be had cheaper in New Zealand; beef, the Argentine, and Australia count most heavily and with a few other important producing countries monopolize attention in the direction of refrigerated tonnage; finally bacon, public attention is directed meanwhile to the supply from America, which in quantity has regularly exceeded Canada's output by several hundred per cent. and referring to the future, consideration is given to the time when Denmark will be in a position to forward her usual amount. Canada does not count, meanwhile, so far as Britain is concerned, in the commercial reconstruction which represents her next great task, and which is now challenging her most earnest and able statesmanship.

Why should this be the case? Time was not many weeks ago when Canada was a name to conjure with. Her great war effort was on everybody's lips and the achievements of her soldiers had won for the Dominion a popularity of which every Canadian should be both proud and grateful. The pinnacle of generous acclaim and affectionate regard was reached with the delivery by General Currie of his magnificent speech at the Guildhall. This speech elicited from the Times an editorial which history should preserve, together with General Currie's address, as a landmark of Empire development. But since then times have changed. The Canadians have gone home. There have been the riots at Rhyll and at Epsom. British newspaper correspondents in Canada have given wide publicity to the Bolshevik propaganda at Winnipeg. Peace has been signed. What is to be Canada's contribution to the forthcoming era which is now opening a new page of history? Our soldiers have made a great name for us in the War. What now will our citizens, our farmers contribute as an offering to peace? It is upon this basis that Europe will measure our stature, it is upon this basis that the Mother Country, that civilization will judge our worth.

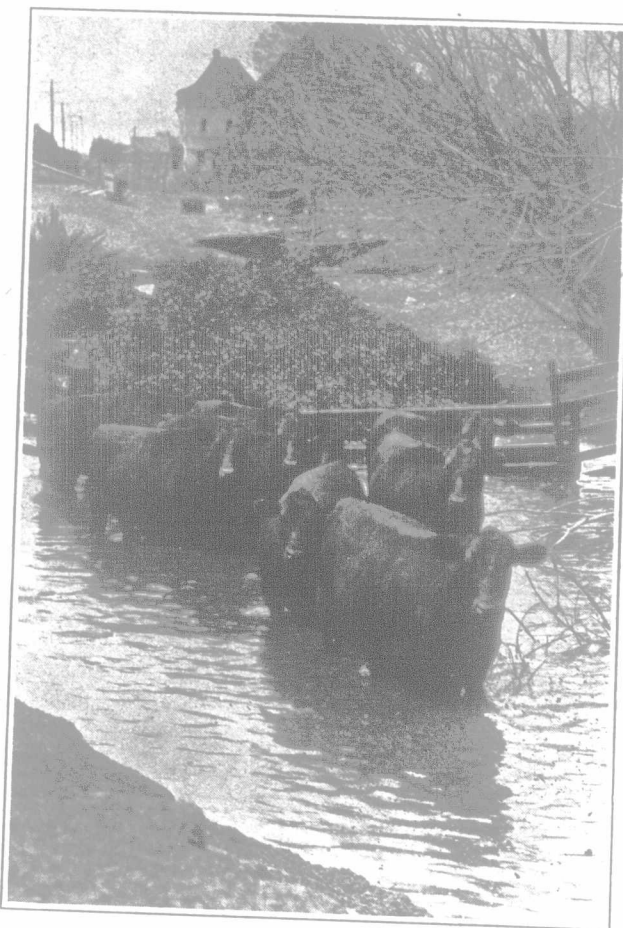
There are those who will be quick to say that the United Kingdom was glad enough to have Canada's help during the war, but that she is evidently quite ready to throw us down now that the war is over. I have not so interpreted the attitude of the Mother Country. Nothing would please the British people more, few things would make them more proud than to see Canada make a great position for herself in the years that are to follow. Unless, however, she can demonstrate her ability to take such a place, Britain will lose interest and perhaps be more than a little disappointed. It is not that she refuses to help a daughter nation, but it is natural that she should offer such help spontaneously and most generously, where she herself will gain most advantage.

Let me illustrate my meaning. I attended both the Royal and the Highland shows but found British stockmen only casually interested in Canada's purchases of pure-bred stock. They were talking about the ten thousand guinea bull that was sold to remain at home, and about the record sales that had been made to the Argentine and South Africa. The London Live Stock Journal featured these sales with full page illustrations of the Argentine bulls, and by commenting at length upon the improvement which British bulls were likely to start in South African cattle, with the result that

important supplies of meat might shortly be expected from that quarter. Is it any wonder that refrigerated tonnage is diverted to the Argentine and elsewhere? It would pay Canada to purchase a ten thousand guinea bull, if only for an advertisement. It is such demonstrations that Britishers like, as an earnest of the spirit which produces results. Certainly we must use many such bulls to improve the quality of our cattle before we can successfully compete on this market.

Now let us refer to the bacon trade. No bacon was held in higher repute during the war than that furnished by Canada. Lately it has been selling at from 10 to 20 shillings per cwt. in advance of that supplied by the United States. Already, however, our position is in jeopardy, not because of competition from other countries but through lack of supply from the Dominion. Even the quantities coming forward are of mixed weights and of varying qualities. Unquestionably Canada in this business has one of the greatest opportunities ever offered to any country. But it is useless to attempt to carry on this trade, unless production is maintained at full, steady capacity in season and out, through good report and ill, and with a determined confidence that is able to find a solution for all the problems that exist. I am convinced that along this road lies success, to follow any other course cannot but result in failure and perhaps disaster. I believe that before any further program is undertaken, we should carefully consider this whole question, and enter into an agreement as to the policy we are prepared to follow for the future. No haphazard propaganda will now avail. Upon this basis alone will British traders find it worth their while to give Canada any permanent consideration, and British consumers find any satisfaction in the using of our product.

What now are the prospects for a continuous profitable outlet in Europe for Canadian supplies? Let me give a few figures.



No Evidence of Drought or Famine Here.

BRITISH AND CONTINENTAL PRICES FOR FOOD PRODUCTS

	Gt. Britain	France	Italy	Germany
Beef per lb.	1.6	2.6	2.8	2.5
Bacon per lb.	2.6	3.2	3.2	4 10 1/2
Butter per lb.	2.6	3.6	5.-	6!-

The increase in the cost of living since the beginning of the war in certain European countries is indicated as follows:—Italy 481 per cent., France 368 per cent., Switzerland, 257 per cent., Great Britain 240 per cent. Before the war, living in Great Britain was 30 per cent. cheaper than in France and in Italy 35 per cent. cheaper.

The Food Controller estimates that the consumption of bacon in Britain has increased from a pre-war average of 32,000 tons a month to 44,000 tons a month at the present time. He indicates that it may be necessary to authorize an increase in the maximum retail price owing to the rising prices in America. No appreciable supply of bacon is expected from Denmark for another year. The control of beef prices is to be maintained until next spring, owing to irregular shipments, and continued shortage of supplies. The impression is gaining ground, that within the year many European countries, including neutral as well as allied countries, will be in the market for live cattle, and that they will draw supplies from the Argentine, from the United States, and from Canada. In this connection, I am representing Canada's interests to all the countries whose agents I am able to meet.

Egg and poultry prices are correspondingly high. Eggs were quoted at Havre at six francs per dozen, and a small chicken displayed in a shop front was marked 27 1/2 francs. Eggs in London are from four shillings to four shillings and six-pence a dozen. Canada's prospects to develop a profitable egg trade are unquestionably very bright, particularly in view of the discontinuance of supplies from Russia and other European countries.

One thing alone is lacking—the combined will of all those engaged in the business to make it a success. The task is no greater than that which confronted the organizers of our Army. If Canada can do the one, she can do the other. But it means work. It is realized that national solvency and a dependable civilization can only be secured through a steady determined policy of production. This alone will ensure an export trade commensurate with the resources of our Dominion, and that country which early settles itself quietly and firmly behind its gigantic task of reconstruction, will be the first to recover itself and to permanently ensure the future welfare of its citizens. Produce and Prosper.

The Local Fair.

If it were not for the local fairs, the large National and International exhibitions, which attract multitudes to their gates and show to the public the very latest in agricultural and mercantile development, would be but mere shadows of their present magnitude. There must needs be a beginning, and the township fair—insignificant possibly from a world's standpoint, but all important to the local residents, small folk in particular—is the place where youth learns to exhibit the products of the field and stable. The local fair is the training ground that makes possible the holding of a live-stock show as seen at Toronto, London, Ottawa, Guelph, etc. These large shows are largely the rendezvous of the big breeders of various classes of stock. There it may be said that perfection meets perfection in the judging ring and a battle royal is fought for the highest laurels bestowed by the exhibition board and the breed association. Many valuable lessons in breed type, fitting and showing are to be learned at these big shows, but this does not depreciate the lessons to be learned at the local judging ring where neighboring herds and flocks compete, and rivalry is keen. Not only is the local fair a training place for showing stock, but it tests the exhibitor's ability to take defeat graciously and then, without the least animosity against his neighbor, prepare for a keener competition the following year. Many an International exhibitor to-day secured his first training in fitting and showing stock at the local fair, and the competitions in the ring engendered in the mind of many a youth a desire to breed, feed and fit a better class of live stock than that kept on the home farm, and so added to the ranks of the live stock improvers of Canada.

The value of the local fair must not be depreciated. As great care should be taken in the classification of animals and in the selection of a judge as for a National fair. Because of injudicious placing by inexperienced judges many a boy has gone away from the ring-side with the wrong impression of breed type and show-ring fit, or else has become entirely disgusted with the breeding and exhibiting of stock. Care should be exercised in placing the awards. The wrong impression as to type and individual merit of an animal conveyed to the minds of boys and girls may do untold damage. Local fair boards should always secure a competent judge who is able to explain where one animal excels another. This would enlighten not only the exhibitor, but also the spectators and might justify what on the surface appears to be a wrong placing. The large breeders of the country can do a good deal to help the small fairs, not so much by exhibiting as by assisting in every way possible to make the fair of educational value to the community. Many of the exhibitors at small fairs to-day will be competitors at the larger shows in the future and should be encouraged, so far as possible, to breed and care for the highest class of stock.

Aberdeen-Angus Meeting.

The Canadian Aberdeen-Angus Association recently held the most representative meeting in its history at Brandon. Breeders from Ontario, Manitoba, Saskatchewan and Alberta were there, making an attendance of over seventy.

This meeting, through the action it took, will mark a new milestone in the progress of the Aberdeen-Angus breed in Canada.

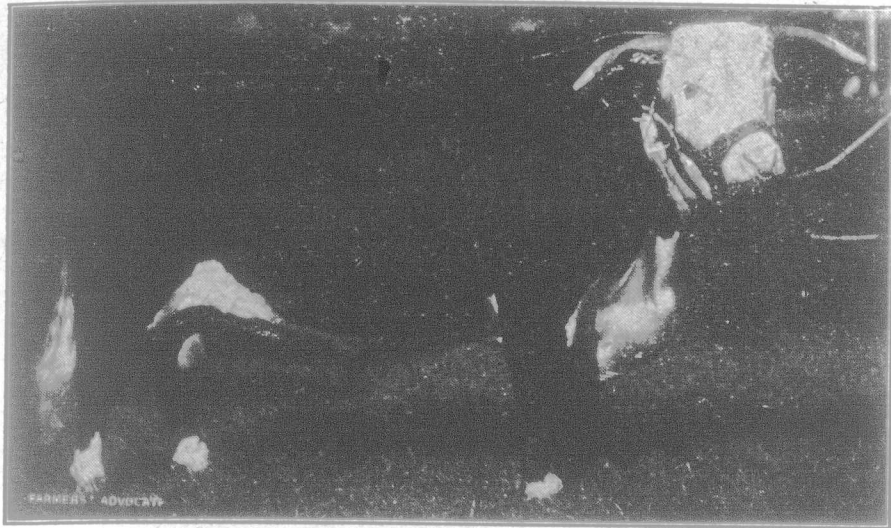
The President, J. D. McGregor, in the opening address, called attention to the progress that has been made in the last ten years. In 1908 registrations were around 500, and the revenue \$800. In 1918 the registrations were nearly 4,000 and the revenue over \$6,000.

To finance this progressive move it was decided to increase the registration fee by 50 cents per head, and further increase the revenue to cover the increasing cost of herd books. It was decided to raise the membership fee to \$3.00.

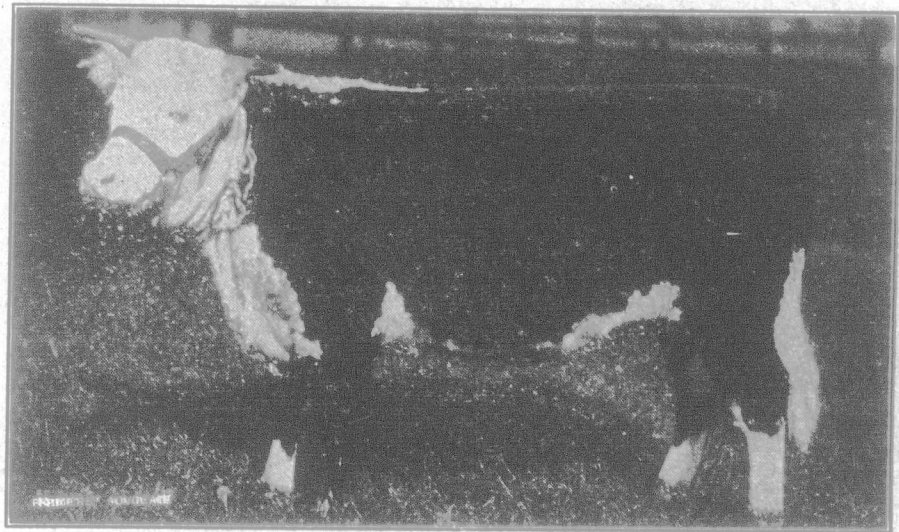
Another recommendation was that the Association adopt the policy of holding contribution sales in different parts of the country. This scheme was approved. There will be a national sales' committee appointed that will co-operate with the provincial associations in holding these sales. The futurity or calf class that was such a success at the Brandon exhibition this year is to be made a yearly affair and will be staged at different fairs throughout the whole country.

Among the speakers were Dr. Brown, of Ohio, Messrs. Bowman, Lowe and McEwen, of Ontario; Mr. Noad, of Alberta, and Messrs. Buffum and Collyer, of Saskatchewan, as well as several Manitoba breeders.

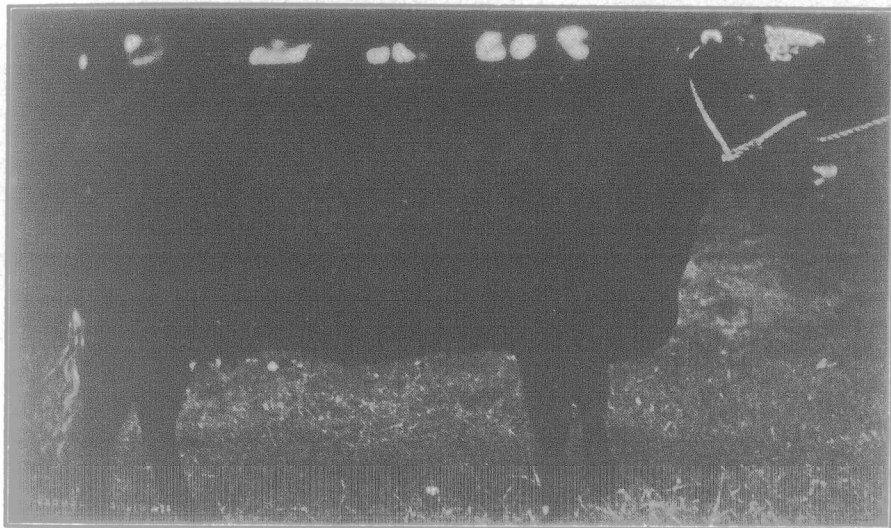
Some Royal Show Winners in 1919.



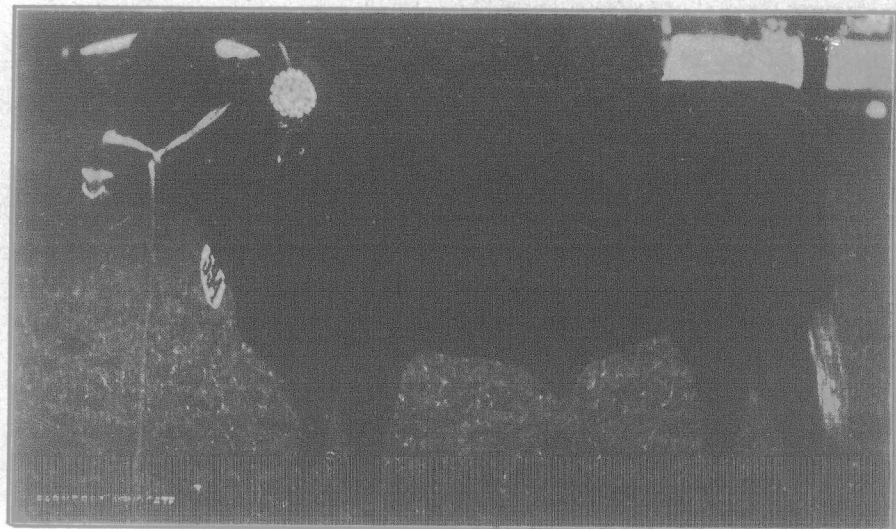
Gco'enough.
Champion Hereford bull.



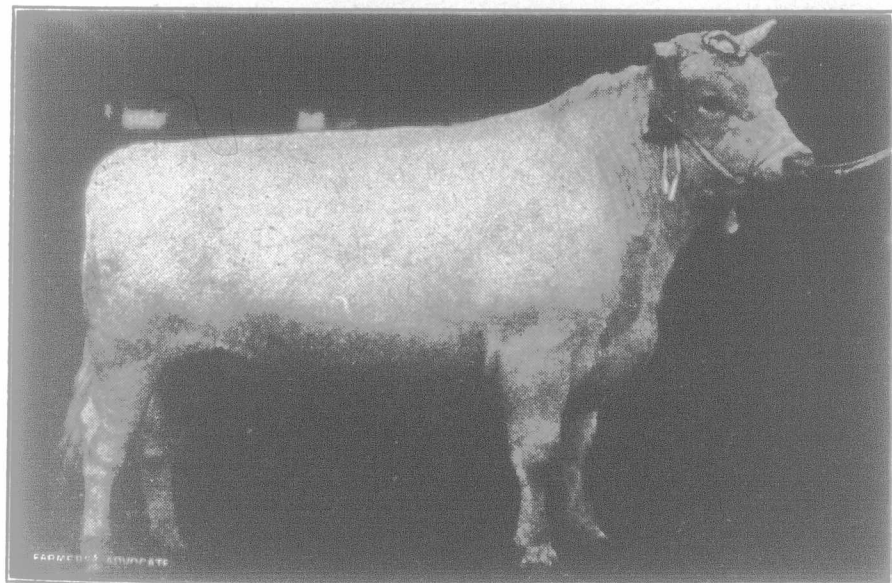
Clive Succour.
Champion Hereford female.



Proud Dorothy.
Champion Shorthorn female.



Kilsant Wanderer.
Reserve champion Shorthorn bull.



Kingthorpe Regent.
Champion dairy Shorthorn bull.



Edgecote Hero.
Champion Shorthorn bull at Highland Show, and sold for £ 0,001



Ethinison of Advie.
Champion Aberdeen-Angus female.



Sovereign.
Reserve champion Hereford bull.

correspondingly high. six francs per dozen, in a shop front was London are from four and six-pence a dozen. a profitable egg trade particularly in view of from Russia and other

the combined will of s to make it a success. t which confronted the ada can do the one, she s work. It is realized dependable civilization eady determined policy ensure an export trade of our Dominion, and tself quietly and firmly nstruction, will be the rmanently ensure the roduce and Prosper.

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The Sheep Industry, With Special Reference to Wool Production.

BY T. REG. ARKELL.

FOR several years preceding the war scarcely an agricultural journal could be picked up without finding some reference to the deplorable decrease which has occurred in the sheep population of Canada. Statistics show that from the year 1870 to 1914 the numbers of sheep in this country gradually declined in contra-distinction to the human population, wool consumption and numbers of other classes of live stock. In 1871 there were over three million sheep here, whereas in 1914 just a little over two million could be mustered.

When it is remembered that at the former time sheep were confined entirely to Eastern Canada and there were only a little over three million people in the country, the decline naturally did cause some dismay in agricultural circles. The decline in the East becomes still more apparent when it is recognized that in 1914 there were in round numbers about five hundred thousand head of sheep in the four Western provinces, and the development of the industry there has continued very rapidly since the war.

There is no necessity at this time to hark back to the oft-repeated reasons for the apparent lack of appreciation of the sheep industry by Eastern agriculturists. The exigencies of the war have shown the importance of wool and mutton, and sheep have well commenced to occupy a more prominent position, not only in the minds of our farmers, but upon their farms. No class of live stock was more important in the waging of the war. Wool is essential. No substitute has yet been discovered equally effective in the preparation of warm clothing. We have the motor car displacing the horse to some degree; we can do without eggs or poultry, if necessary, and even substitutes of a fashion can be gained for milk, but no substitute is there yet for woolen clothing in a cold climate unless we return to the raw fur wearing apparel of our ancestors.

This year's clip of wool in Canada will probably be in the neighborhood of sixteen million pounds. This represents a slight increase over production at the commencement of the war, yet for manufacturing consumption in Canada it comprises only about half the amount that is used. This wool comes from about two and a half million head of sheep. Compared with, for instance, Australia, a much smaller country in area, the number is almost negligible. Australia has about ninety million head. Even Great Britain has ten times our number of sheep. Greater and still greater production here should continue before our position in the world as a sheep-producing country will be noticed.

Much of the difficulty in the past has been due to very low prices for our wool, lower for the qualities produced than our neighbors in the United States received. This feature has now been eliminated, and last year the prices obtained for our wool were as high as anywhere in the world. The influence of co-operative marketing in improving conditions of sale has had much to do in effecting this result. Co-operative marketing has based its operations upon classification of the wool, which has directly helped to create an improvement in its preparation and character. In the old days wool was purchased by the dealer upon a flat basis, that is, the same price was paid for coarse as for fine, for dirty as for clean. These conditions did not give the grower much incentive to prepare his wool in a fashion most acceptable for manufacturing purposes, and having only a small amount could not interest the manufacturer. He was compelled, therefore, to dispose of his product to the middleman, who after grading and sorting the wool was able to dispose of it profitably. The price under the flat system is always on the plane of the poorest wool. In other words, the purchaser will play safe, which inevitably discriminates against the producer of wool of a fine and clean character.

Wool classification depends mainly upon two features, spinning qualities or fineness of the fibre and shrinkage in scouring. The manufacturer never thinks in terms of the value of the wool in the grease or as it comes from the sheep, but rather its value to him when placed in a condition ready for manufacture. Wool, as we farmers know it, must first be scoured to remove from it all the dirt and grease before it can be used in manufacturing. This creates a shrinkage which is most variable, depending upon the class of wool and the district in which it is raised. Market quotations in textile centres are given generally to represent the value of the clean pound for the different qualities and lengths. Reputable merchandising houses follow a definite system of grading, so that each class is uniform with respect to fineness of fibre, length and shrinkage. The manufacturer in purchasing grease wool thus graded, either makes an actual scouring test or estimates the shrinkage from knowledge gained by experience.

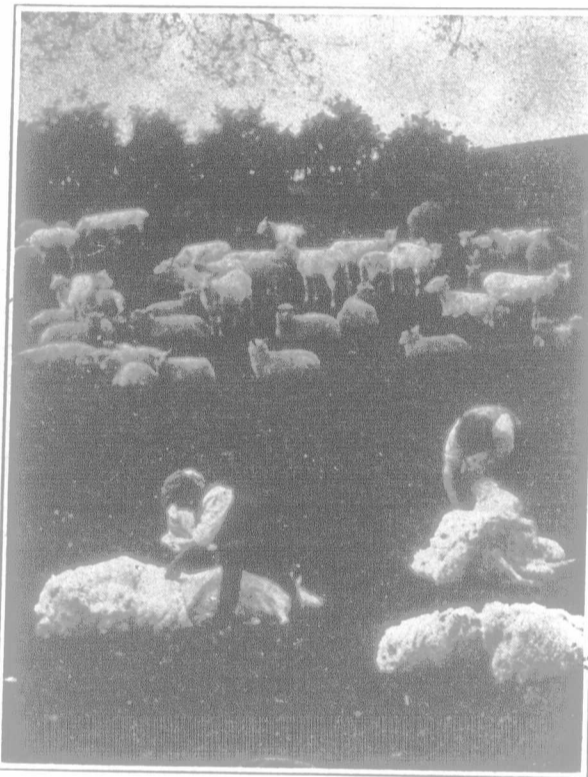
A quotation of a market report will help to explain this feature. The following represents a report issued August 5th of this year.

"Price of staple or combing wools (c.o.b. Toronto, scoured or cleaned values for standard strong stapled bright types.)"

Range	Domestic
Fine staple.....\$1.70-\$1.75	Fine staple.....\$1.60-\$1.70
Fine Medium staple.....1.60-1.63	Fine medium.....1.50-1.55
Med. staple.....1.20-1.25	Medium.....1.15-1.20
Low medium.....1.00-1.10	Low medium......95-1.05
Low staple......75-.80	Low......75-.80
Coarse......70-	Coarse......65-.70

Clothing prices about 10 cents per pound reduction from foregoing."

It will be noticed that the report is divided into two sections, Range and Domestic. The range is a Merino type of wool, and in the United States is commonly called Territory, whereas the Domestic comprises wool of Down or Long-Wooled origin without intermixture of Merino blood. The range wool usually comes from large flocks and presents a different appearance to the Domestic. Again, Western Domestic wool although of the same origin as the Eastern will be much darker in color and sometimes weaker in staple than the Eastern fleeces, owing to the heavier winds of the West more dirt becomes incorporated with the wool, and the colder winters will work a greater hard-

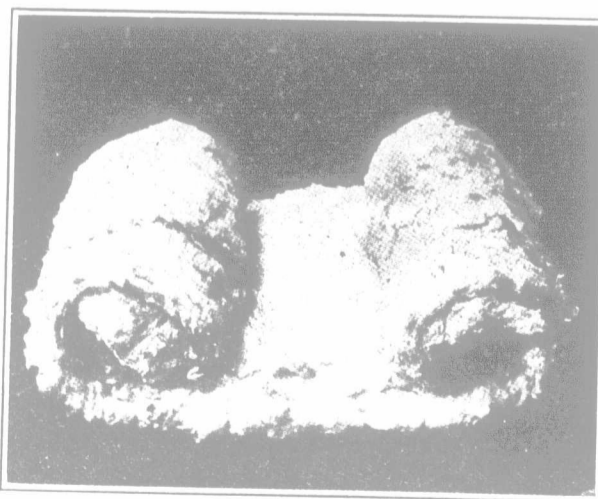


Shearing on the Clean Turf.

The fleece should be kept intact and free from dirt.

ship upon the sheep of the average flock, which weakens the staple to some degree. Climatic conditions as well as breeding play a very important part in determining wool character. For instance, wool of the same type in the Maritime Provinces will shrink four to five per cent. less and possesses a brighter appearance than the average Ontario product. The two scoured will have the same basis of price but in the grease, on account of the greater yield, the Maritime wool will sell at a higher price.

Grading must first accomplish a separation of Range and Domestic. The wool must then be divided into qualities of uniform fineness so that each grade will spin without variation. The division in this respect



The Proper Method of Folding a Fleece.

represents six main qualities from Fine Staple to Coarse, each grade below Fine Staple being a little coarser, and in manufacture will not create so fine an article. The price of the clean pound decreases correspondingly. The grades are again divided according to length into Clothing and Staple or Combing, the divisional point for the three highest grades being about two and a half inches, for Medium three inches, Low Medium three and a half inches and Low four inches. Wool above these lengths will be suitable for Combing or the making of Worsteds, whereas that shorter can only be utilized satisfactorily in manufacture by a carding process and goes only into woolen goods other than a worsted, such as tweeds, fizzes and fabrics without the hard worsted twist.

The shrinkage is highest with Fine Staple, and decreases as the grades become Coarser. This is due to the presence in the finer grades of greater quantities of wool grease or suint, which not only makes the wool weigh more heavily of itself but collects the dirt to a greater degree. Consequently we sometimes find that the very finest grade may have a lower grease price than some of the coarser ones. In the instance of the market report already quoted, Fine Staple Range will have an average shrinkage of about sixty-five per cent., or, in other words, out of one hundred pounds of grease wool there will only be thirty-five pounds, when scouring is completed, which will be fit for manufacture. The Clothing of this grade shrinks about seventy per cent. The general shrinkages of other range grades are about as follows, Fine Medium Staple fifty-six per cent., Medium Staple fifty-two per cent., Low Medium Staple forty-eight per cent., Low Staple forty-six per cent., and Coarse forty-eight per cent. Although the Fine Staple is quoted at a higher price clean than the Fine Medium Staple, yet the latter, owing to its lower shrinkage, will command a higher price in the grease by almost ten cents a pound.

Ontario wool, of course, has not such heavy shrinkage as Range, nor is it so heavy as the Western Domestic, which is still four or five degrees lighter than the Western Merino types. Virtually the highest grade produced in Ontario is the Medium, which includes the bulk of the Down and frequently the Southdowns. The Southdown is more of a Fine Medium Clothing grade and the Oxford not infrequently is included in the Low Medium. The Low Medium class generally takes in the bulk of the Ontario cross-breds, the Low Combing the Leicester and the Coarse the Lincoln and Cotswold.

The shrinkage of the Medium Combing is on an average about forty-two per cent., the Low Medium forty per cent., the Low thirty-eight per cent., and the Coarse forty-four per cent. These vary even within the same district every year, depending upon the climatic conditions, especially throughout the winter and at the time of shearing. The wool of Ontario this year was lighter and much brighter than that in 1918. This is believed to have been due to the openness of the winter.

The farmer who makes a study of conditions of the wool market will be in a position to dispose of his wool intelligently and gain for it the highest price. Wool is not merely wool, and the farmer who protects his interests should have as good a knowledge of the character of his product as the merchant who buys from him. Co-operative sales have increased to a great degree in this country since first initiated in 1912, when about ten thousand pounds was sold co-operatively. In 1914 two hundred and six thousand pounds was disposed of co-operatively, most of this in Western Canada. This increased gradually till in 1916 one million, seven hundred and twenty-five thousand pounds was collected for co-operative sale, and last year the Canadian Co-operative Wool Growers Limited handled altogether four million three hundred and fifty-four thousand pounds. Present prospects would make it appear that this amount will be further increased this season. The future for the sheep industry in Canada is very bright. The economy of sheep in feeding is well known, and the rapidity of returns from sale of lambs and wool makes it an investment appealing to our banking institutions. With these considerations we should at least be raising our quota of the world's sheep. We are increasing in this direction, but still are far behind what we were fifty years ago. There is room for a small flock on every Ontario farm.

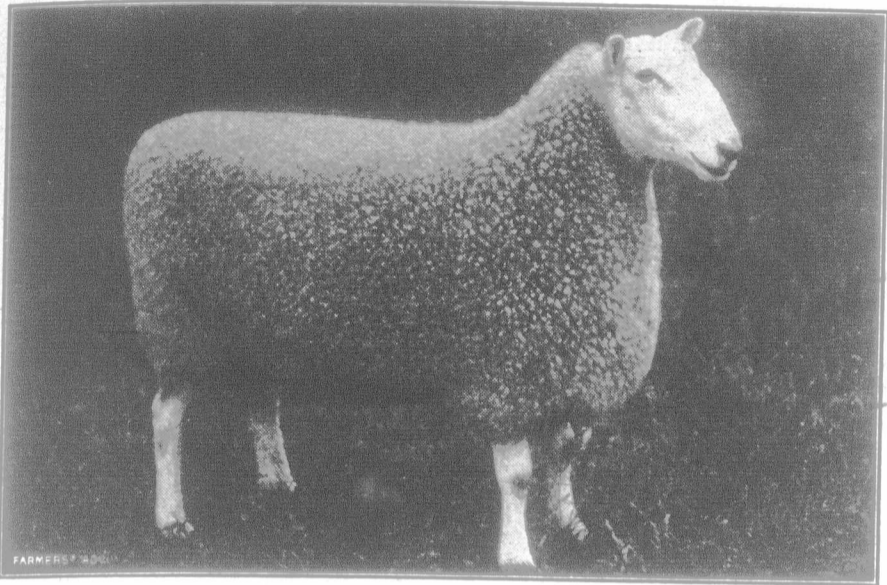
Live-stock shipping associations are being formed more rapidly than any other co-operative enterprise. There are over 2,000 Farmers' Co-operative Shipping Associations in the U. S. to-day doing an annual business of nearly half a billion dollars. Minnesota leads with 700 associations, Wisconsin second, 600; Iowa third, 300; Nebraska fourth, 250; Michigan fifth, 200; and Illinois sixth, 60.

Cold storage plants have got into bad repute owing to the fact that they are indispensable to the operations of those who speculate in foodstuffs. However, we must remember that cold storage is the very basis of our live-stock industry, our egg industry and our butter industry to-day. The trouble is not with the use of cold storage but with the abuse of cold storage. We must secure the cold storage against abuse. The best way is through public ownership.

Our Scottish correspondent writes that all classes are spending freely. There is abundance of paper money in circulation. Agricultural shows, which, during the war, were mercifully in abeyance, have been resumed, and all round the gate-money and drawings generally have been on a lavish scale. The Highland and Agricultural Society held a great show almost in the very centre of the city of Edinburgh. The drawings reached the phenomenal total of almost £17,000, or about £10,000 in excess of the best drawings under normal conditions. In all trades and industries men are clamoring for shorter hours of labor and higher wages, and prices of standard articles of food, such as eggs, have reached a point not attained during the most acute phases of the war. Eggs are selling at 5½d. each, or 5s. 6d. per dozen. The ordinary price at this season for the best and freshest eggs used to be 1½d., or 1s. 6d. per dozen. Nobody seems to know who is profiteering, yet almost everybody admits that profiteering is going on.

Breed Type as They Know It in Britain.

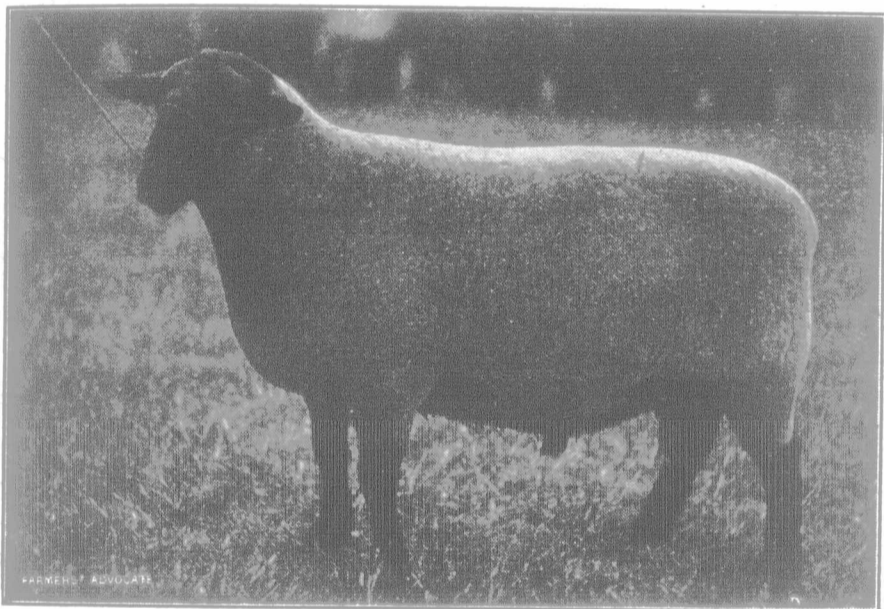
REPRESENTATIVES OF EIGHT DIFFERENT BREEDS OF SHEEP, ALL WINNERS AT THE ROYAL, 1919.



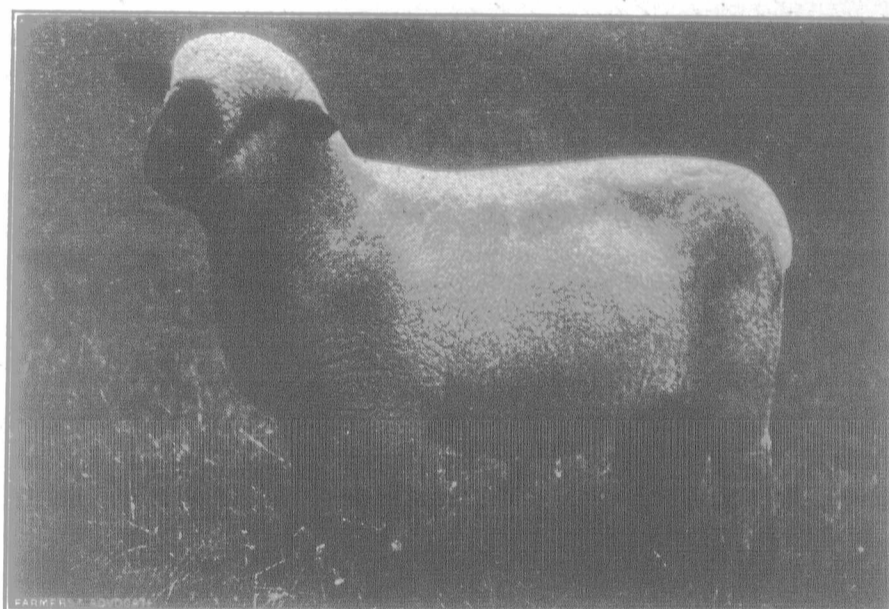
Leicester Ram.



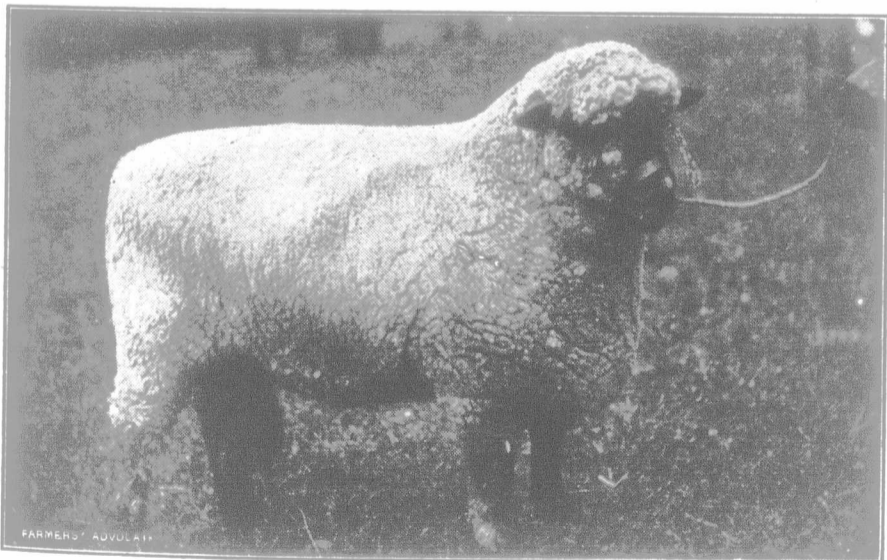
Romney Ram.



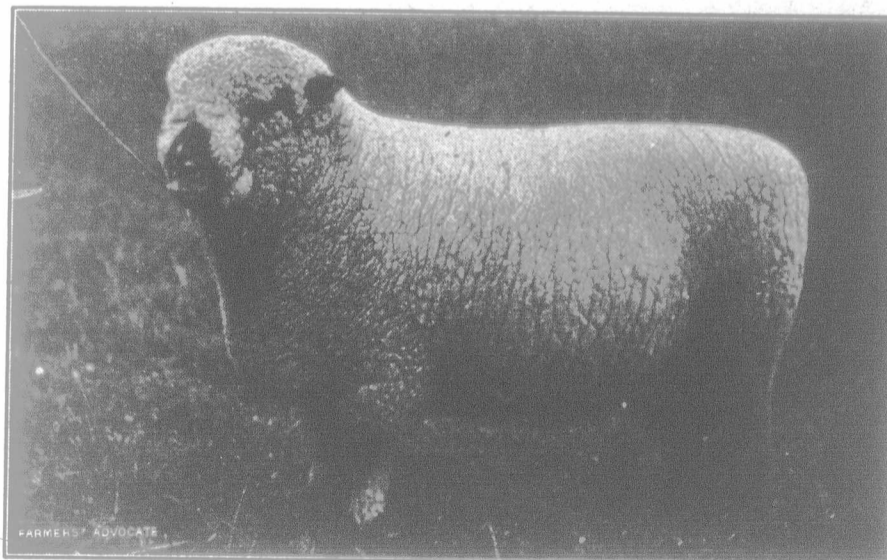
Suffolk Two-Shear Ram.



Hampshire Ram.



Oxford Shearling Ram.



Shropshire Two-Shear Ram.



Pen of Lincoln Rams.



Pen of Southdown Shearling Ewes.

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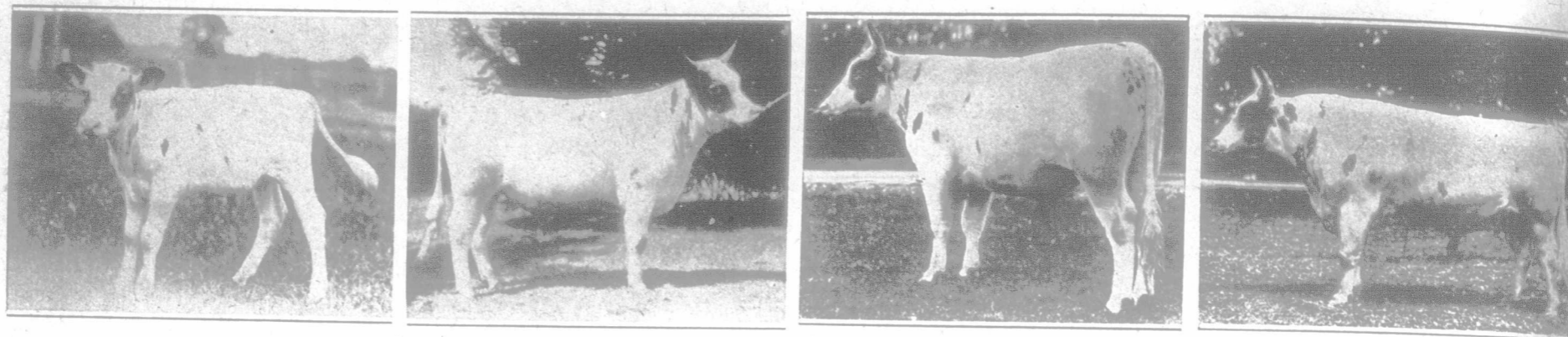
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Getting into Pure-breds.

BY PROF. H. BARTON, MACDONALD COLLEGE, QUE.



Macdonald Competitor as He Appeared as a Calf, Then as a Yearling, Two-year-old, and Three-year-old.

PURE-BRED live stock and pure-bred live-stock breeders in Canada have about doubled in numbers in five years. It is probable that at least a thousand new breeders enlist each year. No reliable statistics are available, but it is estimated that among the fifteen million head of horses, cattle, sheep and swine, in Canada, not more than four per cent. are pure-bred. It is evident, therefore, that while pure-breds are making headway rapidly, reaching many new farms each year, only a small proportion of the country has yet been occupied by them.

It may be noted also that the advance of the pure-bred is general. Substantial gains are being registered in all four classes of stock, the distribution is widespread throughout the country, and each year sees extended business with bigger sales in district after district. Breeding pure-bred animals is, undoubtedly, proving an attractive business; more people are getting into pure-breds; many more are on the fence, feeling they would like to enter if opportunity offered, and if they were just a little more certain of how to proceed and where they might hope to land.

Prospective breeders can be divided into two fairly distinct classes, those whose money will allow them to adopt practically any policy, and those whose money is a closely limiting factor. The first class is responsible for an important feature of the trade, but the latter is the prevailing class and the one upon whom the business ultimately depends. In other words, among the thousand odd new breeders each year the majority cannot afford to go into pure-breds on any basis other than as a limited investment on an earning value basis regardless of pleasure and speculative considerations, and it is from this standpoint that the average man's policy must be framed.

BREEDING PURE-BREDS A DISTINCT BUSINESS.

When a man decides to purchase pure-breds he should realize that he is adding an additional feature to his business with the possibility for return, ordinarily, not depending upon either increased production or more economical production of the commercial products, meat, milk and wool, but rather upon the increased value of the breeding animals and the sale of surplus stock. This statement is not intended to convey the idea that pure-breds afford no possibility for bettering production. They do afford the maximum possibility, but the investment should not be justified by the idea that more milk or more meat or more wool will be made at less cost than can be done with good grades. Ultimately the return on the extra investment must come from sales of improved stock for breeding purposes. Consequently, the pure-bred product must be a seller.

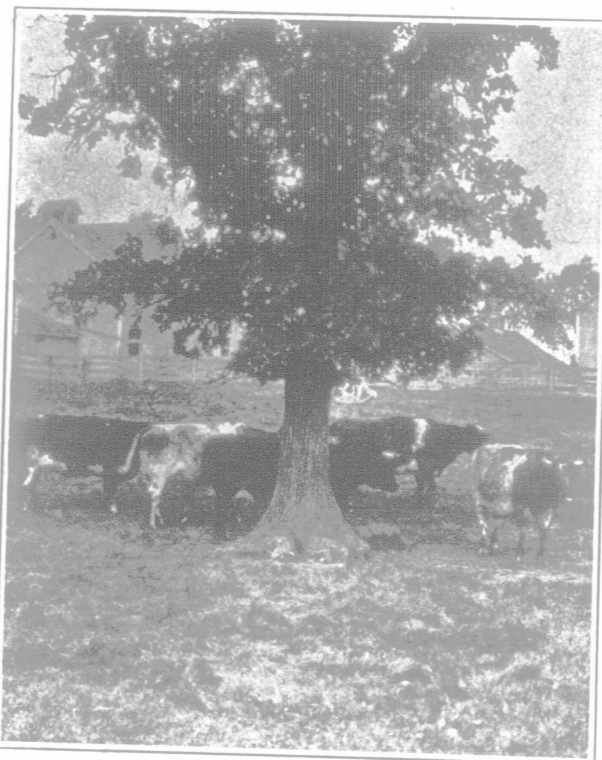
LOW LEVEL PURE-BREDS DISASTROUS.

The average breeding product will not be any better than what it came from; in many cases it will not be as good. The breeding stock selected then, must be high enough to insure an attractive product, one for which there will be a demand. Moreover, in the production of the commercial products the poor pure-breds are far behind the best grades. It is undoubtedly a fact that here is where the beginner usually makes his initial mistake. He starts on too low a level. When he buys his first cow, for instance, he fails to ask himself if he would like to have a bull calf out of her; is she good enough to sell her bull calf, or will she hurt the sale of him? This is the test that will be applied to his investment in her. It is regrettable that the lower levels often predominate; they are easiest to obtain; the best salesmen have them; they are the traffic material of the traders, and among them are the scrubbiest of the scrubs.

The highest levels are possible for only a few beginners. Just where to draw the low level line will vary with the individual; his ability, financial circumstances and trade prospects all being determining factors. Under the first it may be pointed out that intelligence, ambition, and enthusiasm count for much in making a success of pure-breds. The last factor is dependent to some extent upon location, but facilities to help the small breeder with the right material, no matter where located, are pretty well provided. No circumstances can justify a poor foundation.

AN ABUNDANCE OF PEDIGREE BUT NOT MUCH ANIMAL A COMMON MISTAKE.

Individuality, breeding and performance determine the level of the stock. The last one is not always measurable, but when it is it affords the final analysis. It must, however, be interpreted intelligently; a record in production, or a record in the show-ring, or a record even in breeding will bear interpretation. The first two, individuality and breeding, are almost inseparable, both have guaranteeing value, and one should be the complement of the other, unfortunately this is not always the case. In attempting to distinguish between the claims of the two, the common pitfall is the over-rating of breeding. A great many breeders will argue that, "good breeding but a poor individual" is preferable to the reverse combination, "a good individual without breeding." Not infrequently this may be true, but the individual is too often excused because of the supposed good breeding. In this connection there is one thing that will bear emphasis to the beginner who is not likely to be too strong on pedigree interpretation, and this is that individual merit is a good guarantee



Individuality as Well as Pedigree.

of pedigree excellence, and is a visible test of the pedigree under consideration. Pedigree for the sake of pedigree has been given too great a trading value. The beginner should look to ancestry and blood lines, and establish some uniformity in them if possible, but he will do well to insist upon a product of merit in his own judgment, or in the judgment of some one else in whom he has confidence.

WHAT TO BUY.

A man has to decide whether he will buy youngsters, partially developed females, or those fully mature. It is a fact that each of the above has formed the first step in successful herds and flocks. Perhaps the majority have started by purchasing the partially developed, a heifer or two, a young sow, a young mare or a few ewe lambs, and often all with the exception of the lambs bred at time of purchase. The objection to buying the very young things is that there is more speculation, and more time is required for return. The matter of time is important because the process for the average man getting into pure-breds will be to select a good nucleus, probably add to it, but for the most part breed himself into pure-breds. The advantage in the youngsters is less initial outlay and a chance of getting something exceptional. The objection to buying the fully mature is that considerably more initial outlay is required for something good with the proof available; the advantage is a minimum of speculation

with immediate return. The partially-developed class is intermediate, and this probably accounts for its attractiveness. For the man of very limited means the purchase of a real good youngster or two is worth considering, and as a means of supplementing other operations, or getting at least a small start, is justifiable. The two extremes, the old and the young, are sometimes combined to good advantage. The purchase of a very old, broken-down cow for the price of her calf which may or may not arrive is a risky investment.

WHERE TO BUY.

Where to buy offers four chief possibilities, the local breeder, the long-distance breeder, the auction sale, the exhibition. Like the above in the case of ages, all four have been the starting point of successful enterprises. It is equally true that all four have accounted for disappointment. The first, in many localities will have its limitations because of little material available. Where a good selection is available locally at reasonable value a beginner makes a great mistake in going farther afield. Yet, this is what the majority are inclined to do. It is just another illustration of how poorly farmers pull together and how little they are apt to appreciate each other. Unquestionably the first place to look is among the local stock if such there be of any merit. Too often the beginner is apt to belittle the local stock; he should remember that good advertisements can make far away fields look green. However, it may well be necessary to go elsewhere, and in such event advertisements will lend direction.

The long distance stock with the extra expense incurred, and with information sometimes not very complete, at once suggests the matter of inspection. Many a pure-bred man has bought his first pure-bred as "a pig in the bag." It is unavoidable in some circumstances, and in many cases the contents of the bag has been all right, but it is not good business. If the information is complete and the circumstances fully known there is not so much to be said against it, but inspection when at all possible should be regarded as imperative.

The auction sale is a tremendous factor in the exchange of pure-breds. It is a necessary institution, but capable of both good and bad service. Its weakness is that it affords a dumping opportunity. Many of our sales are no such thing and are backed by ample guarantee, but the beginner should approach the auction sale with a critical mind, realizing that too many of them are a case of selling the horse at the halter with no mercy for the purchaser.

The exhibition is a fine place to see stock, to study it, to rate individuals, herds, etc., and an opportunity to purchase on inspection. The three drawbacks that have to be intelligently discounted are that, winning animals command an extra premium; fitted animals are more difficult to judge; and they are apt to be less satisfactory as doers and breeders unless in very good hands.

HEALTHY STOCK.

In economic animal production health is a governing factor; it is vital to the health of human beings; it is fast coming to be a dominating consideration in sale and purchase; and, let us hope, in the near future will be subject to much more stringent regulation. It behooves the young breeder, therefore, to make sure that he is leaving no stone unturned to insure a clean, sound foundation.

The first thing for him to do is to see that his quarters are free from disease, and that he is not harboring it before he starts. In the matter of purchase, suffice it to say here that every precaution should be taken; the reputation of the herd, if it has any in this respect, should be ascertained; the circumstances of breeding and sale should be intelligently and carefully looked into, and any test applicable should be thoroughly made. It is regrettable that in cattle particularly two diseases, abortion and tuberculosis, are all too prevalent and are spelling the ruination of many established herds, and many in the formation stages.

THE MALE A COMMON WEAKNESS.

The value of first-class males in herd establishment is difficult to overestimate. A single male can make or break a herd of any size. The small breeder finds it difficult to justify a big outlay for his small stock, and

Continued on page 1551.

A Partnership with Nature in the Hog Business.

THERE is no class of stock kept on our farms to-day which will permit of so quick a turnover in capital on so small an investment as the once despised hog. The porcine race of animals is to-day in the limelight, both from the consumer and producer's viewpoint. Their bacon helped save the food situation in the great world crisis, and throughout the reconstruction period is playing an important part in righting trade balances. The hog is a scavenger of the farm, and at the same time a mortgage lifter. There is little produced on the farm that he will not eat, and it is a common saying that the "squeal" is the only part of the carcass for which a profitable use has not been found. Hog feeders of by-gone days look with envy on the present generation marketing hogs on the hoof at twenty-four dollars per cwt., and woefully recall the days when dressed pork was drawn miles to market and sold at four cents per pound. The uninitiated glibly states that hog feeders are profiteers, and cannot understand how they can be otherwise, considering the wide margin in price. However, the man behind the pig, who shovels ton after ton of present-day concentrates into the self-feeder or trough, and carries pail after pail of milk, swill, or water, knows the expense and labor entailed in producing the two-hundred-pound hog. There is money in feeding hogs; of course there is, or there would be fewer on the market than there are, but the number is far too small for a country like Canada. Some men make a success of hog feeding, while others find the balance continually appearing upon the wrong side of the ledger. It is the same in every business.

J. O. Duke, "the pig king of Essex," says, "there is money in hogs that can be brought to the 200-pound mark at eight months of age. The earlier they can be made to reach this weight, the greater the profit. With proper care and feed, hogs should be ready for market at around six months of age." As the prices of feed and hogs fluctuates in much the same ratio, the above rule applies when hogs are selling at ten cents as well as when at twenty-two cents per pound. By knowing the age and weight of the hogs when marketed, the feeder's profit can be estimated.

There are several breeds of hogs, and representatives of all have made profitable returns in the feed lot; therefore, one may safely say that results do not depend so much upon the breed as upon the conditions under which the hogs are raised and fattened, the care of the breeding females, and the feeds used during the various stages of growth. The man who pays attention to details and makes a study of hog raising and feeding has not lost money in hogs in the past, nor is some other branch of the farm work obliged to carry the hogs.

Besides being a keen business man, Mr. Duke, of Essex County, is a student of whatever work he is engaged in. He does not follow a cut-and-dried rule, irrespective of whether it is the best or not, but initiative is shown in all his work. His system of handling hogs, while novel and by some hog men declared impossible, is working satisfactorily on his Essex farms, and, while practically all the feed is purchased at market prices, the returns are many times that of bank interest on money invested in equipment, stock and feed.

Health and vigor in all classes of stock are essential to success, and in order to obtain these in his breeding and feeding stock, nature is followed as closely as possible. No elaborate, expensive piggery is to be found on the farm. Sheds are provided to shelter the brood sows

and the shotes, and five-by-seven-foot, single-board houses are used for farrowing pens. Labor is reduced to the minimum by having self-feeders and running water for hogs of all ages. The accompanying illustrations show the farrowing pens, feed hoppers and hog wallow. We will endeavor to convey to the reader Mr. Duke's methods of handling the herd by describing in detail how the pigs are fed and housed from the time they are farrowed until ready for market.

Last spring there were seventy-two brood sows on the farm. These are pure-bred Duroc Jerseys, and were mated with a pure-bred Tamworth boar. The progeny of this cross prove to be easy feeders, and yet they have very good bacon conformation. The sows are bred to farrow from the tenth to the twentieth of March, and during September and October in the fall. During the pregnant season they run on pasture and obtain all the bran they want from a self-feeder. Bran is considered one of the best feeds for brood sows, as it is both laxative and bulky. When shorts are available they are used to a certain extent along with the bran. Just previous to farrowing, from six to eight per cent. of the feed consists of tankage, as this has been found to help prevent the sows from eating their pigs. The farrowing pens are made of shiplap lumber, and are five by seven feet in dimensions, two and a half feet high at the back and five feet in front. These pens are built on four-by-four scantling so they can be drawn from place to place. The front of the building faces south. A ten-inch board runs across the top and bottom. On the east side of the front is a door large enough for the sow to gain entrance. The top part is boarded and a board runs the entire height of the pen to the left of the door; the remainder of the front consists of a large door which is removed during the day but closed at night, or when there is a raw wind blowing. The advantage of this small pen is that the body heat of the sow will keep it sufficiently warm, except in extreme weather. It is always dry and if the sun is shining is quite warm even when the temperature is low. A guard-rail is placed on two sides to protect the young pigs. If the weather is very cold at the time of farrowing, a bag is placed over the door at night and a lighted lantern hung in the pen. Outside the pen is a yard, twelve-foot square, which may be constructed of rails or boards, as shown in the illustration. Both sow and young pigs exercise in this yard, and as soon as the pigs are strong enough to crawl between the rails or boards, feed is provided for them in a separate trough. These small houses have given better satisfaction as farrowing pens than large, more elaborate structures. The points in their favor are dryness, sufficient warmth, the young pigs cannot get far from the sow, and absence of the odor prevalent in a large piggery. After a sow farrows the proportion of shorts is increased and the bran decreased. From six to eight per cent. of tankage is fed throughout the milking period. If buttermilk, or skim-milk, is available it is given to the sows.

The young pigs are first fed on dry shorts, and as they commence to eat, other feeds are added, such as ground oats, wheat screenings, etc. Barley and corn have been found to be too strong feeds for pigs under 100 to 125 pounds in weight. When milk is available the young pigs get their share, and as the supply decreases it is supplemented by tankage. The ration for pigs up to 100 pounds weight consists of about fifty per cent. of shorts and the remainder of oats, screenings, etc. From four to five per cent. of tankage is the pro-

portion used for pigs up to 100 pounds, except in the case of young pigs where no milk is available they are allowed all the tankage they will eat. Pigs of all ages secure their grain ration from the self-feeder, and it has been found advisable to feed the different concentrates separately so that the pigs may choose the kind they like best. The big advantage of the self-feeder is that the small pig has an equal chance with the larger one, as it merely has to wait till the larger one gets his feed and then helps itself. Where possible pigs of like size should be kept together.

At the time the representative of "The Farmer's Advocate" visited Mr. Duke, 150 shotes weighing around 125 to 130 pounds were running in a large orchard, and everywhere one looked over the entire 300-acre farm hogs in different stages of development were to be seen. These were from the spring litters, farrowed about the middle of March in the pens above described. One would have difficulty in finding a more uniform, thrifty, healthy bunch. These were getting their rations from two self-feeders placed in the orchard. These feeders each had about eight feet of feeding space. Screenings were largely being fed to this herd.

In order to furnish an abundance of fresh water for drinking, a pipe was laid from an elevated tank at the barn to a trough in the orchard. A quarter-inch stream runs into the trough continually, the overflow from the trough supplying the water for the hog wallow. The hog wallow is considered essential. It aids in destroying vermin, especially if a little crude oil is poured into it. The water running into the trough continually gives the pigs fresh water to drink. The pigs are running in the orchard where they have pasture and shade. Mr. Duke did not consider that the pigs were in any way harming the trees. Other lots of pigs were running in fields where clumps of trees were growing in corners, so the pigs could have shade when not feeding. A couple of sows and their litters about six weeks of age were in a thriving condition in a piece of slash land.

On one of the farms is a green-house, which last winter was fitted up as a piggery. One would naturally conclude that this would be an ideal place for growing and finishing hogs, as they would have plenty of warmth. However, it was Mr. Duke's experience that pigs of the same age and weight, wintered in the orchard with but a single-board shed for protection, made more economical gains than those wintered under artificial conditions. Owing to so much glass in the green-house there was a considerable variance in temperature, and this had the effect of causing a certain amount of rheumatism to the inmates of the "glass house."

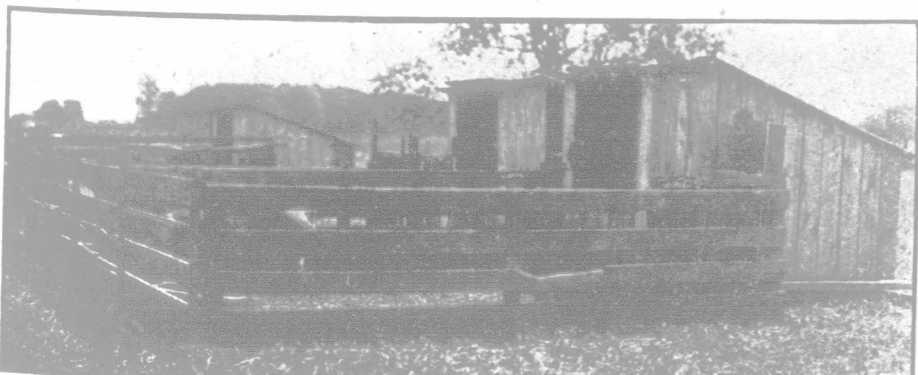
Hogs are fed entirely from the self-feeders. The accompanying illustrations will show two types of feeder in use; both are inexpensive. The one it will be noticed is made out of an ordinary packing box, set on its corner in the centre of a three-foot stoneboat. The bottom board on each side of the corner is removed to allow the hogs to get the feed, and the box is filled from an opening in the top. While waiting for lumber to make a self-feeder, one of the men turned the packing box into a self-feeder, and Mr. Duke says it is the best he has on the farm. The slope of the box prevents the water from running into the feed, and also prevents the pigs wasting the feed. On the farm where this box feeder was being used a regular water system has not been installed as yet, but in order that



Waiting Their Turn at the Boarding House.



A Packing Box Turned Into a Satisfactory Self Feeder.



Farrowing Pens Suitable the Year Round.



Fresh Water and a Wallow in the Hog Pasture.

the pigs might have fresh water at all times a barrel of water is drawn to the feed lot in the morning and a small pipe connects it with the trough, where a stream about one-eighth of an inch in diameter runs continually, the overflow forming a small wallow.

On this farm the maximum returns were being secured with the minimum of labor and expense. Around 600 hogs are being turned off twice a year, and, as a rule, they weigh around the 200-lb. mark at six months of age. To a large extent the hogs are allowed to run in a natural condition, so far as housing is concerned, and feed and water are available at all times. Mr. Duke's system may be followed by the average farmer residing in south-western Ontario, and may also be found adaptable to a larger section of the Province. It is certain that greater profits would be obtained if hogs were allowed to graze more. The farrowing pens above-mentioned may seem small and flimsy to the man accustomed to having pens ten by twelve feet in dimensions and eight or ten feet to the ceiling, where there is always more or less of a draft and dampness. However, these small pens have proven very satisfactory on Mr. Duke's farm, where the temperature goes to the zero mark and possibly lower at times. Following natural conditions as closely as possible is certainly more economical than creating artificial conditions, and, as a rule, maintains the health and vigor of the animal. The number of hogs kept on the farm need not be confined to the capacity of the present piggery; a few dollars will purchase sufficient lumber to build suitable pens for a sow and her litter, or for the growing pigs. A dry-goods box will make a satisfactory self-feeder, and a drinking fountain can be made with a barrel. Feed is the chief concern at the present time, but, with good clover or rape pasture and a supply of shorts, bran and finely-ground oats, the pigs may be brought along to 125 or 130 pounds. For finishing, barley, corn and screenings are generally procurable. Have the hogs weigh 200 pounds at six months of age if possible; if they are kept over eight months, they do not much more than break even on the feed consumed.

Our Scottish Letter.

The agricultural position here at present is somewhat uncertain. We are experiencing an almost unprecedented drought. Rain has, in some parts of Scotland, not fallen in any quantity for about a couple of months. During June we had cold, drying winds and something very like the feeling of frost every night. Vegetation on light land is burned up. Pastures are giving out and a very light hay crop is being secured under the most favorable auspices for that particular crop. In some parts of the country hay is being sold at £16 per ton. The ordinary pre-war price in a normal year was about £4, and, when the price rose to £5, hay was regarded as dear. The root crop has, in many cases, not got a start. Last year there was much re-sowing of roots—Swedes and turnips: this year the plants never appeared, consequently they never failed, and there was no need to re-sow. On the lighter soils in some parts of the West of Scotland the oat crop has already been cut down when in the green state, raked together and fed to stock on the soiling system. Potatoes are a sun crop; they have so far not suffered so much as other crops, but even now they cry out for moisture, and their haulms are failing. Only on the heavier deep lands do the cereal crops promise at all fair. Wheat and barley will be the crops of the year, and should the harvest be at all favorable the growers of wheat are likely to do well. Labor, in the broad sense, of the term, is in a state of perpetual unrest. In every department of industry and production men are striving to do as little as possible and to receive as high wages as possible. All sorts of theories are being advanced as to the cause of this undesirable condition of the body politic, yet few have the courage to declare squarely the real truth. There can be no doubt that the root cause is moral, or rather immoral. War is a bad thing and at its best, when waged for a good cause, it sets loose the worst passions of human nature. Regard for mutual moral obligations is at a discount: the outward and ordinary signs which indicate reverence for the Supreme Being and subordination to His revealed truth are either lacking or avowedly despised. Until men recognize these obligations and their implications, namely, the dignity of honest labor, the sense of mutual responsibility and political duty, the cultivation of a spirit of unselfishness, and the subordination of pleasure and luxury to honorable toil, there seems little hope of any permanent improvement.

Highland Shows Well Patronized.

Reference has been made to the financial success of the Highland and Agricultural Society Show. As an exhibition the event takes high rank. The Edinburgh shows of the National Society have always been among the best, and the show of 1919 in no wise differs in this respect from what has been. Entries of stock of all kinds were characterized rather by quality than by quantity. In the cattle section all the breed champions were male. The champion Shorthorn was A. J. Marshall's Edgote Hero 136371, a wonderfully deep-fleshed, short-legged, thick, red bull, which was first at the Royal and has already this season been champion at the Royal Ulster and the Royal Dublin Societies' Shows. This is a peculiarly-bred bull—that is, peculiar having regard to the accepted standards of breeding according to families, etc. He was bred by the Edgote Shorthorn Company, Edgote, Banbury & Co., and was got by Earl of Kingston 120011, out of Evelyn, whose sire was King Christian of Denmark 86316. Both of these sires suggest a combination of Bates and Cruickshank

blood, and carry us back to the memorable dispersion sale at Ruddington Hall, Nottingham, which followed on the death of Philo L. Mills. The blending of Bates and Cruickshank blood is no easy task. It is apt to miscarry, but when achieved with success the product is good—very good. Edgote Hero has been sold to Falconer L. Wallace, of Balcairn, Old Meldrum, Aberdeenshire, for it is understood round about £10,000. The results of his use in the herd will be watched with keen interest. Mr. Wallace has purchased Balcairn and removed his herd from Edgote to that farm in Central Aberdeenshire. He is himself a Strathdon man.

The champion of the Aberdeen-Angus breed was Captain C. T. Scott's Etrurian of Bleaton 41498, also a bull rising three years old, and from Buckland Manor, Broadway, Worcester. He was bred by J. M. Marshall, of Bleaton, Perthshire, and was champion at the R. A. S. S., Cardiff. Mr. Marshall has a fine herd of Aberdeen-Angus cattle, and a notable flock of Blackface sheep. He is rapidly coming to the front as one of the most successful stock breeders in Scotland. Captain Scott is a comparatively new patron of the Aberdeen-Angus breed in England. He has made a splendid start—Etrurian of Bleaton is a typical representative. He is thick, round-ribbed, well-filled in behind, and full of the indescribable thing called breed character. His sire was Baron Beauford 35480, and his dam, Etruria of Bleaton 52860, was by Emillo of Doonholm 31756. James Kennedy, of Doonholm, Avr, who bred the bull last-named, had the best Aberdeen-Angus cow at the H. and A. S. Show, namely, Biota of Doonholm 56632, and with her won the Balmalloch Cup. The Galloway champion was Sir Robert Buchanan-Iardine's seven-year-old bull, Jovial of Blackcombe 11716. He was champion at the R. A. S.-E. Manchester, in 1916. He is a very heavily-fleshed bull, which might be improved in respect of formation of his head. He is very well finished at the tail-root and on the plates, and won with the approval of the ringside. The reserve was Messrs. Thomas Biggar & Son's first-prize two-year-old heifer, Lizzie, 21st of Chapelton 25710, from Chapelton, Dalbeattie. She belongs to the same race as John Cunningham's second-prize old bull from Tarbreoch, Dalbeattie. This is Sapphire 12268, a five-year-old, which won champion honors at the Royal, Cardiff, and was sire of the two bulls which took champion honors at the Castle Douglas Spring Show in the past two seasons. The Galloway breed was well represented at the Highland, and the breed society is showing commendable enterprise under the secretaryship of Frank N. M. Gourlay, Milnton, Tynon, Dumfriesshire.

The Highland breed is rather falling into the background, and under the presidency of the Marquis of Graham, an effort is being made to push the breed. Two handsome silver challenge cups have been subscribed for, and will be competed for annually at the shows of the Highland and Agricultural Society. The breed champion this year, and the first winner of the Challenge Cup for bulls, was the Earl of Southesk's Merlin 2nd, a red brindled two-year-old, bred by the Earl at Kinnaird Castle, Brechin, and a wonderfully level and true specimen of the breed. The champion female and reserve for breed honors was Lady Currie's Proiseag Sgiathach 2nd of Garth 8386, a lovely six-year-old cow, well haired and wonderfully sweet and true to feminine character. Ayrshires seldom make much of an appearance at a July show. They are seen to best advantage in spring. The breed champion this year was, however, a spring champion as well. This is Wm. Murray's four-year-old bull, Barboigh Dignity 14806. He was champion at Kilmarnock in spring, and is a marvellously straight, well-balanced bull with long quarters. He shows himself well, and it is reported that he has been sold for a long price for export. The British and Friesian breed, as it is called, in reality the Black and White breed of Holland, makes rapid strides in Scotland. The exhibits at the Highland were more than creditable. The breed champion was, however, not strictly a British-Friesian. He was the imported bull, Commieston (imp.) Roland 3721, bred by D. H. Halliesina, Warga, Holland, and now owned by George Harold Winterbottom Jr., Harton Hall, Northampton. He was originally owned in this country by Major David Anderson Spence V.D., of Conveth Mains, and Dunninald Mains, Montrose, a keen patron of the breed. Commieston (imp.) Roland was sold at one of Major Spence's sales at a very long price.

Clydesdales were a very fine show. Indeed, they were the feature of the Edinburgh exhibition. The champion stallion and winner of the William Taylor Memorial Prize, as well as of the Renfrewshire Gold Challenge Cup, was Thomas Clark's first-prize two-year-old Rising Star 19836, from Pitlandie, Stanley. He has been unbeaten this year, taking finally champion honors at Aberdeen last week. His breeder was John P. Sleight, St. John's Wells, Fyvie, Aberdeenshire. At the show Mr. Sleight won the championship for mares, the Cawdor Cup, and indeed all there was to win, with his first-prize brood mare, Wells Lady Ray 44060, a five-year-old, bred by Messrs. W. & C. Mundell, Delrig, Ross-shire. She was also female champion at Aberdeen last week. At the Highland, Mr. Sleight won first with his aged horse Kismet 18117, first with Wells Lady Ray, first with his three-year-old mare Esta, and third with his two-year-old filly, Blackwood Dawn. At Aberdeen the last-named was junior female champion. A feature of the H. & A. S. Show was the magnificent show of Clydesdale geldings. The four in the aged class were very fine draft horses; the first-prize three-year-old is of outstanding quality and style, and the first two-year-old promises to be one of the best horses seen for many a day.

SCOTLAND YET.

THE FARM.

Growing Prize-Winning Crops and Preparing Exhibits.

The standing field crop competition has grown to enormous proportions in the Province of Ontario, and thousands of farmers have for years been taking special pains with certain fields in an effort to produce a winning crop. Many have won and many have not, but there has been driven home a keener appreciation of the advantages of good seed and good cultural methods. A number of farmers have done exceptionally well in these competitions, and thinking that perhaps their methods of producing prize crops, or prize grain, might be more or less applicable to grain production in general, a representative of "The Farmer's Advocate" made a special visit to several farmers whose names have figured most prominently in annual reports, and whose grain we have seen bedecked with ribbons at fairs and exhibitions. We realize in the beginning that one will not count the cost so closely when to win is the chief aim, but the very act of winning signifies the cultural methods employed were just about right, and it remains for farmers in general to adopt those methods just to the extent that they will prove profitable in general cropping, and no further. The various facts contained herein are set down in this spirit and we ask readers to adopt the same attitude.

The name of Robert McCowan, York County, Ont., is familiar to many crop competitors, largely on account of his success throughout a period of ten years in the field contests and his sensational win at the Canadian National Exhibition in 1914, where, in competition open to the world, he defeated Saeger Wheeler, the wheat wizard of the west, with exhibits of wheat and oats. When asked as to the secret of his success Mr. McCowan replied: "I have always studied the methods employed by good farmers and have endeavored to learn from them. So long as the late Simpson Rennie was alive I could never get to the top, but I watched him closely as well as other successful farmers with whom I came in contact." He then went on to relate how the soil is prepared, how planting is done and how a field entered in the contest is handled from start to finish. The important parts of the methods outlined are herein briefly recorded. Either a sod or root field is selected. If a sod field is chosen it is plowed the previous summer as shallow as possible, say from 2½ to 3 inches deep. Throughout the autumn this surface is thoroughly worked up and torn to pieces with the grubber and other implements and then plowed twice more before the fall season is ended. A root field one year out of clover sod also makes a very desirable location for a competing crop.

In the spring a good seed bed is prepared as early as possible, but before planting the seed is very thoroughly cleaned and treated for smut. Formalin is considered an effective preventive by Mr. McCowan who said that not a head of smut occurred in his field this year. Another practice which is far from common is to make an application of salt just prior to seeding. Between 200 to 300 pounds are applied, Mr. McCowan said, to stiffen the straw and prevent rust. Throughout the growing season the field is watched closely and any stray weeds are removed.

If it is deemed desirable to exhibit a sheaf at the exhibitions he goes into the field and takes out sufficient grain just before the field is cut, or the binder is followed and the tall stalks with good heads are commandeered. These are taken to the barn and dried so the dew or rain will not discolor the straw. For an exhibit of threshed grain good sheaves are selected and cared for in a similar manner until threshed.

When making an exhibition sheaf, the leaves are stripped from sufficient straws to cover the outside thus giving the sheaf a bright clean, neat appearance. To help in the construction of the sheaf two small barrel hoops are employed. One is supported the proper distance above the other by pieces of scantling and a small gap is left in the upper hoop where the straw may be passed in.

At the time of our visit to this farm a part of the threshing floor was occupied with sheaves, being dressed up for exhibition and we are inclined to the belief that exhibitors at the leading fairs will meet keen competition resulting from this preparation.

ANOTHER METHOD THAT BRINGS RESULTS.

Wm. Hutcheon of Wellington County, has also met with a fair measure of success in the standing field crop competitions, having won in the field contest the following prizes: two firsts, one third, one fifth and one sixth. A feature worthy of notice also is the fact that these crops were all produced in different fields. Mr. Hutcheon lays emphasis on two factors: first, the ground and, second, good seed must be planted. Clover is not grown extensively in his locality and the method of producing a competing crop is somewhat unique. A crop of mixed grain follows sod. Then a light dressing of manure is applied, about 6 loads per acre, and the next year the prospective prize crop is grown. Care is taken not to have the soil too fertile else the grain might lodge. Mr. Hutcheon specializes in the exhibition of threshed grain and won the sweepstakes at the Guelph Winter Fair in 1917. To get a good sample the best part of the field is selected and the sheaves are capped. This is threshed separately and run through the fanning mill several times. When threshing the grain is fed into the machine rather slowly thereby getting a cleaner product. The speed created by slow feeding has a tendency also to remove any tails from the grain.

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A WINNING FIELD ON WELDWOOD FARM.

A first-prize field of oats grown on Weldwood Farm this season was produced in the following manner: A corn field, following clover sod, which received ten loads of manure last year was chosen. This was plowed last fall and double disked and twice harrowed this spring. The seed was run through the fanning mill twice coming out well-graded and entirely free from other varieties. Extra care was taken to have good seed, it was treated for smut and sown at the rate of 9 pecks per acre. The field is well-drained so it was possible to get the seed in during the last week in April. During the summer any thistles which appeared were cut off and other stray weeds were pulled out. While the crop is not threshed at time of writing it had every appearance of going 60 bushels strong per acre. The variety was O. A. C. No. 72. This treatment, it will be observed is not uncommon and no more than should be practiced at any time. In fact the 14-acre field of which the competing crop was a part, was dealt with in this manner and responded the same throughout.

CANADA'S YOUNG FARMERS AND FUTURE LEADERS.

Halton Calf Club Sale Unique.

A very unusual and progressive event was staged last Wednesday, August 20, by the Halton County Shorthorn Calf Club when the first annual sale of heifers occurred at Oakville. This event was unique from the fact that the calves were all exceedingly well bred besides being owned by the boys and girls belonging to the calf club. The sale was advertised in the way all established pure-bred sales are advertised and a handsome catalogue of entries was printed in the usual Shorthorn form of abbreviated pedigrees. The sale has been anticipated since early spring when the calves were first distributed, it having been made a condition of membership that the members of the Club must allow the animals to go through the sale-ring some time later on. The stock was exceptionally well bred and a great deal of credit is due W. F. Strong, Agricultural Representative, and the local Shorthorn breeders, for initiating a club and consequent sale of this high standard.

The boys and girls, too, who had purchased the animals deserve hearty congratulation upon the success of their first attempt at calf rearing and auction selling. It was certainly most interesting to see the live interest taken in the day's events by the boys and girls whose heifers were to be sold. They hung around the stables all day caring for and putting the finishing touches to their animals. Some were speculating as to the probable price the heifers would bring in the sale, while others had not much to say, but had already made up their minds that they would not let these good animals pass out of their hands.

Although the sale was not scheduled to begin until one o'clock, the heifers were all judged in the forenoon by Prof. G. E. Day, Secretary of the Dominion Shorthorn Association and liberal prizes were offered for each of the three classes into which the 27 animals were divided. These classes were established more or less upon the value of the animals and in the list of individual sales which follows, winners of the first four prizes in each class are given. The sales are reported in catalogue order and the first nine animals were in class one, the second nine in class two and the last nine in class three.

The boys and girls who won the first four places in each of the three classes are as follows: Class one, 1, W. Sherwood, Freeman; 2, Stanley Alton, Freeman; 3, Chester Early, Norval; 4, Gordon McMurray, Oakville. Class 2: 1, Robert McLean, Palermo; 2, Max Heslop, Palermo; 3, Thos. Burtch, Palermo; 4, Douglas Emerson, Freeman. Class 3: 1, Bert Fuller, Oakville; 2, Alex McNiven, Freeman; 3, Carman Sherwood, Freeman; 4, Harold Early, Norval. Max Heslop, won the prize of \$10 in class four for the animal in the best sale condition. He won with Meadowsweet Jewel 2nd. Robert McLean, Palermo, won a silver cup donated for the animal making the greatest profit over the cost price. His heifer, Victoria Varden, sold for \$425, and cost originally \$200.

A very large crowd, probably 500, turned out for the sale and a great many were present in the forenoon also for the judging. Both sex and all ages were represented as indeed they should be at events of this kind. The result of the sale financially could not help but be satisfactory to all concerned, especially since the very creditable average of \$288.51 was secured for the 27 heifers sold. The \$400 mark was reached twice and a goodly portion of the entries were knocked down at figures above \$300. The sale total was \$7,790. A very good feature of the sale in some ways was that whereby a boy or girl could bid on his own calf and buy it in. If they bought it in they were only responsible for the original purchase price, but if, when it had been run up until they preferred the money, they were entitled to all above the original price. It was really surprising, and agreeably so, to see how many preferred to keep their heifers than to sell for even \$100 above the purchase price.

Just before the selling began Professor Day spoke briefly, commending heartily the spirit of the breeders in the neighborhood and also the fine condition in which the animals were brought to the sale by the boys and girls, as well as the manner in which they handled their animals in the judging ring. He thought we need more cattle in Canada, perhaps, than we need any other one thing;

and that the idea of getting the young people interested in this important industry was one of the happiest ideas that had yet been developed. He urged the boys and girls and their parents not to let the calves go out of the county, but to hold on to them and start the nucleus of a pure-bred herd. The large number of calves that did stay in the county testifies amply to the spirit of the club members. The list of individual sales is as follows:

Bellwood Rose, E. Emerson, Freeman.....	\$340
Winsome Daisy, (1st.) Wm. Waldie, Stratford.....	335
Agnes Buckingham, (4th), Gordon McMurray, Oakville.....	335
Missie of Glenholme 5th, Wm. Waldie.....	395
Minas Roan, (3rd) Chester Early, Norval.....	365
Miss Ramsden 171st, Colin Beaty, Milton.....	330
Countess Mina, (2nd), Stanley Alton, Freeman.....	350
Flora, Erwin Gunby, Tansley.....	300
Clarewood Cranberry 5th, Colin Alton, Freeman.....	400
Meadowsweet Jewel 2nd, (2nd), R. Bessy, Claremont.....	375
Royal Belle 2nd, (4th), Douglas Emerson, Freeman.....	315
Cecilia 6th, (3rd), Thos. Burtch, Palermo.....	290
Victoria Varden, (1st), Robert McLean, Palermo.....	425
Wimple Stamford, Sam Newell, Millgrove.....	250
Clarewood Isabella, Gordon Breckon, Bronte.....	250
Golden Drop 8th, Royden McMurray, Oakville.....	260
Matchless 36th, E. Robson, Deffield.....	210
Roseleaf 2nd, Geo. Turner, Streetsville.....	295
Lady Gloster, Gordon Breckon.....	205
Marjory, James Hartop, Claremont.....	205
Minnie May 6th, Dora Ryan, Trafalgar.....	250
Roan Lady (1st), Bert Fuller, Oakville.....	235
Clarewood Queen, James Gibson, Oakville.....	130
Lady Flora, James Hartop.....	200
Flora 151st, (3rd), H. S. Pugh, Claremont.....	225
Flora 150th, (4th), A. S. Wilson, Bronte.....	310
Spring Valley Dorothea 2nd, Geo. Adams, Oakville.....	210

AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.

Lightning and Lightning Rods.

Scientists believe that evaporation of moisture from the earth causes the particles of moisture to become electrified and as the particles of moisture unite to form clouds, these clouds become electrified. Gradually the "potential" between the earth and the clouds becomes more and more different until it becomes so great that the air between breaks down and electricity passes from the clouds to the earth. This electricity comes only from the lower part of the cloud so that after the discharge takes place the cloud must adjust itself and discharges, therefore, take place between the various parts of the cloud causing the apparent boiling of the upper parts. Many lightning discharges can take place in the same storm because the cloud having adjusted itself can discharge further sparks from its under side.

Clarkson describes very simply in the following paragraphs the safest method of rodding a barn so as to prevent a building from being struck:

"The chief use of a lightning rod is to prevent a stroke of lightning taking place rather than in conducting a discharge to earth, although the latter must be provided for. The barbed wire is particularly desirable because of its multiplicity of sharp points, whereby what is known as the "silent discharge" can take place from a building. This prevents the gradual accumulation of an electrical charge, and no lightning stroke can take place. At suitable intervals on large buildings larger sharp points, say six to eight inches, should be placed

in a vertical position and well soldered to the main rodding. The large points should in every case be as nearly vertical as it is possible to get them.

"For a connection, it is not sufficient to stick the end of the rod in the ground. Such carelessness might prove disastrous. The ground is the vital part of the whole rodding system, and too much care cannot be given to it. The grounding device should be buried at least ten feet deep in the moist earth, and should be perfectly connected to the main rod by welding or soldering. It should be thoroughly protected from rust or other deterioration, and care should be taken that the earth is closely packed around the rod where it enters the ground. The best grounding arrangement is a large piece of metal or a very large bundle of wire, particularly barbed wire.

"To show how the rules laid down above should be applied, we may take the case of a barn for example. Assume that an inexpensive system is desired, and so barbed wire is to be used. First, lay a double strand along the ridge pole from the back peak to the forward peak, then down the sloping edge of the roof to the eaves, along the eaves, up the sloping edge at the back end to the peak, down on the other side and along the opposite eaves, up the remaining sloping edge to the front peak where we started from. Here we may cut the wire, leaving a length of four or five inches, which should be tightly bound to the first wire with copper wire. This joint should be flooded with solder. At the back eaves sufficient wire must be left to reach down to the grounding device. Where this ground wire crosses the other two should be bound together and soldered.

About every eight feet along the ridge a cross wire is placed, extending down to the eaves wire on each side, the joints all being bound and soldered. If the barn has a gabled roof, another wire should extend along the outer ridges, being carefully connected to every cross wire. All the wires must be fastened directly to the wood by means of double pointed staples. Under no circumstances should insulators be used, as they render the whole system useless. Moreover, all metal on or near the barn must be connected to the lightning rod. Any wire fences nearby must be connected to the ground wires. It is well, also, to thoroughly connect all wire fences on the farm to the ground at intervals of fifty feet, as by so doing stock standing near the fence in a thunderstorm will not be in danger.

The ground wires for the barn should extend from all the lower eaves' corners and from the back peak directly to the ground in as straight a line as possible. They should hug the woodwork closely, but not follow all of the bends and corners. If the door is on the long side, a ground wire should extend also from the front peak. Each ground wire must be bound to the top network and soldered or welded.

For each grounding device, coil up a hundred feet of the barbed wire in a ball and bury it ten feet deep. This can be a continuation of the ground wire. In covering the ball add water to the dirt as it is thrown back in the hole, and it can be stamped down much tighter around the grounding device than if dry earth is used.

At both peaks and about every twenty-five feet along the ridge erect sharp points six or eight inches long. Preferably they are made of heavy copper wire filed to a point at one end.

The bottom end may be bent for binding and soldering to the wire on the ridge pole. Similar points should be placed along all the ridges on a gable roof.

If the work is properly and carefully done, the result will be a wire cage solidly joined throughout and completely covering the barn. The wire will have a multitude of sharp points and will be thoroughly connected to the ground in several places. In the case of a very long barn there should be extra ground wires from the eaves at the middle points of the long sides. The whole, except the copper points, may be well painted frequently,



A Good Type of Farm Dwelling.

[Rather large, perhaps, for the average farm, but the plan can be adapted to suit requirements.]

THE DAIRY.

Rearing Dairy Heifers for Heavy Milking.

Large milk yields are the desire of every dairyman. Those who produce commercial milk know that economical production in large quantities is necessary to success. On the other hand, breeders of pure-bred cattle know full well that to get the most out of a cow is the only way to realize the greatest possible monetary value from her or her progeny. The prevalent reliance upon test records by purchasers of pure-breds has been the means of reducing milk production to a very fine art and it need occasion the layman no surprise to learn that animals of world record calibre are cared for with scrupulous attention to detail and are fed with a promptness and exactness as to quantity that is not exceeded by the attention given to human patients in our hospitals. Men are employed to work those cows who have made it a life study, and the knowledge a good feeder will develop regarding individuals in the herd under his care is "canny" to say the least.

No little importance in the future milking qualities of a dairy heifer is attached to the way she is reared from a new-born calf to maternity, since it is assumed, from long years of practice and a multitude of experience that her best work as a cow can only be secured if she has been grown to maturity under conditions that have been most favorable for her development. "The Farmer's Advocate" has sought to reproduce here, methods of rearing dairy heifers that are practiced by some of our most successful pure-bred breeders and particularly those whose herds are known to be well bred and to have given to the dairy world, records that are notable. Representatives of the three common breeds have been approached, and the sum of their practice is here recorded. John McKee and Son, Walburn Rivers, B. H. Bull & Sons, Harmon MacPherson, Roycroft Farms, Gordon Duncan, Alfred and George Baggs and other successful breeders have contributed to the material in this article and such suggestions as follow are taken entirely from the practice of one or another of these men.

Naturally, practice varies somewhat with each breeder, but so far as essentials of calf and heifer management are concerned all are in practical agreement. To avoid confusion of ideas we first intend outlining more or less in detail the methods followed by one of these breeders in rearing a cow that made a world's record as a two-year-old. Fall calves are preferred to those born in the spring, especially during the late spring months. These are too young to withstand the heat and flies of the summer and it is largely because of this fact that fall calves seem to be more growthy and get off to a better start. They get wholemilk from four to eight weeks depending upon the vigor of the calf, after which skim-milk is gradually substituted, about two weeks being required to change over. The whole milk is fed three times a day, each calf getting from 12 to 13 pounds in the three feeds. By the time all the whole milk has been taken away, the amount will have been increased to 15 to 20 pounds of skim-milk. The latter is continued until the calf is from 10 to 11 months old, depending somewhat on the calf and the quantity available.

From the time the calf is a month old it gets all the clover hay it wants, but hay is never fed in big feeds to calves, in order to keep them from becoming pot-bellied. When the first skim-milk is fed, meal is also given for the first time. About a pound a day is fed at first of a mixture made up of 100 pounds oat chop, 100 pounds bran and 25 pounds of oilcake. In no case should more meal be fed than the calves will eat up clean and relish. The animals should be watched closely and the feed regulated by the condition and vigor of the calf. On this farm particular care is taken to keep the froth on skim-milk away from the calves. It may kill the calf eventually, but in any case it is composed chiefly of air and will throw the calf off its feed, probably physic it and make the hair stand on end.

If there is room to do so, the calves are always kept inside for the first year and roomy calf pens or boxstalls are provided for them. Exercise is absolutely necessary and the calves should never be crowded. If it is possible to prevent it small calves should never be put in the same pen with larger ones because they will not get the same chance to develop. The grain ration is gradually increased as the calves get bigger until by the time they are weaned from skim-milk they get 4 or 5 pounds per day.

When winter arrives the spring born calves are changed off to a ration of about 10 pounds of roots, about the same quantity of silage and enough red clover hay to make up the balance of the roughage necessary. Grain is increased only enough to keep the heifers in good condition and each one is watched carefully. By spring the heifers are ready to be turned out on grass where, if pasture is good, as it usually is for several months, they require no other feed. During this summer they are bred and in the fall they are again put on a ration of grain made up similarly to that given the calves. They are also given hay, silage and roots. The grain ration is gradually increased until at two months before calving heifers should be receiving about 14 or 15 pounds of grain per day. Oats are particularly valuable as a growing feed, although on this farm they are not so highly regarded for milk production.

About two months before freshening the heifer should be put on a ration containing a larger proportion of oilcake; about 75 pounds instead of 25 pounds and 100 pounds each of the oats and bran. In addition they get at this time some alfalfa and clover hay, about 20 pounds of roots and 20 to 25 pounds of silage. They are fed four times a day just as though they were milking and on test. Punctuality is greatly emphasized in feeding and is considered to be of primary importance whether feeding on test or during the fitting up period.

About a week before freshening nearly all the grain is taken away, only 4 or 5 pounds, principally bran, still being fed. This, with roots and hay, will keep the bowels

86 pounds of milk per day gave just as much milk on 26 pounds of grain as on 32 pounds and the largest amount ever fed the world's record cow was 22 pounds. Another cow made her best day's showing (127 pounds) on 28 pounds of grain.

Practice varies even among good feeders and breeders. One very successful breeder does not believe that heifers should be forced on test at two years old, while another said that they had never really forced any cow whether young or old. The former believes that considerable can be done in feeding to develop capacity in the young and growing animal by use of roughages. Relatively large quantities of rough feeds will develop the digestive apparatus of the animal so that when put on test as a mature cow it will be able to utilize large quantities. Others mix straw with silage for young stock for the same reasons, using as much as possible without adversely affecting the condition of the animal. One Jersey breeder stated that while a growing heifer should never lose her calf flesh, she should never be allowed to get fat, because a fat Jersey calf will never make a milker. A good thrifty condition is desirable. Neither should a calf get over hungry if the most favorable growth is desired.

Another breeder who has had marked success in developing heavy milkers under R. O. P. testing begins feeding a double handful of meal mixture twice a day as soon as the calves get all on skim-milk. This meal is made up of equal parts of bran and oatmeal with a taste of oilcake added. He believes in letting the



The Best Five Jersey Cows in Milk at the National Dairy Show, 1918.

loose until calving time. Within 15 or 20 minutes of the time the calf is dropped the cow should be given a half pail of warm water and this should be repeated at intervals until she will no longer take it. When given promptly and regularly this simple treatment will eliminate a great many probable evils immediately after calving. The young calf is given only half a day with its dam unless it is weak, when it may be left 48 hours. Generally, the calf is allowed to suckle its dam only once.

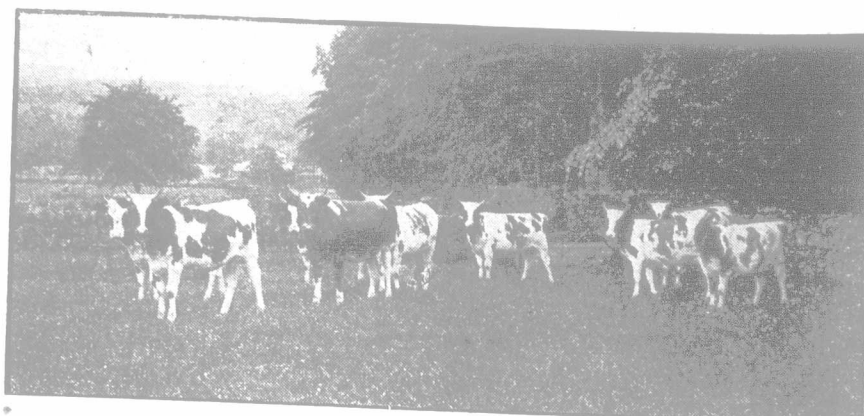
After calving the dam should be fed very lightly gradually bringing the cow up to normal feeding after the fifth day. By the tenth day she cannot be hurt much with feed if care and good judgment are used. Occasionally tests are started on the seventh day, but in any case heavy feeding is not started until the tenth day. Regularity in milking as well as feeding are cardinal essentials to heavy production on this farm. If a milker is more than five minutes late he knows beforehand that he has started something. The cows are up and ready punctually on time and if the milker is late they may not let down their milk so readily. Cows are always brought out of a test in good condition. Moreover, grain is fed very carefully. Every bit of grain fed is very carefully weighed and it is never increased more than a tenth of a pound at a time to cows on test. Since they are milked and fed 4 times a day this means a possible increase in grain of nearly half a pound per day. A cow must respond to each increase before a further increase is made and after increases have been given for a day, she is allowed to go on that quantity for another day before giving her more unless she comes up very quickly. The opinion is held that too great a tendency is shown toward heavy feeding. It was found for instance that a cow giving

winter and early spring calves out on pasture the first summer, but June calves or those coming later he keeps inside. The older calves, he says, if kept inside, will not know how to act the next summer when they get out and will not gain as they should. The calves are left out until October and occasionally later, getting skim-milk all the time, preferably until they are a year old and always up to nine months. They are bred to come in as soon after 2 years of age as possible. No special fitting before calving is practised, heifers not milking getting no grain whatever during the summer. The owner believes, however, that if he was working for big seven-day records he would have to fit his heifers before calving. If the heifers are bred in February to calve in November they get grain when they come in the stable in October. Heavy feeding on test for a cow giving 80 pounds per day would, in this herd, mean a ration made up as follows, the feed always depending, however, on the cow and her ability to use it: 6 pounds bran, 6 pounds rolled oats; 4 pounds oilcake, 4 pounds gluten feed and 4 pounds cottonseed meal. If this ration were to be increased, something would be added to the bran and rolled oats.

The methods of rearing heifers outlined above are those practised by men with pure-bred cattle who are doing more or less testing for high records. Nevertheless the principles of successful growth in young cattle are the same whoever follows them and it is only natural to believe that these men merely put them into effect with more exactness than the average dairymen. In this lies much of their success and the man who is engaged in commercial milk production should be able to get much that will be of value to him from a careful study of what experience has taught these successful feeders.



A Group of Good Dairy Herd Prospects.



Some Ayrshire Heifers Growing into Milkers.

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Sidelights on Profitable Dairy Farming.

It has often been stated that milk and its products are among the cheapest, if not the cheapest foods eaten by human beings. It has been stated often enough, too, that farmers are comparatively poor business men, and that the cost of production could be very materially reduced if they would apply to their farm work the same thought and intelligence that a manufacturer applies to his business. Nearly every farmer in Eastern Canada must by this time be more or less familiar with the general results of the farm survey conducted in Oxford County, Ontario, by the Depart-

ment of Farm Management, O.A.C., Guelph, and must have read of or heard discussed the relative labor incomes shown to have been made from dairy farms of different sizes in this county. Considerable is made from time to time of the more or less isolated cases of unusually large farm labor incomes which are shown up by such surveys and by those whose work takes them among farmers fairly constantly.



A Well-bred and Well-fed Dairy Herd.

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It would seem desirable, therefore, that the truth should be sought with regard to these "large" labor incomes. We must confess, however, that the idea which prompted a representative of "The Farmer's Advocate" to visit a number of these successful farmers in Oxford County was not so much to point out to envious (?) city dwellers the road to prosperity through agriculture, as to endeavor by such analyses of the methods on these farms as could be made, to be of such assistance as possible to those of our readers who are engaged in dairy farming. Data is here presented from eleven dairy farms, each of which gave its operator a labor income considerably in excess of the average of other farms with the same amount of tillable land. Not all, but nearly all of these farms have actually been visited and wherever possible the owner was interviewed. The first farm referred to gave the largest labor income reported from a dairy farm in the county, and is included here largely as a "curiosity" and not as indicative of the true returns from dairy farming. Further reference will be made to this farm later. To dairymen there is this also to be added, that the figures are those given by the owners themselves, and are as correct in detail as it is possible to secure them. Very few farmers keep accurate accounts; if they did, many of these labor incomes would undoubtedly be smaller, or at least different. The relative accuracy of survey figures cannot be questioned, however, especially when as many as 400 farms are recorded. We wish, too, to call attention to the item "cost of feed per cow" referred to in nearly every case. Actually these figures refer to the average cost of feeding a single live stock unit for the year, and include the cost of feeding a horse, or an equivalent number of sheep or pigs, as well as a mature cow. Thus these figures are relative rather than absolute. They are, nevertheless, relatively true, especially since the majority of the live-stock units on these farms are actually dairy cows.

FARM "A."

A labor income of \$4,515 causes this 200-acre farm to apparently stand out as the most profitable of the 437 farms included in the survey. It contains 169 acres of tillable land, of which 149 acres were in crops. The owner has owned this farm for 14 years, and has owned a farm since he was 27 years of age. He is now 67. The total capital invested is \$26,569, of which \$18,000 is in real estate, \$6,000 in buildings, \$2,300 in machinery, and \$5,269 in live stock. A four-year rotation is followed, consisting of corn, oats, hay and pasture, and the crops grown in 1917 were as follows: Winter wheat, 6 acres; Oats, 20 acres; barley, 4 acres; oats and barley, 50 acres; corn, 30 acres,

hay, 30 acres; 5 acres of turnips and an acre of potatoes. These crops were 11 per cent. better than the average, while the live stock, consisting of 28 grade Holstein cows, 19 head of young cattle, a pure-bred bull, 7 horses, 2 colts, 16 hogs, 100 hens and 5 colonies of bees, were 58 per cent. above the average. Sales from the farm during the year consisted of milk, \$5,400; eggs, \$100; crops, \$338, and live stock, \$1,682. Current expenses, including \$630 for feed purchased (nearly all concentrates) and \$1,333 for labor, amounted to \$2,578, but machinery for threshing and silo filling is owned on the

\$270, and crops \$529. The receipts per cow were \$109 as compared with \$103 for all other farms, and the cost of feed for each was \$58.9 as compared with \$69. Each man cared for 36 acres of crops as compared with 45.3 acres on other farms of a similar size, while each of the 7 work horses did the work on 17.7 acres of crops as compared with 17.3 acres. This tenant is 23 years old and has two years of agricultural college training.

FARM "C."

This 150-acre farm returned a labor income of \$3,242, principally secured from the sale of dairy products, which furnished 83 per cent. of the total farm revenue. These crops were only 65 per cent. of the average, and consisted principally of oats, corn for silage and hay amounting to 108 acres all told. On the other hand the live-stock index was 28 per cent. above the average, and the stock consisted of 20 grade Holsteins, 3 teams of horses, 9 Shropshire ewes and 100 hens. The owner had owned this farm for 17 years and had rented for 6 years previously; the total capital now invested in the farm being \$19,447, of which \$13,000 is in real estate, (including \$4,600 in buildings); \$4,000 in live stock, and \$1,826 in machinery. Labor during the year cost \$825 as compared with \$463 for other farms of the similar size. Concentrates purchased amounted to \$1,129 as compared with \$389, while current expenses amounted to \$2,385 as compared with \$1,377. Receipts in milk per can amounted to \$155 in comparison with \$103 for all the farms in the survey, and feed, bought per cow cost \$64 as compared with \$69. Each man raised 42.5 acres of crops and each horse 18 acres. Milk sold amounted to \$4,833, eggs \$150, live stock \$1,101 and crops \$533. Summer dairying was largely practiced, the milk receipts for April and May practically equalling those of the six months from September to February.

FARM "D."

This farm has the apparent distinction of having returned its owner the highest labor income (\$2,937) of any farm in the group with 76 to 90 acres of tillable land. This compares with \$1,237, which is the average labor income on all the farms of similar size. It is 118 acres in size with 90 acres of tillable land, of which 80 acres were under crops. The owner was a tenant for 15 years, and had owned this farm only 2 years. Dairying provided 93 per cent. of his revenue, and his live stock rated 42 per cent. better than the average, although his crops were 23 per cent. poorer than the average. A three-year rotation is followed, consisting of corn, grain and hay, and crops grown were as follows: Winter wheat 6 acres; mixed grain 27 acres, corn for silage 15 acres; hay 30 acres, and an acre of potatoes and turnips. A pure-bred Holstein bull, four pure-bred and eleven grade Holstein cows constituted the mature cattle, while 70 per cent. of the young stock were pure-bred. Two teams do the work, while other stock includes a brood sow and 50 hens. Capital invested amounts to \$14,870 including \$10,000 in real estate (\$5,500 in buildings), \$688 in machinery and \$3,337 in live stock. Current expenses were very low, amounting to only \$679 as compared with an average of \$1,173. Labor and feed purchased were also low, being \$160 and \$115, respectively, as compared with \$348 and \$394. Crops raised per man were 49.3 acres, and 20 acres per horse. Each cow was fed at average cost (\$69) and returned \$144 in milk during the year; which was \$41 above the average.

FARM "E."

Seven years ago this farmer started with 2 cows, a pony and a mare, on a 66-acre farm that was mortgaged to the extent of \$5,000. To-day he still has a mortgage of \$2,500 to carry, but in the meantime, 50 more acres has been purchased for \$3,000, a car has been paid for, \$1,200 worth of improvements have been added to the barn in addition to the living of the family, which included an unusual amount of sickness. One

Continued on page 1587.



A Pleasant Pastoral Scene.

Suggestions for Feeding Cows on Seven Day Tests.

While it is by no means conceded by all good dairy-men that a seven-day test is the best gauge of a cow's ability to produce, nevertheless hundreds of dairy cows are tested in this manner every year. Consequently the following paragraphs by J. E. Burnett of the Dairy Husbandry Section of the Michigan Agricultural College should prove of interest to feeders and will doubtless be of value to many:

"It should be remembered by the feeder that it is the natural tendency of the cow to give the heaviest flow of milk soon after freshening and he should do everything possible to stimulate this tendency with cows that are on official test. In the short time test we look for a limited period, not the normal year around production, and the short time records should always be considered in this light. It should be the effort of the feeder to cause the cow to give him all she can during the test period.

"It is not natural for a cow to come into her milk immediately after calving, and the seven-day record in which the largest flow of milk occurs consequently starts as a rule more than seven days after calving. The higher percentage of fat is usually found immediately after freshening and the increase here usually more than makes up for the greater flow of milk that comes at a later period. The largest production occurs, however, when the feeder is skillful enough to hold the high test of the cow until the large flow occurs, when the two combine in a way that brings joy to the heart of all concerned.

"More large records are made before the cow freshens than are made afterward. By this statement, I mean that the feeder can do more toward helping his cow to make a large record by getting her in good condition before freshening than he can afterward. The cow on the seven-day test cannot eat enough as a rule, to supply her with the necessary nutrients from which to manufacture the milk; consequently, in order to get the nutrients she must take them from her body. In order that she may be able to do this, they must be there in a form that is readily available. Therefore the cow should not only be in good condition at freshening time, but she should be fat and the fat should be soft enough to be consumed readily to furnish the energy necessary to make the milk. In order to have the fat soft it must be put on quickly within two or at the most, three months of the time of freshening. Fat put on slowly comes off slowly.

"A good ration to feed for fitting is bran, oats, corn and oilmeal in equal parts by weight. If you can obtain hominy it is an excellent feed for this period and should be substituted in the foregoing ration for the corn, as the fat formed by this feed is softer and therefore more desirable.

"About ten days before the cow is to freshen, change the feed to ground oats and bran or bran alone. If the bran and oats are used they should be in equal parts by weight. This change will put the cow in a laxative condition, will help to keep the fever out of her blood, and will help to reduce or prevent the congestion in her udder. In an hour or so after freshening give her a pail of warm water. Give only warm water for twelve hours after freshening. For feed, continue the bran and oats or the bran alone as the case may be, for two days when she may be gradually put on the regular test ration. Leave the calf with her for twenty-four hours. It will help to reduce the congestion in her udder and the calf should have the first milk. Do not milk her out completely for two days as a preventive against milk fever. Start in milking three times a day on the third day and four times a day on the fifth or sixth day, or before, if necessary.

"At the time of the starting of the test the cow should be getting grain at the rate of one pound to each four and a half pounds of milk produced. This may be slowly increased until the cow is taking all that she will with safety. How much, depends to a large extent upon the individual cow. Some cows will go off feed on one pound of grain to three and a half pounds of milk while other cows will take a much larger amount of grain. The amount to be fed is a question to be settled by the feeder himself and must be changed to suit the needs of each cow.

"It is usually advisable, not to make sudden changes in the feeding as cows are usually very sensitive to such changes. It is safest not to increase the grain more than a half pound per day. Care should be taken that the cow is not overfed. It is a good plan to always feed a cow a little less than she is evidently willing to take. The first sign that the cow is going off feed is that the coat is rough in spite of good grooming. Next the eyes appear glassy and staring and finally the cow refuses to eat all or part of her feed. The best way to treat this is to cut down the grain ration at once to half or to omit a feeding entirely, and if the condition continues, to give a dose of Epsom salts or call a veterinarian. A pound to a pound and a half of salts, depending on the size of the cow, is a good sized dose. The best way to give salts is to use a quart milk bottle as the wide mouth allows the air to enter readily and shortens the time necessary. Give the salts in plenty of water, at least

a gallon of water to the pound. This gives better results than where only a small amount of water is used.

"All the grain should be weighed to the tenth of a pound. All roots and silage should be either weighed or measured. This is very important because while it may be possible to feed a cow successfully without weighing or measuring her grain, very few men are experienced enough in handling grain to accomplish this.

"What the ration should consist of depends largely upon the feed at hand, the individual taste of the cow, and the length of time that it is expected to continue the test. It may be said, however, that it is the general plan to feed a rather narrow ration, one that contains a rather large proportion of protein. It is expected that the cow will balance the ration from her own body.

"It is more important that the ration contains feeds that the cow likes than that the nutritive ratio be at any set figures. The digestible nutrients found in the feeding tables are only approximations of the nutrients contained in the feeds in question as they are the results of averages and the feeds on hand may be higher or lower than the figures given.

"It is well to make a variation in the feed of a cow on test, that is, to change the ration. This should be done gradually as cows are very susceptible to sudden changes. All changes in the feed ration should be accomplished by replacing a small portion of the old mixture with an equal portion of the new. Cows do better when there is a large number of different feeds in the ration. They do not tire of it so quickly and will eat more of the mixture because of variation. Give the cow all the water she will drink. The more she consumes, the better. If it is impractical to keep water before her all the time, she should at least be watered at every feeding.

"It is a good plan to have plenty of beets or other roots on hand when starting the test. Red table beets are the best if they are to be had. Cows will frequently eat a hundred pounds or more per day of these beets. If the red beets are not to be had, then mangels, sugar beets, carrots, rutabagas or turnips should be substituted. Cows that are not fed too heavily will eat rutabagas readily, but under test conditions where it is desired to get all the feed into the cow she can handle, they soon tire of the rutabagas and refuse to eat but a very limited amount. Roots of any kind are usually found to be great stimulators to the flow of milk. They are fed for the laxative effect and the succulent value rather than for the food value that they may contain.

"The best way to feed a cow for the seven-day test is the way that gets the best results and this will probably be a little different for each cow. The exact methods that will get the best results with one cow will not with another. It is necessary to study each individual cow to learn her likes and dislikes and then try to follow them as closely as possible. Some cows do better for having a little exercise out doors each day while others do better in the barn all the time. Some cows do better if milked with the milking machine, but most do better if milked by hand.

"Doubtless there are many breeders who have had experiences that led them to take different views from the above, but these are the general rules that the majority of cows will follow, although as I have mentioned above, each cow is a study by herself."

F. H. Medwin's Sale of Dairy Cattle.

On August 19, F. H. Medwin, of Greenville, dispersed his herd of pure-bred Ayrshires and Holsteins, along with a number of grades. The pure-breds did not sell particularly high, \$225 being the top price for a six-year-old Ayrshire cow. She went to the bid of Sam Blinkley. There was a large attendance of breeders. The grade cattle sold well, as high as \$180 being paid for cows due to freshen. Following is a list of the animals bringing \$100 or over:

Ayrshires.	
Orkney Grandmaster, W. J. Hills, Dundas.....	\$185
Snowflake 1st of Glenwood, W. J. Hills.....	180
Sensation, N. Dymont & Sons, Brantford.....	165
Pansy of Glenwood, N. Dymont & Sons.....	160
Lady of Glenwood, Wm. Green, Brantford.....	180
Helen of Primrose Home, S. Blinkley, Dundas.....	150
Streetsville Annie Laurie 2nd, S. Blinkley.....	225
Annie Laurie of Glenwood, G. A. Book, Hopetown.....	190
Annie Laurie 1st of Glenwood, T. McDonough, Branchton.....	150
Holsteins.	
Lady Korndyke Mercedes, John Harris, Copetown.....	180
Clover Leaf Francy, Wm. Taylor, Breensville.....	150

There is unquestionably a limit to the extent one may go in all farming operations and still show a profit. With unlimited supplies of barnyard manure or commercial fertilizer, and using labor (both horse and manual) without regard to expense, the farmer can produce wonderful crops but there is the point where profit ceases and loss begins. Successful farming consists in growing profitable crops and using the most up-to-date methods in an effort to obtain heavy yields at reasonable cost. Frequently, better seed, the use of preventives against fungous disease and pests, extra preparation of the seed-bed, and like precautions, which not long since were deprecated as book trash, are the general practice in progressive farming sections. We are constantly learning, and ten years hence some of our present-day methods may be obsolete. The way in which we grow prize-winning crops now may be general farm practice in the future.

HORTICULTURE.

The Fruit Situation in British Columbia.

BY A. F. BARSS, DEPARTMENT OF HORTICULTURE, UNIVERSITY OF B.C.

The effects of the War can be seen in almost every occupation, and yet even though subjected to severe trials, it stands out as an interesting and encouraging fact that for the most part the orchards throughout the tree-fruit districts of British Columbia were not neglected during the War. Growers managed remarkably well to keep their trees in condition, with the result that these orchards are in excellent shape, and should steadily give increasing output with the succeeding years; just as there has been a steady increase from year to year, even during the War.

CROP PROSPECTS—1919.

While it is still early to state accurately what total tonnage may be expected this year, the outlook for 1919 shipments is bright, it being estimated that at least 5,000 cars will be produced, as compared with some 4,200 in 1918, and 3,600 in 1917, the increase being largely due to a good apple crop. The Okanagan district promises a heavy yield of fruit, especially of apples, and most of the other districts are showing up equally well.

Active buying may hardly be said to have started at this early date, still prospects for ready sales of this year's output are most promising when it is considered that already contracts have been placed in the Okanagan for 125 cars for Eastern Canada, and 150 cars for the United States. Eastern Canada took 150 cars in 1917; 400 cars in 1918, and should handle even more this year, since there is an increasing demand there for high-grade Western boxed apples. The Prairies are expected to take their usual supply and more; the Australian embargo still holds, eliminating that market for B.C. apples; New Zealand will take some; and the British market is expected to prove an attraction to shippers here, especially for the best grade of apples.

Sweet cherries were rather scarce this year, (the estimate being 50 per cent. lower than 1918) although of fine quality and bringing a good price. Sour cherries were a fair crop, but the sugar shortage on the Prairies seriously affected their shipments.

Plums and prunes are running less than in 1918, with peaches and apricots about the same as last year.

SMALL FRUITS BRING BIG MONEY.

With the small fruit grower, business has been excellent so far this season throughout the Province. In the case of strawberries, the early placing of the contract price for jam berries at 16 cents a pound f.o.b. shipping point held the minimum price for crate shipments at \$3.75 f.o.b. Unusually favorable weather gave an average yield per acre considerably more than double that of 1918, which fact coupled with the heavy demand and extreme prices has made the season an unparalleled one for strawberry growers.

The raspberry outlook is fully as good, with the present price of \$4.25 (for the 2-5-qt. hallock crate) f.o.b. shipping point. Loganberries are yielding well, with prices high. Other small fruits have done well this year, despite a rather dry summer, and the outlook is for a very heavy yield of blackberries, especially if they are helped out by a little rain.

THE FUTURE OUTLOOK GOOD.

The future for British Columbia fruit is most encouraging. While it is true that almost no large acreages were set out during the period from 1912 to 1918, plans calling for heavy new plantings, especially of apples, are evidenced by advance orders for nursery stock, which have almost completely used up the available supply. The same is true of small fruits, especially of loganberries and strawberries. In those districts peculiarly favored for growing these berries, present indications show preparations for extensive plantings. Some old strawberry growers are planning a combination to extend the picking season,—loganberries ripening immediately after strawberries will give steady employment to pickers over a long period.

Many returned soldiers already are going in for tree or small-fruit ranching, while the bringing of water to the Southern Okanagan district, recently taken over by the Dominion, will open up for soldier settlement some of the most valuable fruit and vegetable land in Canada.

British Columbia combines within the one Province almost every variation in climate to be found throughout the Dominion. Every section and valley has its own peculiarities, and even within a given district there will be wide variations. Not realizing the full importance of choosing only those fruits and even the individual varieties adapted to the immediate locality where they were to be grown, many mistakes were made in the earlier plantings. In those sections adapted to fruit growing, however, the record to date shows not a single crop failure. Advantage is being taken of past experiences in the newer plantings by growing fruit only in those parts naturally adapted to fruit, and in these sections specializing, and establishing a reputation on some few fruits or varieties which do particularly well there.

In all parts of the Province every effort is being made by the Provincial and Dominion advisors and by the Horticultural Staff of the University of British Columbia, to assist and protect the fruit grower in every way possible. Efficient inspection and eradication methods for the control of fruit pests have proved a decided boon to the farmer in saving on spraying

British Columbia from scab advantage, necessary to Within two States were codling moth

Considered as quite a association, problems of trend is for units. Co-activities, as gained by co-houses, pre-built along grade and pay as necessary market. With methods, all Columbia is future.

Small

Some of the asked as to yields and p entirely satis so far has been because, whi the acreage is especially ben Advocate" m the situation i district and been better r factory to all section of the

Strawberry season in n excessive heat normal differ sections of t The picking third. It was below normal of the seas were larger strawberries 20 cents per 16 to 23 ce averaged from the section, average yield where berries said to have revenue of 0 less than thr ceived from 4

Raspberries portion of t they are rep crop owing t cents and m later the fact and 20 cents. with yields go acre. In nic show much i doubt be gre

There were Sour cherries Catharines d and Vineland per eleven-q was good an Canning fact

Currants v in sections w not yield so pound and t The price for Gooseberries during the ho

Plums are European va the crop will favorite cann

Pears show as high as 10 cent crops of are grown B 6 cent per po per basket. at 3 cents p pears appear

Peaches a crop varies f reported in v lake, Grimsby be secured h moderate on a heavy drop West, orchard Fleming, Gr compared wi land St. Joh

fires burning in or about farm buildings. One year's experience taught Mrs. Goble some of the difficulties of early hatching when, from 120 eggs set in an incubator, 50 chicks emerged, of which only 18 were finally saved. She prefers having the chickens come when the weather is nice and warm, and when the chicks can go right out in the midst of bright weather and green grass. Her aim is to have every chick come out before May 10, but she believes that May 1 is early enough for farm conditions. "No chicken," said Mrs. Goble, "should be hatched later than May 24 if you want them to lay next winter."

When the chicks are first hatched they get moistened dry bread, moistened cornmeal and dry oatmeal. They are fed three or four times each day, but not too heavily, as there is danger of over-feeding. They grow and thrive well on the dry oatmeal, with sour skim-milk to drink. Clover chaff and sprouted oats furnish the green feed until they are able to get out on the grass and in the sunshine. "Nothing," said the owner of the flock, "can mother chickens like an old hen. If you give a Rock hen 30 chicks she will take care of them. My practice is to set a few hens at the same time I start the incubator and then they both hatch together. Then I give each hen about 30 chicks, and she takes care of them."

At about three weeks of age the chicks begin getting baby chick feed once each day, which contains a little of everything. They also get the oatmeal once a day and hard-boiled, infertile eggs are fed with the oatmeal and moistened bread. All through the summer the hens and growing chicks get grain twice a day in addition to what they can pick up, and the grain fed at present consists of oats, barley and wheat. They also get a panful of sour skim-milk every day, and Mrs. Goble considers sour milk to be an excellent feed.

The cockerels are separated from the pullets and marketed when they weigh about 2 or 2½ pounds. If left longer nothing is gained, and they will eat a lot of grain the pullets should have. In the winter the laying hens are fed mixed grain, as above, three times each day, the morning feed being scattered in the litter the evening before. They also get chaff, chopped mangels and beets, oyster shell, gravel or coal ashes. The grit is before them all the time.

Mrs. Goble does not keep a record of the profit her hens make, but she knows how many eggs she gets and takes good care of her hens. She knows they are profitable, and is always careful to clean the houses regularly and disinfect each time. The accompanying illustration of part of the flock at feeding time indicates that the birds she keeps are of good quality. When fall comes the two-year-old hens will all be disposed of and replaced by pullets.

FARM BULLETIN.

McPherson's Ayrshire Sale

At St. Anns, Ontario, on Wednesday, August 20, the entire herd of R. O. P. Ayrshires, owned by Wilson McPherson & Sons, was dispersed by public auction and, with forty-one head selling, may well be termed one of the most successful pure-bred dairy sales of the year. Despite the fact that sixteen of the forty-one head listed were 1919 calves and yearlings, the general average made up the splendid figure of \$235.90 per head, which brought the total receipts for the day up to \$9,672, a very pleasing sum to obtain for cattle which were nearly all bred on the farm. They had size and breeding however, were well brought out, and at the prevailing prices should have proven profitable to Messrs. McPherson & Sons, as well as gilt-edged investments for their purchasers. A resume of the sales list shows seventeen cows, three years old and upwards, averaging \$322.60; seven two-year-old heifers, \$235.90, and sixteen calves and yearlings \$123.85. A large percentage of those in the latter section were sired by Mr. McPherson's senior herd sire, Briery Boy of Springbank, which was also sold going to W. Whaley, of Brownsville, at \$290. Judging his worth from the quality of his get the price bid on this sire was exceptionally low. The top price for the day was paid by E. W. Butler, of Paris, for the eight-year-old cow, Middy. This cow made 13,288 lbs. of milk and 533 lbs. of fat in the R. O. P. last year. The purchase price was \$800. Other buyers included prominent breeders from central and Eastern Ontario, and one or two Quebec breeders were also present. The weather was fine and the sale management good. Auctioneer T. Merritt Moore conducted the sale. The purchases at \$100 and over were as follows:

Briery Boy of Springbank, W. Whaley, Brownsville.	\$290
Bonnie, J. S. Henderson, Rockton.	215
Heather Belle of Ingleswood, A. S. Turner & Son, Ryckman's Corner.	700
Betty of Elcho, Curtis Culp, Vineland.	160
Springbank Scotch Thistle, W. Leaman, Glanford.	200
Woody of Ingleswood, J. Sorely & Son, Cummings Bridge.	250
Louise, A. S. Turner & Son.	725
Middy, E. W. Butler, Paris.	800
Zona of Lauderdale, Hunter Bros., Freeman.	215
Blossie of Maple Hill, Mr. Pearson, Waterdown.	240
White Face of Elcho, Hunter Bros., Freeman.	300
Belle of Ingleswood, E. Comfort, St. Anns.	170
Lady Alice of Ingleswood, R. W. Smith, Hagersville.	295
Kathleen of Ingleswood, J. Pearce, Vineland.	195
Betsy of Lauderdale, O. Hoffman, Vineland.	505
Lona of Lauderdale, J. Pearce.	235
Fanny of Ingleswood, W. Scull, Jordan.	340
Margaret of Lauderdale, B. McPherson, St. Anns.	140
Hopeful Rosie, A. T. Harper, Adelmira.	135

Duchess of Ingleswood, E. W. Butler.	555
Iris of Ingleswood, Jas Sorley & Son.	270
Lenore of Ingleswood, Hunter Bros.	215
Princess of Ingleswood, Hunter Bros.	250
Bonnie Briery of Ingleswood, W. Sherk, St. Catharines.	240
Beauty of Ingleswood, W. Scull.	250
Primrose of Ingleswood 2nd, B. McPherson.	120
Blossie of Ingleswood, H. B. Strong, At. Anns.	190
White Daisy of Ingleswood, O. Hoffman.	210
Jessie of Ingleswood, Geo. A. Tinlin, Beamsville.	105
Myrtle of Ingleswood, F. H. Jorry, Beamsville.	110
Louise of Ingleswood, R. W. Lane, St. Anns.	275
Grace of Ingleswood, Frank Morrison, Jordan.	125
Snowdrop of Ingleswood, Wm. Wood, Smithville.	110
Buntie of Ingleswood, B. L. Sherk, St. Catharines.	100
Annie Laurie of Ingleswood, R. W. Lane.	160
Bright Boy of Ingleswood, W. Morrison, Jordan.	155
Briery Boy of Ingleswood, E. F. Tates, Hagersville.	110

Fraudulent Milk Records Detected in U.S.A.

Recent exposures of fraudulent high records among pure-bred dairy cattle threaten to be very disconcerting to the pure-bred dairy industry. What might easily cause a panicky condition among breeders is the result of the confessions of Charles E. Cole, a professional breeder and feeder of Holstein cattle in the United States. This sensational confession has, during the last two or three weeks, very seriously disturbed the Holstein-Friesian world, both in Canada and the United States, and may well have an effect upon other breeds of dairy cattle, since the nature of Cole's confession is to cast suspicion upon all high records attributed to well-known individuals in the herds of prominent breeders. It seems that Cole is the man who made the test which resulted in a 51-pound, seven-day butter record with a cow named Creampot Pontiac Korndyke. This cow had been in official test for a few weeks at the farm of a man who was considered to be one of the most practical dairymen in the State of Vermont, and during this test her maximum production was about 90 pounds per day with an average fat test of about 3.1 per cent. Later, this animal was purchased by Cole, in partnership with another breeder named Hicks, and almost immediately her milk flow and test marvellously increased to about 120 pounds of milk per day, testing 5.1 per cent.

Officials of the Vermont Agricultural Experiment

as it does the records of possibly hundreds of supposedly high-producing cows, it can easily be seen that the most careful and at the same time most drastic action will be necessary on the part of the Association officials. Cole's confession showed a clear case of helping the cow by the addition to the milk in the pail, of water and clear cream. Underneath the jumper a hot-water bottle containing the mixture was concealed, and a tube led from this bottle inside his trousers to a small hole through which the end could be brought and directed into the milk pail. A cork in the end of the tube held the mixture in place until the milking was about completed, when the cork was removed and the fraudulent work actually done. The officials were unable to detect Cole at this nefarious work because he was always careful to perpetrate it in box stalls with high, tight walls and with only one small window placed high up over the feed box so that the cow would always be standing with her udder in the shadow, and so that the supervisor could not stand on the opposite side of the cow. Fast milking and plenty of talk to the supervisor also helped.

During his confession, Cole gave complete details as to how he had started some years ago in the State of New York, together with other details as to his personal history, and descriptions of many of the animals which he had tested at the well-known Cabana Farm in New York State. He informed the executive of the Association of the names of those familiar with what he was doing, those to whom he had made aware the way in which the high records were made, and those who had been helping him. He further described the manner in which he had received very high bonuses for making these tests, running as high as \$3,000 for one test. He expressly stated, however, that Mr. Cabana, the proprietor of Pine Grove Farms, had no knowledge of what was going on. He did state that he had shared the bonuses with the manager of the farm, who in the case of the \$3,000 bonus received one-third. This later was admitted by the manager himself, when called before the executive, but he, like Mr. Cabana, protested that he had no knowledge of the fraudulent methods being used. Apparently, the high records of a great many high-producing and supposedly valuable cows are involved in this sensational confession of fraud. Stringent action is expected from the Holstein Breeders' Association, and, in fact, President Aitken has made a long and official statement of the case as it has so far developed. This statement, we are glad to note, expressly states that "the only question in the mind of any official or member of the board of



Specimens of the Heifers Sold at the Halton County Shorthorn Calf Club Sale, Oakville, Aug. 20, 1919.

Station were supervising the test, and it was noticed that Cole concerned himself very little with the feeding of the cow, throwing her a commercially mixed ration without any apparent interest, so necessary on the part of every expert feeder, in the way she took to it. Naturally the officials were inclined to be suspicious of crooked work, and after a consultation with the Holstein-Friesian Association of the United States, arranged to send a detective to the farm, who posed as an extension man from the Vermont Agricultural College. This man first observed that although the weather was extremely hot, Cole always wore a heavy jumper when he milked his test cows, but that as soon as the milking of these cows was completed, the jumper, which had previously been buttoned closely about his neck, was removed before he assisted in milking the remainder of the herd. Then, as a matter of fact, he would strip to his shirt sleeves. At the next milking the detective requested Cole to remove the jumper, which he refused to do. Shortly afterwards he jumped into his car and was away for several hours. On his return he announced that instructions had been received to ship the cow at once, and that the test would be discontinued. At the final milking the cow gave about at the rate of 90 pounds per day, while her test was again normal, at about 3.1 per cent.

In the meantime other very important information had been given to the executive of the American Holstein-Friesian Association, and one of the officials was sent to interview Cole with the idea, if possible, of obtaining a confession. This was secured, and arrangements were made for Cole to meet the whole of the executive of the Association at a later date. At this meeting, which was held almost immediately, Cole made a complete confession which was reported verbatim by a stenographer and is now held by the Association. Final action so far as we are aware has not yet been taken. In a matter of such extreme importance, and involving

directors is what is the right in the premises, what does justice, equity and good conscience demand; and that action will be taken."

Initial Price Set for Wheat.

Since the initial price to be paid for wheat has been definitely set at \$2.15 per bushel on the basis of No. 1 Northern, Fort William, Ontario, the feeling has got abroad that the price Britain will pay does not justify this guarantee. Argentine and Australia stocks are looked upon as potential determiners of value, and perhaps of such volume as to make it possible for Europe to purchase at \$1.60 to \$1.80 per bushel. Sir George Foster is reported as intimating that the Canadian Government is quite safe in its approval of this price, and says that Britain is prepared to give consumers a cheap loaf and meet any loss arising therefrom out of the public treasury. Our Government would surely have information regarding markets before venturing a price for the Canadian wheat crop. However, the initial price is to be \$2.15 per bushel for No. 1 Northern, Fort William, and if the wheat can be marketed at a higher figure the balance remaining after expenses are deducted will be refunded to the original sellers.

Daylight Saving Doomed.

By a two thirds majority the House of Representatives and the Senate of the United States have over-ruled President Wilson's veto to the repeal of daylight saving. Now that no daylight saving law exists in the United States, and none is likely to be enacted, there will be no excuse for Canadian railways, municipalities, or institutions of any kind adopting other than standard time. Farmers in Canada and United States have fought this silly piece of legislation and have won out.

Toronto (U.
Montreal (E.
Winnipeg.....
Calgary.....
Edmonton.....

Toronto (U.
Montreal (E.
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Toronto

An except cattle forced during the v cattle suffer price. Local ly and specul can trade of thousand hea and other brisker dem than for sor ten thousand addition five yards on th A few heav prices on th cents per h extra good lo and seventy hundred. O moved withi per hundred bringing \$12 ten hundred sold generally lower, \$13.7 best grades, v moved from dred. Med hands from \$ and commor Choice hand heifers sold a few at \$11 from \$11 to \$10.50, and \$7 to \$9. C in sympathy medium and down 50 to 7 extra good pounds weigh thousand pou portion of the good bulls b from \$9 to from \$6.50 t few choice co cows from \$9 medium from Canners were to \$5.50 per feeders sold fr according to prices fluctu the week, Bu determining fr As in recent offerings were speculation. at \$22.50, but average price calves were w and common fr

Lamb recei the season, o being on sa prices held fa reaching \$17.7 of the straiht \$17. The ma with a slightl quotations we Hog values the week, pac to buy at th Monday, pric hundred, follo hundred on V decline of 50

Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending August 21.

Receipts and Market Tops.

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

CATTLE							CALVES							
Receipts			Top Price Good Steers (1,000-1,200)				Receipts			Top Price Good Calves				
Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending
Aug. 21	1918	Aug. 14	Aug. 21	1918	Aug. 14	Aug. 21	1918	Aug. 14	Aug. 21	1918	Aug. 14	Aug. 21	1918	Aug. 14
Toronto (U. S. Y.)	9,207	5,835	6,619	\$14.00	\$14.50	\$14.00	1,454	592	1,165	\$22.00	\$17.50	\$22.00		
Montreal (Pt. St. Charles)	1,718	2,401	2,091	13.75	13.00	12.75	808	1,130	1,761	16.00	14.00	15.50		
Montreal (East End)	1,898	1,904	2,307	13.75	13.00	12.75	1,123	607	1,379	16.00	14.00	15.50		
Winnipeg	8,930	11,824	5,923	13.00	15.50	13.10	401	451	920	14.00	13.50	12.00		
Calgary	4,882	5,040	4,690	11.75	14.00		1,878		243	11.25				
Edmonton	1,445	1,490	1,614	11.50	13.50	11.00	328	111	221	10.00		9.50		

HOGS							SHEEP							
Receipts			Top Price Selects				Receipts			Top Price Good Lambs				
Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending
Aug. 21	1918	Aug. 14	Aug. 21	1918	Aug. 14	Aug. 21	1918	Aug. 14	Aug. 21	1918	Aug. 14	Aug. 21	1918	Aug. 14
Toronto (U. S. Y.)	6,623	4,009	6,269	\$23.75	\$20.25	\$24.75	7,494	3,793	5,424	\$17.50	\$21.50	\$18.75		
Montreal (Pt. St. Charles)	1,471	1,622	2,974	22.75	20.25	23.75	3,985	2,685	3,692	16.00	19.00	16.50		
Montreal (East End)	1,503	967	2,723	22.75	20.25	23.75	1,924	1,453	2,321	16.00	19.00	16.50		
Winnipeg	3,033	5,689	2,618	22.00	19.75	22.50	1,623	1,054	314	16.00	17.50	16.00		
Calgary	485	2,007	697	22.50	19.65		445			12.50	16.00			
Edmonton	233	462	522	21.00	18.25	23.00	247	28	160	12.50		12.50		

Market Comments.

Toronto (Union Stock Yards.)

An exceptionally heavy offering of cattle forced values down to lower levels during the week, medium and common cattle suffering the heaviest decline in price. Local abattoirs purchased liberally and speculators catering to the American trade operated freely. About two thousand head were shipped to Buffalo and other American points, while a brisker demand existed for stockers than for some weeks past. Altogether ten thousand cattle were on sale, and in addition five hundred passed through the yards on through billing from Calgary. A few heavy cattle were offered, and prices on that kind looked about 25 cents per hundred lower, although an extra good load averaging twelve hundred and seventy pounds sold at \$15 per hundred. Other loads of heavy cattle moved within a range of \$13.50 to \$14.25 per hundred, with medium quality bringing \$12.50 to \$13.25. Steers of ten hundred to twelve hundred pounds sold generally about 50 cents per hundred lower, \$13.75 per hundred taking the best grades, while most of the good loads moved from \$12.75 to \$13.40 per hundred. Medium quality stock changed hands from \$11.50 to \$12.50 per hundred and common stock from \$10 to \$11. Choice handyweight butcher steers and heifers sold generally from \$12 to \$12.75, a few at \$13, good quality stock sold from \$11 to \$11.75 medium from \$9 to \$10.50, and common eastern stock from \$7 to \$9. Cows and bulls were weaker in sympathy with other grades of cattle, medium and common stock being marked down 50 to 75 cents per hundred. One extra good bull of twelve hundred pounds weight sold at \$11.50, one of two thousand pounds at \$11, but the big proportion of the offering sold below \$10.25, good bulls being weighed up generally from \$9 to \$9.75, and bologna bulls from \$6.50 to \$7.50 per hundred. A few choice cows sold up to \$10.25, good cows from \$9 to \$9.75, and common and medium from \$6 to \$8.50 per hundred. Canners were in demand from \$4.50 to \$5.50 per hundred. Stockers and feeders sold from \$7 to \$11 per hundred according to weight and quality. Calf prices fluctuated considerably during the week, Buffalo quotations being the determining factor in local quotation. As in recent weeks most of the calf offerings were shipped to Buffalo on speculation. A few choice calves sold at \$22.50, but \$21.50 looked like a fair average price for choice veal. Good calves were weighed up from \$16 to \$19 and common from \$10 to \$14.

Lamb receipts were the heaviest of the season, over seven thousand head being on sale, but notwithstanding, prices held fairly steady with top lambs reaching \$17.75 per hundred, and most of the straight loads selling from \$16 to \$17. The market closed on Thursday with a slightly weaker undertone. Sheep quotations were unchanged.

Hog values suffered severely during the week, packers not being disposed to buy at the opening quotations. On Monday, prices dropped 50 cents per hundred, followed by a cut of \$1 per hundred on Wednesday and a further decline of 50 cents on Thursday. The

TORONTO						MONTREAL (Pt. St. Charles)				
CLASSIFICATION	No.	Avg. Price	Price Range Bulk Sales	Top Price		No.	Avg. Price	Price Range Bulk Sales	Top Price	
STEERS heavy—finished	141	\$13.70	\$13.00-\$14.00	\$15.00						
STEERS good	1,023	13.25	12.75-13.50	14.00	39	\$12.75	\$12.00-\$13.75	\$13.75		
STEERS 1,000-1,200 common	141	11.63	11.00-12.25	12.50						
STEERS good	619	12.31	11.75-12.75	13.00	109	11.00	10.00-12.00	13.25		
STEERS 700-1,000 common	867	9.56	8.75-10.25	11.00	201	8.50	7.50-9.50	10.00		
HEIFERS good	863	12.40	12.00-12.75	13.25	23	9.50	9.00-10.00	10.50		
HEIFERS fair	452	10.15	9.50-10.50	10.50	40	8.25	8.00-9.00	9.00		
HEIFERS common	315	7.90	7.50-9.00	9.00	213	6.75	6.50-7.50	8.00		
COWS good	601	9.75	9.00-10.25	10.50	41	9.50	9.00-10.40	10.40		
COWS common	1,285	7.40	6.75-8.50	8.50	167	7.25	6.50-8.00	8.50		
BULLS good	89	9.80	9.25-10.50	10.75	6	9.00	9.00-	9.00		
BULLS common	566	7.30	6.75-8.00	9.00	580	7.00	6.50-8.00	8.50		
CANNERS & CUTTERS	368	5.25	4.75-5.50	5.75	75	5.25	5.00-6.00	6.00		
OXEN	1				6					
CALVES veal	1,454	17.50	16.00-19.00	22.00	220	13.50	11.00-16.00	16.00		
CALVES grass					603	8.25	8.00-8.50	8.50		
STOCKERS good	873	9.75	9.25-10.50	10.50						
STOCKERS 450-800 fair	706	8.30	7.50-9.50	10.00						
FEEDERS good	250	11.25	11.00-11.75	11.75						
FEEDERS 800-1,100 fair	47	10.75	10.50-11.00	11.00						
HOGS selects	5,223	22.60	22.25-23.75	23.75	1,055	22.00	21.75-22.75	22.75		
HOGS heavies	4			23.75	27	20.50	20.00-21.00	21.00		
HOGS (fed and watered) lights	1,062	21.28	20.25-21.75	21.75	157	20.00	19.75-20.75	20.75		
HOGS (fed and watered) sows	330	20.28	19.25-21.75	21.75	224	17.00	16.75-17.75	17.75		
HOGS (fed and watered) stags	4				8	15.00	14.75-15.75	15.75		
LAMBS good	6,057	16.75	16.00-17.50	17.50	1,184	15.75	15.00-16.00	16.00		
LAMBS common	698	14.40	13.00-16.00	16.00	2,384	14.00	13.00-14.50	15.00		
SHEEP heavy	136	8.50	8.00-9.00	9.00						
SHEEP light	330	9.50	9.00-10.00	10.00	132	9.00	9.00-	9.00		
SHEEP common	273	5.70	4.50-7.00	7.00	286	8.10	8.00-8.50	8.50		

market closed with select hogs selling at \$21.25 fed and watered. Further declines were predicted, but henceforth Buffalo quotations should be a factor in determining quotations.

Of the disposition from the Yards for the week ending August 14, Canadian packing houses purchased 260 calves, 4,589 butcher cattle, 8,138 hogs and 4,136 lambs. Local butchers purchased 367 calves, 508 butcher cattle, 400 hogs and 1,701 lambs. Canadian shipments were made up of 27 calves, 25 milch cows, 445 stockers, 46 feeders, 474 hogs and 14 lambs. Shipments to United States points consisted of 424 calves, 20 cows 552 butcher cattle, 241 stockers and 287 feeders.

The total receipts from January 1 to August 14, inclusive, were: 191,309 cattle, 44,494 calves, 227,291 hogs and 55,857 sheep compared with 156,184 cattle, 41,792 calves, 224,419 hogs and 30,165 sheep, received during the corresponding period of 1918.

Montreal.

The total receipts at the two yards were fewer than those of the previous week by six hundred and seventy-five cattle, three hundred and fifty sheep and twenty-seven hundred and fifty hogs. Good cattle continued firm in

price. One lot of steers averaging twelve hundred and twenty-five pounds sold at \$13.75 per hundred; one lot averaging ten hundred and thirty-five pounds at \$13.25, while a number of lots of various weights changed hands around \$11, and \$12. Some very common yearling steers were sold for \$7, while common light steers sold from \$8 to \$9. The top price for cows was \$10.40. Some very fair cows of dairy breeding were sold around \$9, common dry cows of the big bodied type from \$7 to \$7.50, poor cows at \$6, and canners at \$5. The majority of the heifers offered were yearlings of little killing or breeding value; they sold in most cases from \$7 to \$7.50. Light yearling bulls were weighed up from \$6 to \$6.50. Bulls weighing seven hundred pounds and up sold from \$7 to \$8.50, a few fairly good light bulls sold at \$8.75, and three or four heavy bulls at \$9. Good veal calves sold up to \$16, while \$17 was asked for the best. Common grass calves went from \$8 to \$8.50, the majority of the sales being made at \$8.25.

Good lambs sold at \$16 on Monday, and at \$15 on Thursday; common eastern lambs went at \$14 in most cases. Sheep sold from \$8 to \$9.

The market for hogs was very unsettled and there was some difficulty in getting

offers of any kind for the stock on hand, some of which had been left over from the previous week. Sales of select hogs were made at prices between \$22 and \$23, off car weights. The market closed weak in tone at \$22. The future markets for hogs are likely to be considerably lowered if many light hogs are offered. The prices of lights vary according to the volume offered, as they are principally used for fresh meat shop trade. Sows sold from \$4 to \$5 lower than selects and stags \$7 lower than selects.

Pt. St. Charles.—Of the disposition from the Yards for the week ending Aug. 14, Canadian packing houses and local butchers purchased 1,484 calves, 76 canners and cutters, 836 bulls, 1,015 butcher cattle, 2,974 hogs and 3,609 lambs. Canadian shipments were made up of 38 milch cows, and 83 lambs. Shipments to United States points consisted of 277 calves.

The total receipts from January 1 to August 14, inclusive, were: 23,300 cattle, 55,578 calves, 54,269 hogs and 19,461 sheep; compared with 23,773 cattle, 50,510 calves, 41,307 hogs and 14,309 sheep, received during the corresponding period of 1918.

EAST END.—Of the disposition from the Yards for the week ending August

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ille, Aug. 20, 1919.

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Wheat.

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se of Representa... tates have over... eal of daylight... law exists in the... nacted, there will... municipalities, or... r than standard... ed States have... have won out.

14, Canadian packing houses and local butchers purchased 1,083 calves, 1,284 butcher cattle, 1,813 hogs, and 2,060 lambs. Canadian shipments were made up of 3 calves, 910 hogs and 241 lambs. Shipments to United States points consisted of 293 calves, 50 butcher cattle, and 20 lambs.

The total receipts from January 1 to August 14, inclusive, were: 25,812 cattle, 39,403 calves, 35,640 hogs and 18,218 sheep; compared with 22,010 cattle, 37,899 calves, 26,233 hogs and 12,041 sheep, received during the corresponding period of 1918.

Winnipeg.

Receipts of cattle were twenty-five hundred more than during the previous week. The market opened firm, but closed on Thursday 50 cents lower on all grades of butcher stock. A large proportion of the offerings consisted of good quality heavy feeders and for these there was a good demand at strong prices. During the week, over four thousand head of cattle were shipped to American points; the shipments included three hundred and fifty-four good quality stockers to South Dakota; one hundred and fifty stockers to Illinois, and seventy one stockers to Union Grove, Illinois. Thirty-seven choice feeders averaging eleven hundred and twenty-five pounds from Kelliher, Sask., sold at \$12.60 per hundred; twenty-seven feeders averaging eleven hundred and thirty pounds sold at \$12 per hundred for shipment to St. Paul; eight heifers averaging eleven hundred and fifty pounds from Pincher, Alberta, sold at \$11.40 for shipment to the South. Stockers sold from \$8 to \$9, and feeders up to \$12.50 and generally from \$10 to \$11. Demand was fairly good.

Montreal.

Horses.—Dealers see no particular change in the market. The fall demand has not yet opened up and farmers who may have horses for sale later on are still holding them for their own purposes. Prices were steady being: heavy draft horses, weighing from 1,500 to 1,700 lbs., \$250 to \$300 each; light draft, weighing from 1,400 to 1,500 lbs., \$200 to \$250 each; light horses, \$125 to \$175 each; culls, \$50 to \$75 each, and saddle and carriage horses, \$150 to \$250 each.

Dressed Hogs.—The market for dressed hogs has declined in sympathy with that for live, and although present prices look exceedingly high as compared with former days, they are considerably lower than the recent top. Abattoir fresh-killed hogs were quoted at 32c. per lb. for selects, while stags were 25c. and sows 27c.

Poultry.—Prices showed very little change, storage turkeys are said to have brought as high as 50c. to 52c. while fowls were 45c. and geese 28c. to 30c. Some fresh ducklings were 40c. per lb. and fresh killed chickens, 40c. to 44c.

Potatoes.—No New Brunswick potatoes have been reported, but receipts are expected soon. Meantime, local stock was quoted at \$2.50 to \$2.75 per bag of 90 lbs.

Honey and Maple Products.—Old crop honey was still selling at 25c. per lb. for clover and 20c. per lb. for buckwheat. Purchases of new crop were not being made freely as the crop is said to be large. Merchants are trying to buy it at 18c.

Eggs.—No change took place in the market for eggs during the past week. Prices were firm about 12c. a dozen over those of a year ago. Strictly new laid were quoted at 62c. to 64c.; selected eggs being 55c. to 58c.; No. 1 stock was easier at 50c. to 52c. and No. 2 stock was 43c. to 45c.

Butter.—The market continues to advance gradually from time to time, and last week pasteurized creamery was rather higher, being 55 1/2c. to 56c. per lb., while finest creamery was 1/2c. under pasteurized. Fine creamery was quoted at 54 1/2c. to 54 3/4c. and finest dairy at 49c. to 50c.

Cheese.—Quotations were unchanged with the Cheese Export Company prices at 25c. for No. 1 grade, 24 1/2c. for No. 2, and 24c. for No. 3.

Grain.—The crop of this province is good in the matter of oats. Quotations here on No. 2 Canadian Western were \$1.03 and on No. 3 Canadian Western \$1.01 1/2, while No. 1 feed extra was \$1.02; No. 1 feed \$1 and No. 2, feed 98c.

Rejected barley and feed barley were quoted at \$1.46.

Flour.—The mills are generally waiting on the new crop and in the meantime it is understood that grinding is going on in but a limited way. Prices of flour continued steady with Government Standard Manitoba spring wheat flour quoted at \$11 per barrel, ex-track, Montreal freights and \$11.10 delivered to local bakers with 10c. off all the way round for spot cash. There is very little Ontario old winter wheat flour available, and millers are hoping for deliveries of new wheat. Flour was quoted at \$11.40 to \$11.50 per barrel in new cotton bags, ex-store. White corn flour was \$10.70 to \$11.10 per barrel, in jute bags, delivered to city bakers, while rye flour was \$8.50 to \$9 per barrel in bags, delivered.

Millfeed.—Mills are unable to fill the orders for millfeed. Mixed car lots of bran were quoted at \$48 per ton in bags of 150 lbs. Shorts were \$50 per ton, delivered, Montreal. Mills quote \$6 per ton under these figures, ex-track.

Baled Hay.—The crop has been abundant here, but the quality has not been good. Demand is light at the moment. Good No. 2 timothy was quoted at \$22 per ton. The old crop is now practically off the market.

Hides and Skins. The market was steadier last week, with steer and cow hides at 38c. per lb., and bull hides at 28c. Veal skins have again declined and were 70c., while kips were 50c. per lb. Lamb skins were steady at \$2.50 each, clipped lambs being \$1.25 each. Horse hides were \$1 up to \$11 to \$14 each.

Toronto Produce.

Receipts of live stock at the Union Stock Yards, West Toronto, on Monday, August 25, numbered 272 cars, 4,661 cattle, 776 calves, 2,876 hogs, 3,910 sheep and lambs. Quality of cattle poor, trade active. Good butchers 25 cents higher, others steady to strong; tops \$15, for 8 steers averaging 1,400 pounds each. Choice cows strong; tops \$10.75 to \$11. Other cows steady. Bulls steady; tops \$10 to \$11. Calves strong; choice, \$21 to \$22; a few at \$23; lambs lower; choice \$15.75 to \$16.30. Sheep steady. Hogs lower, fed and watered, sold at \$21.25.

Breadstuffs.

Wheat.—Ontario (f.o.b. shipping points, according to freights)—No. 1 winter, per car lot, nominal; No. 2 winter, per car lot, \$2.03 to \$2.08; No. 3 winter, per car lot, nominal; No. 1 spring, per car lot, nominal; No. 2 spring, per car lot, nominal; No. 3 spring, per car lot, nominal. Manitoba, No. 1 northern, \$2.24 1/2; No. 2 northern, \$2.21 1/2; No. 3, northern, \$2.17 1/2; northern, \$2.21 1/2; No. 3 northern, \$2.17 1/2; No. 4 wheat, \$2.11.

Manitoba Barley.—(In store, Ft. William), No. 3, \$1.38; No. 4 C. W., \$1.33; rejected, \$1.25; feed, \$1.25.

Oats.—(In store, Ft. William), No. 3 C. W., 90c.; extra No. 1 feed, 90c.; No. 1 feed, 89c.; No. 2 feed, 87c.

Barley, (according to freights outside), malting, \$1.35 to \$1.39.

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

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

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

Flour.—Manitoba, Government standard, \$11, Toronto, Ontario; (in jute bags, prompt shipment). Government standard, \$10 to \$10.50, Montreal, Toronto.

Millfeed.—Car lots delivered, Montreal freights, bags included.—Bran, per ton, \$42 to \$45; shorts, per ton, \$44 to \$50; good feed flour, bag, \$3.25 to \$3.35.

Hay.—(Track, Toronto), No. 1 per ton, \$22 to \$24; mixed, per ton, \$10 to \$19.

Straw.—(Track, Toronto), car lots per ton, \$10 to \$11.

Hides and Wool.

Prices delivered in Toronto: City Hides.—City butcher hides, green, flats, 40c.; calf skins, green, flats, 65c.; veal kip, 45c.; horse hides, city take-off, \$11 to \$13; sheep, \$3 to \$4; lamb skins and shearings, \$2.00 to \$3.00.

Country Market.—Beef hides, flat, cure, 38c.; green, 30c. to 32c.; deacon bob calf, \$2.50 to \$3; horse hides, country take-off, No. 1, \$10 to \$11; No. 2, \$7 to \$8; No. 1 sheep skins, \$2.50 to \$3.50; horse hair, farmers' stock, 35c. to 40c.

Tallow.—City rendered, solids, in barrels, 9c. to 10c.; country solids, in barrels, No. 1, 11c. to 12c.; cakes, No. 1, 12c. to 13c.

Wool.—Unwashed fleece wool as to quality, fine, 59c. to 60c. Medium coarse, 50c.; coarse, 42c. Wool, washed, fine, 75c.; medium, 70c.; coarse, 65c.

Country Produce.

Butter.—Trade was firm during the past week at prices without change. Dealers quoted 54c. to 56c. for choice, fresh-made creamery pound prints, and choice dairy at 47c. to 49c. per lb. Wholesale dealers are paying 51 1/2c. to 52 1/2c. per lb. for choice creamery solids at country points.

Eggs.—New-laid in cartons were firm at 58c. to 59c. per doz., and new-laid, ex-cartons, were one cent higher, and sold at 54c. to 55c. per doz.

There was no change in the wholesale price of cheese, and trade was steady at 28c. to 28 1/2c. per lb.

Lard.—While there was no change in price up to Friday, trade was weak, and dealers stated that prices would surely decline during the next few days. Pure lard in tierces was quoted at 37c., and pound prints at 38 1/2c. per lb.

Smoked meats were also steady in price, but will decline in the next few days, as hogs are at least \$3 per cwt. lower. Rolls, 36c. to 37c.; hams, medium, 46c. to 48c.; heavy, 40c. to 42c.; cooked hams, 63c. to 65c.; backs, plain, 49c. to 50c.; backs, boneless, 56c. to 58c.; breakfast bacon, 48c. to 56c.; cottage rolls, 40c. to 41c.

Poultry.—Trade was somewhat improved, and prices were steady to a shade lower in odd spots.

Chickens, good farm stock, 30c.; old hens, over 6 lbs. each, 33c.; old hens, over 5 lbs. each, 32c.; old hens, 3 1/2 to 5 lbs., each 28c.; old roosters, over 5 lbs. each, 25c.; broilers, 2 to 3 lbs. each, 32c. to 35c. each; ducklings, 4 lbs. and over, 28c.

Fruits and Vegetables.

Receipts of both fruits and vegetables have been heavy and trade brisk. Apples continue to arrive in larger quantities and are now quoted at \$6.50 to \$8 per bbl., and 50c. to 85c. per 11-qt. basket.

Currants, gooseberries and cherries are practically off the market, but a few lots arrived and sold at prices as quoted below.

Peaches.—Receipts were liberal, but dealers say the crop will be a short one, some choice Crawfords arrived and sold at \$1 to \$1.25 per 6-qt. basket.

WHOLESALE QUOTATIONS.

Apples.—Domestic, 50c. to 85c. per 11-qt. basket; \$6.50 to \$8 per bbl.

Black Currants.—\$1.50 to \$1.60 per 6-qt.; \$1.75 to \$2.50 per 11-qt. basket.

Blueberries.—\$1.75 to \$2.50 per 11-qt. basket.

Grapes.—60c. to 75c. per 6-qt. basket.

Gooseberries.—75c. to \$1 per 6-qt. basket; extra choice, \$2 per 6-qt.; \$1.75 to \$2.50 per 11-qt. basket.

Peaches.—Crawford's, 75c. to \$1.25 per 6-qt.; \$2 to \$2.25 per 11-qt. basket.

Pears.—Bartlett and Clapp's Favorite, 50c. to 60c. per 6-qt.; 85c. to \$1 per 11-qt. basket.

Plums.—60c. to \$1 per 6-qt., \$1.25 to \$1.50 per 11-qt. basket.

Thimbleberries.—20c. to 25c. per box.

Rhubarb.—Outside grown, 20c. to 30c. per dozen bunches.

Tomatoes.—Outside grown, 30c. to 35c. per 6-qt., and 50c. to 75c. per 11-qt. basket.

Beans.—Home grown, 50c. to 75c. per 11-qt. basket.

Beets.—New, Canadian, 25c. to 30c. per dozen bunches, 35c. per 11-qt. basket.

Cabbage.—Canadian, \$1 per dozen.

Carrots.—25c. to 30c. per doz. bunches.

Cauliflower.—\$2.50 to \$3 per dozen.

Corn.—20c. to 30c. per dozen.

Celery.—Imported, 50c. per doz.

Cucumbers.—Outside grown, 20c. to 25c. per 11-qt. basket.

Egg Plant.—\$1.25 to \$1.50 per 11-qt. basket.

Onions.—Imported, \$7.50 per 100-lb. sack; domestic, 50c. per 6-qt., \$1.00 per 11-qt. basket.

Potatoes.—\$2.25 to \$2.50 per bushel.

Parsley.—Home grown, 75c. per 11-qt. basket.

Radishes.—40c. per dozen bunches.

Squash.—Hubbard, \$2 to \$2.50 per doz.

Turnips.—White, 25c. to 30c. per 11-qt. basket.

Vegetable Marrow.—35c. to 40c. per 11-qt. basket.

Buffalo.

Cattle.—Cattle prices on shipping cattle were lowered from 50c. to 75c. at Buffalo last week. Receipts were liberal, Canadians making up the bulk of the offerings. Best Canadian shipping steers, of which there were around thirty-five to forty cars, sold from \$14.50 to \$15.25. Best handy steers ran from \$14 to \$14.50 generally, some extra kinds up to \$15. In the heifer line best reached \$12.75 to \$13, although extra prime grades were quotable up to \$13.50. Market was full steady on anything in the butchering line. Market eased off somewhat towards the latter part of the week, though the demand throughout the week was strong on anything carrying a good finish and of a desirable quality. Stocker and feeder cattle sold firm, stockers running from around \$8 to \$8.50 for the light, desirable grades on up to \$11 for the best feeders. Bulls were in very large supply, resulting in values dropping a half dollar, especially on the heavy and fat butchering grades. Milk cows and springers of the better grades ruled strong, others about steady. Reports from Washington are to the effect that an effort is being made to repeal the Canadian reciprocity treaty, but a letter from Senator Wadsworth, of New York State, states that he has not heard much discussion on the subject, and intimates that he favors letting the Canadian cattle come in free, as they are not serious competition against native cattle. The old tariff was 27 1/2 per cent., and the replacing of this tax would mean from \$600 to \$700 taxes per car on best cattle. Western shippers appear in favor of the repeal. But it is believed that the legislation will hardly go through, even if it is attempted, as the Canadian business is needed, to meet the strong demand on the local market. Offerings for the week totaled 5,575, as against 6,175 for the previous week, and as compared with 6,975 head for the corresponding week a year ago. There were approximately 150 cars of Canadians during the week. Quotations:

Shipping Steers, Natives.—Very choice heavy, \$17.50 to \$18; best heavy, over 1,300, \$16 to \$17; fair, over 1,300, \$15 to \$15.75; best, 1,200 to 1,300, \$16 to \$17; good, 1,200 to 1,300, \$15 to \$15.50; good, 1,100 to 1,200, \$14.75 to \$15.50; plain, \$13 to \$14.

Shipping Steers, Canadians.—Best heavy, \$14.50 to \$15.25; fair to good, \$13.50 to \$14; medium weight, \$13.50 to \$14.50; common and plain, \$12 to \$12.50.

Butchering Steers.—Yearlings, fair to prime, \$15 to \$16; choice heavy, \$15.25 to \$15.75; best handy, \$13.50 to \$14.25; fair to good, \$12.25 to \$13.50; light and common, \$9.50 to \$10.

Cows and Heifers.—Best heavy heifers, \$12.75 to \$13.25; good butcher heifers, \$12 to \$13; fair butchering heifers, \$9.50 to \$10.50; light, common, \$7.50 to \$8.50; very fancy fat cows, \$10.50 to \$11; best heavy fat cows, \$9.50 to \$10; medium to good, \$7.50 to \$9; cutters, \$7 to \$7.50; canners, \$5.75 to \$6.50.

Bulls.—Best heavy, \$10.25 to \$10.50; good butchering, \$9.75 to \$10.25; sausage, \$8.50 to \$9.50; light bulls, \$7.25 to \$8.50.

Stockers and Feeders.—Best feeders, \$10 to \$10.50; common to fair, \$8.50 to \$9.50; best stockers, \$8.50 to \$9; fair to good, \$7.75 to \$8.25; common, \$7 to \$7.50.

Milkers and Springers.—Good to best, small lots, \$100 to \$150; in car loads, \$90 to \$100; medium to fair, small lots, \$80 to \$85; common, \$50 to \$55; in carloads, \$70 to \$75.

Hogs.—Last week showed the widest range in prices for a long time back. Buyers were indifferent toward heavies, and while trade on these was slow, light hogs, for which there was a keen demand, brought a premium. Monday the top was \$21.90, with bulk selling at \$21.75; Tuesday's range was from \$21.75 to \$22; Wednesday light hogs brought up to \$22.25, with heavies selling down to \$21.50, and Thursday heavies sold at \$22, with York weights up to \$22.75. Friday prices were jumped a quarter to fifty cents. Heavies ranged from \$22 to \$22.60, while Yorkers and mixed grades brought from \$22.75 to \$23. On the opening day of the week pigs sold down to \$20.50, by Thursday they sold up to \$22, and Friday the bulk went at \$21.50. Roughs \$18 to \$19.00, and stags \$16.50 down. The past week's receipts were 14,500 head, being against 15,470 head for the week before and 12,300 head for the same week a year ago.

Sheep and Lambs.—Market occupied

Continued on page 1552.

Buffalo.

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Receipts were liberal,
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Canadian shipping steers,
were around thirty-five
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ran from \$14 to \$14.50
extra kinds up to \$15.
The best reached \$12.75
extra prime grades were
\$13.50. Market was full
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somewhat towards the
week, though the de-
the week was strong on
a good finish and of a
Stockers and feeder
stockers running from
0 for the light, desirable
11 for the best feeders.
large supply, resulting
a half dollar, especially
fat butchering grades.
springers of the better
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Offerings for the week
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during the week.

Natives.—Very choice
18; best heavy, over
air, over 1,300, \$15 to
1,300, \$16 to \$17;
\$15 to \$15.50; good,
\$.75 to \$15.50; plain,
0.

Canadians.—Best
\$15.25; fair to good,
um weight, \$13.50 to
plain, \$12 to \$12.50.
—Yearlings, fair to
choice heavy, \$15.25
ly, \$13.50 to \$14.25;
to \$13.50; light and
0.

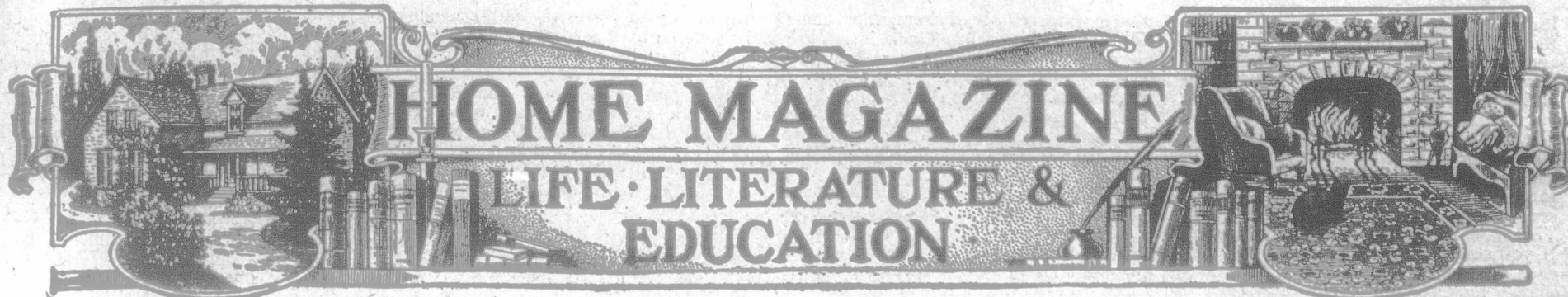
—Best heavy heifers,
ood butcher heifers,
cher heifers, \$9.50
mon, \$7.50 to \$8.50;
\$10.50 to \$11; best
0 to \$10; medium to
cutters, \$7 to \$7.50;
50.

y, \$10.25 to \$10.50;
5 to \$10.25; sausage,
ulls, \$7.25 to \$8.50.
ders.—Best feeders,
on to fair, \$8.50 to
\$8.50 to \$9; fair to
5; common, \$7 to

ers.—Good to best,
50; in car loads, \$90
fair, small lots, \$80
to \$55; in carloads,

showed the widest
a long time back.
nt toward heavies,
ese was slow, light
was a keen demand,
Monday the top was
selling at \$21.75;
s from \$21.75 to
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es selling down to
heavies sold at \$22,
to \$22.75. Friday
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t \$21.50. Roughs
ags \$16.50 down.
ripts were 14,500
470 head for the
head for the same

Market occupied
age 1552.



Trouble Has a Trick.

Trouble has a trick of coming butt end first; Viewed approaching, you have seen it at its worst; Once surmounted, straight it waxes ever small, And it tapers 'till there's nothing left at all.

So when'er a difficulty may impend, Just remember you are facing the butt end; And that looking back upon it, like as not, You will marvel at beholding just a dot.

—Author Unknown.

The Fine Art of Furnishing.

CERTAINLY one cannot blame anyone for having an ugly house. Perhaps half the ugly stuff in it came down in the family from the stupid Mid-Victorian era in furniture-making. Perhaps one bought the rest in one's young, callow, early-married days—and has been sorry for it ever since. Perhaps one has never had a chance to see really good furnishings. And, last of all, perhaps one thinks one cannot afford any better.

There are no end of Perhapses.

But what one does blame "anyone" for, is for keeping a lot of ugly, inexpensive stuff about if one knows better and can afford better. For the matter of furnishing is not unimportant. Not only are we affected, more or less, by our surroundings, we are also judged by them. We are known by the houses we live in. They are expressions of Us, because we express ourselves in them. Don't you believe that? If not, consider this: Can you imagine a really refined woman voluntarily choosing to live in an ugly, blatant, vulgar house, or even in a common-place, inartistic one? True, such women are found in such places, but it is always because they can't help it. . . . On the other hand, can you imagine a vulgar, blatant, commonplace person creating, unassisted, a home that expresses only refinement and good taste? . . . We think the conclusion stands established: unless we are prevented by circumstances we do express ourselves, to some extent at least, in the houses in which we live.

Nor, even in the cause of austerity, can one take very much comfort in living in a place devoid of all taste and beauty. The Creator of the Universe made it very beautiful. There is never a fault in the beauty of coloring in sky, or field, or sea. Think of the sky in its various moods, and then say if it is not always beautiful—the pale pink flush of dawn; the blue, cloud-flecked, at mid-day; the gorgeous sunsets at eventide, the pale, silver radiance of the moonlit night. Even the gray day has its own quiet beauty, and the storm-torn clouds their own grandeur and majesty. Says Byron:

"Oh night, and storm and darkness, ye are wondrous strong,
Yet beauteous in your strength as is the light
Of a dark eye in woman. Far along
From peak to peak the rattling crags among
Leaps the live thunder. Not from one lone cloud
But every mountain now hath found a tongue
And Jura answers, through the misty veil,
Back to the joyous Alps, who call to her aloud."

Think also of the beauty of distant hills, and near green fields; of the brook rippling through the wood; of the tiny flower growing on its bank; even of the moss covering the mouldering log, and the lichen on the bare rock. Is not all

perfect? Beautiful—ininitely beautiful? Then why should we hold it unimportant, even wrong, to care about the perfection of the things we human folk plan, and make with our hands? Perhaps there is more than a modicum of truth in the words of an English enthusiast who has written: "The man who thinks that by eating an ill-cooked meal and surrounding himself by things that offend the eye, he is getting nearer to heaven, makes a terrible mistake. The more we satisfy the beauty-sense in our daily life, the more we are getting into touch with another world that is more wonderful than this."—By training ourselves to respond to all beauty, all harmony, whether in Nature or Art, in the flower of the field or the furnishing of our homes, we become the more ready to appreciate greater beauties, greater harmonies still.

And, after all, the whole question, so far as house-furnishing is concerned, is not so much a matter of money as of taste. Just as a tiny cottage, perfect in proportion and embowered in roses may be infinitely more beautiful from the outside than a huge residence upon which millions have been spent but every law of good architecture broken; so may the inexpensive interior perfect in coloring and unspoiled by over-adornment, be infinitely more beautiful than that other interior over-crowded with ornament and lavish in expenditure of money and bad taste.

At the same time, it must be admitted that with a little money to spend it is much easier to furnish to one's taste than when one has none at all. The aim of the following set of articles will be to set forth, to some degree, how a very little money can be spent to advantage, and also how greater amounts may be so spent. The reader must adapt such hints as appeal to her to her own need and her own power of spending.

But How Shall We Know?

"How shall we know, then, just what to do?" says the mystified little woman who knows the "right thing" when she sees it, but feels confused in regard to just how to get effects;—and the question is a perfectly natural one, especially for the farm woman, who is usually much too busy to have time to burrow about in the furniture shops and study up books on furnishing as a city woman with time on her hands may well do.

Perhaps the best way is to get hold of some broad, general principles and build up from those.

We know that when we go into one room we have an instant sensation of pleasure; there is an impression of cosiness, homelikeness, dignity, beauty, harmony, restfulness. Going into another room the impression is the very opposite. It almost, somehow, sets one's teeth on edge. One feels vaguely irritated. There is a sense of clutter, confusion, bad color, and discord.

Why the difference between the two rooms?—Why?

If we analyze we shall find that a few outstanding rules must have sway if the best results are to be secured:—There must not be overcrowding. There must be proportion. There must be a color-scheme. The color-scheme must be good. There must be the little touches that make the difference between homelikeness and severity. Above all things it is to be remembered that, as someone has aptly said, "By the gate of simplicity one arrives at the pastures of Elegance."

And now, having stated the broad governing rules, perhaps the best shortcut can be taken by looking at concrete examples. And, dear reader, if your house happens to be furnished at all like the "wrong" example, do not despair. Remember what was said at the beginning

of this article, that, in all probability, you are not to blame for the misfortune, and take hope in reflecting that even a very bad room can be made very much better. A few hints as to how this can be done will be given in a later issue, but to-day the effort will be directed towards opening people's eyes to see what is really bad and really good in house furnishing.

Let us begin with the living-room.

The "Bad" Room.

I wonder if you have ever seen it? (Of course, this one is an extreme). The wall-paper has huge figures that fly out to "hit you in the face." Perhaps the ground color is red. The carpet, likewise, is bedizened with huge figures or flowers, that also spring up to hit you in the face. Probably the ground color of it is green or a bright crude fawn. The furniture is sure to be stuffed and tasseled,—no framework showing—and it, too, is covered with design. Just possibly there is added to it a golden oak arm-chair, a mahogany-finished piano, and a rocker of fumed oak. The table may be of golden oak; it has upon it a huge lamp with a flowered shade (resting upon a doiley), a card-receiver, and several photos on little easels. The curtains at the window sweep to the floor and are of flowered Nottingham lace; but those at the archway are of velvet or figured damask, any old color; perhaps they are of silk rope woven in net fashion, or they may be of shells or strung "seeds," while the crowning touch of over-decoration is given by the fancy grille across the top of the archway. Thanks to the passing of fads and fashions the what-not has been sent off to the attic, but the piano is loaded with vases and photos, and still bears a relic of barbarism in the silk drape across the front. If there is a fire-place the mantel, too, is draped with a scarf of silk caught up rakishly at one end



H. R. H. the Prince of Wales, Presenting the Colors to the 26th Canadian Regiment. Whose full name, with titles, is: Albert Edward Christian George Andrew Patrick David Windsor, Prince of Wales, Earl of Chester, Duke of Rothesay, Earl of Carrick, Baron of Renfrew, Lord of the Isles and Seneschal of Scotland. He is 25 years of age and is said to be an out-and-out democrat by temperament.

Probably the net bags stuffed with milkweed-down that once swung carelessly and uselessly from a chair back have followed the mid-Victorian "tidies" into oblivion, but a huge bow of red ribbon may still disfigure an inoffensive rocker or picture frame. Upon the wall hang the family portraits (in crayon), a daub in which perspective is sublimely disregarded (painted by the daughter of the house) and a print representing Queen Victoria's funeral or Somebody's tomb. If you search diligently enough you may even find, in an obscure corner, a "breast-plate" mounted on velvet and framed with an appropriate border of black. Instinctively you look about to see if there is not a framed "wreath" of hair, with grandma's silver tresses done into a lily, and Aunt Matilda's red locks into a rose, and little Mary's (deceased) into Johnny-Jump-Ups; and you heave a sigh of relief to find that it has gone off to the attic after the tidies and milkweed bag. "Anyhow," you say to yourself, "this whole place smells of must. It is just full of dust-catchers, and I know there are moths. I can't breathe in it, so-o-o-o!"

Here is another room—a less bad room, but still not a good one. The wall-paper is less conspicuous, but it is indifferent. The windows have been modernized to the extent of having inside curtains just to the sash, but the curtains are a hard, crude cretonne and there isn't another shred of it in the room. The floor, too, has been modernized. It is hardwood with small rugs, and of itself looks very well, but here is the mistake, every rug on it (there are too many of them) is put on a slant. Your eye follows along one and is brought up at the piano; from that it starts off along another that leads to a little table on which is a jardiniere, while yet another darts off at a tangent and lands you bump up at nothing more interesting than a patch of bare wall. Evidently the mistress of this mansion has a fad for angles, for most of the things all over the house are set corner-wise,—the piano, the side-board, the easy-chairs, the dressers in the bed-rooms. Upon the walls there are many pictures, good prints and water-colors, but they are all placed corner to corner so that the lines zig-zag up and down "every how." There is an effect of criss-cross-ness everywhere, that makes you feel as if you were with Alice in Wonderland, with everything about you askew. "Oh," you cry, "oh for a booke, and a shadie nooke,"—oh for anywhere that is *restful*, to get away from this maze of distraction!

Then, here is another house. Do you like it? It is daintiness from top to bottom. In fact, it looks like a doll's house. There is light paper, pretty paper with satiny stripes, on every wall. The living-room floor—for we are speaking chiefly of living-rooms (there are no "parlors" nowadays)—is covered with a very good rug, plain pale green with a rose border, and the furniture is all veneered mahogany upholstered in pale rose. There are heavy rose silk inside curtains, sash length. The pictures are well-chosen and well-placed, and the ornaments are not too numerous,—just a lovely Rookwood jar on the mantel, perhaps, and a little marble bust of Clytie. There is a big sofa, covered with rose silk, too, but you wouldn't dare sit on it; the cushions there are made to be looked at, not touched. One is of rose silk covered with silk bolting-cloth embroidered in tiny silk roses; another is pale green (of the very shade of the carpet) with a flight of yellow butterflies across it; while the third is of muslin and lace, with pink and green satin ribbons run through. . . . Is one safe in saying that you look in upon this room from the safe vantage point of the hall, then hurry away (as your hostess probably wishes you to) to a hospitable spot in the garden where you can sit on the grass, and lean up against anything you like, and not feel like a bull in a china chop?

But enough of "bad" rooms. Now let us turn to a good one, and that the very least expensive of all. In a later issue we shall consider good rooms that cost more money.

A "Good" Room,

THERE is very little money to spend, and the Little Woman looks at it in despair. Cheer up, Little Woman! Much may be done with little, and the spending of much money is not an absolute essential to the creation of a

pleasing, tasteful and home-like home. Your house is small. There is no fireplace in it. The windows are ordinary. The floors are poor. The woodwork likewise. The ceilings old and high. There is not enough money to buy good wall-paper or good rugs, and the very cheap ones are usually so abominable!—What, then, can be done?

No wonder, Little Woman, that you pucker your brows and feel helpless.—But let us see:

If we were you, and the walls were at all good we should paint them with water-paint. There are several kinds, all good, and they can be got in a variety of tints. Even ordinary whitewash, tinted to a deep cream with yellow ochre and put on very carefully and smoothly, makes a very attractive wall-finish. If the plaster is chippy and unsightly with cracks it may be necessary first to cover it with Manilla paper (which is very cheap), but before putting it on be sure to size the whole wall with glue-water. This will make a smooth surface for the water-paint—alabastine, or muresco, or whatever kind you use. If we were you, too, we should be very particular about the color. The wall must be the background for everything else, and if it is wrong everything else is wrong. You simply *can't* have a successful room if the wall is bright pink, or bright blue, or "Paddy" green. These colors may do for a sweater coat but never for a whole wall. Better choose a deep cream, buff, sand color, or a gray warmed up a bit with a very little yellow mixed in with it; even pumpkin yellow if the room is dark. If the walls are very high, have a "drop" ceiling, running down about 2 feet at the top. Always the ceiling should be either cream or ivory, or of the same tone as the walls, but two or three shades lighter, and the line where

the drop meets with the wall-coat should be covered by a narrow wooden moulding which may be painted the color of the ceiling.

Say you have chosen the soft buff. Brown woodwork (a pretty wood brown—*never* reddish brown) will go well with that, or, indeed, with almost any kind of wall, and see that you put on the paint before the walls are done to prevent danger of "spots."—Very well, then,—brown woodwork and a soft buff wall. What next?

Since the floor is the other large background, attend to it. If it is only fairly good the first thing to do is to stuff all the cracks, and this may be done very cheaply by using a home-made "putty" made as follows: Soak newspapers in a very thick boiled paste, 1 lb. flour to 3 quarts water, to which is added 1 tablespoonful of powdered alum; work until like putty and fill the cracks with it, stuffing them very full, as the mixture shrinks a little when drying. Let dry very thoroughly, then paint with one of the many excellent floor finishes now on the market. Usually these, "to make a good job," call for a filler and two coats of paint, all of which may be bought ready for use. A cheap, home-made paint is made by mixing boiled linseed oil with ochre (some brown coloring may be added, if liked) to a creamy consistency. Add a little turpentine, to dry, and apply to the floor. When thoroughly dry a clear floor varnish may be put on to make the paint wear longer.

Now we have the walls and floor. The next point to consider is the rug and curtains question, since these, more than anything else, bring out the accents of color needed. In a house such as the one we are dealing with a rag rug in "hit or

miss" (with the reds left out) would be excellent, and would go nicely with curtains of deep cream, scrim, or even cheesecloth, with a three-inch hem, hem-stitched, and hung straight; curtains and portieres should never be draped—they are so much more graceful if they fall in straight, easy folds.

A more individual room would be achieved by having the rug say of blue rags, almost entirely (a deep rich blue), and blue checked curtains; or the rug might be chiefly olive green, or green and brown mixed, and the curtains of factory cotton or cheesecloth stencilled along the hem in a design of the same coloring as those in the rug. Of course, the stencilling must be *beautifully* done; otherwise a heavy lace—preferably crocheted—would be better. In any case the rug should be made of about three breadths, closely sewn together, and cut so that a considerable space of painted floor will be all about. A heavy lining will keep it from "kicking up." If the rag rug is not liked, then perhaps a "Crex" one will satisfy, or even linoleum that looks like inlaid flooring. Either of these is better than a cheap "bought" Union rug in poor design and coloring.

The chairs may be made to look quite respectable by giving them a coat of glossy black paint; the couch will look like new in a new blue, green or brown art denim cover (to match the rug) and two or three pretty crash cushions; the table may be brightened by a big linen or crash runner or centerpiece trimmed with crocheted lace in the same color; while a shelf of books, a pot of ferns and a pretty lamp will revolutionize the place. Don't have a glass shade on your lamp if you want it to look its very best; get a wire frame made and put in a lining of amber or dull yellow Japanese silk. If there are ugly gaudy flowers on the bowl, paint it to a dull, coppery brown. An ugly jardiniere, by the way, is also an offence against good taste; your fern will look much better in its dull red pot wound all about with the bark-covered stems of a wild grape, put on round and round, very carefully, to cover the whole pot,—or the pot may be set in a home-made box covered with bark, or made of round bark-covered sticks built up like the rails of a snake fence.

Last of all, the pictures: You do not need many, you know. Why not get three or four good sepia prints of famous paintings—they cost only from 5 cents to \$2.50 each (if bought from the Perry, or Copley Prints Companies, Boston, Mass., or the Brown or Cosmos Companies, New York.—Send for catalogue first) and have them framed in neat, dark wood frames, with browna mats! The very best taste must approve of that. A Japanese print or two, for variety, would not be out of the way. Hang your pictures, for the most part, straight, on a level with the eye, and don't suspend them by wires from a moulding; use those little brass picture-hangers that will not disfigure your walls; any picture-dealer keeps them in stock.

Have we left anything out? Nothing, we think, except the few odd "touches" that make the place look "lived in,"—the newspaper lying on the table, the green and white bowl filled with asters or nasturtiums, the writing-desk, or work-basket, or tiny book-case, or foot-stool, or all of them.

And now survey your room, Little Woman! Don't you feel that it is a delight to the eye? And don't you feel proud of yourself for creating a spot so beautiful with so few dollars?

Of course, as attractive an effect might be attained, almost as inexpensively, by adopting other color schemes. For instance, were a gray water paint used for the walls, the inside curtains, couch cover and chair cushions might all be of pretty chintz or cretonne, flowered with pink roses, or rosy purple wistaria with bright birds among the plumage; and the floor might be left quite bare, with just a small hooked (hit-or-miss), or braided rug here and there.

There is endless room for diversity of taste, and she who, in furnishing her home achieves a distinctive effect, while still adhering to a harmonious color-scheme, may well congratulate herself.

(To be continued.)



Gen. Sir Arthur Currie.
Happy to be once more at home in Canada.

Woman

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Cool Comfort



It's Sunday morning—blazing hot, and pretty near a whole day before you for rest and recreation.

First, then—a shave. Whether you are going for a spin in the car, taking the family to church or visiting a neighbour, you cannot go with a day's growth of beard on your chin.

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Woman's Work on the Farm.

BY C. DUSTON.

(A Competition Letter.)

Heaven gave to women the peculiar grace To spin, to weep and cully human race. —Pope.

In these serious times in which we live, there is a strong sense of personal and individual responsibility. It is here, and now, we must exert our influence, must play our part, else we cannot expect this splendid country in which it is our fortune to be born, to develop into all we would wish it to be. To the women of our land comes the great privilege and responsibility of moulding young lives to noble ends that they may take the places of those splendid and courageous young men, too many of whom will never again perform the duties of citizenship in their own land. We all agree that the War was a war of many revelations; one of which is what the organized consecrated devotion of the women of any country can mean to that country. Years ago the poet told us:

"They can be great when great occasions call
In little duties women find their sphere,
The narrow cares that cluster around the hearth."

But "narrow cares" have ceased to fill our lives. The "great occasions" have called, and how nobly women have responded. To do this many women have had to readjust their whole lives to meet the exigency of the times. Nearly all the women of our land, both of town and country have given time and money,

heart and hand to the furtherance of Red Cross and patriotic work; and this seems most remarkable when we consider how full is the life of the home-maker even in times of peace.

To the farms the call for "Greater Production" came, and with it the increased shortage of labor, with the result of adding to the burden of the already over-worked farmer's wife. When we think for a moment of what a position she fills in the home and community, we wonder she can accomplish one-half of what she attempts. Take some of the departments of the women's job and see all that is involved in doing the thing well. First and foremost comes the rearing of children, with the attendant knowledge of hygiene and child psychology which is required to have healthy minds and healthy bodies. Then if she has several children think of the judicial qualities she sorely needs. She is the buyer of the family. She is interior decorator. To create an attractive interior with the means of the average family and limited time of the average mother, is a task to tax an artist. She is seamstress, laundress cook. She raises quantities of fowl every year and prepares them for market. She has a great deal of dairy work to do, often milking nearly all the cows, besides the endless washing of dairy utensils; and, if this were not enough, the farm house is a kind of hostel for every agent who drives the road. If any improvements or work which requires outside help is being done on the farm, she has them all to board. Some times it is possible for the farmer to employ help, but when the choice comes to his wife between having another member of the family to board, wash and mend for, she often chooses to do work for which she is unfitted rather than add to her burdens

in the home, besides spoiling the freedom and confidence of family life with the constant presence of a stranger. The question arises—if farm produce was as essential to the successful continuation of the war as munitions, why is farming not remunerative enough to pay wages sufficiently attractive to secure help and make it possible for them to live outside the farm home? It is impossible for women to do all that is required of them and give intelligent care to the minds and bodies of their children; the unselfish woman usually sacrifices herself and is unable to spend the time she should in storing her mind, or even in the care and adornment of person. She is too much overworked to be the mother of the best type of vigorous youth, and until many of these conditions are changed and farming pays better returns for the hours employed and labor expended, the life of the woman on a farm leaves much to be desired; and she certainly should have every labor-saving device and the very best appliances possible for doing her work.

Under the pressure of cares and small irritations, a woman needs to cultivate a serene attitude of mind, a poise, a confidence which is not shaken by every domestic storm; just a thought of the comparative values of things helps greatly. An unruffled face, a pleasant and cheerful demeanor in the home are so much more worth while than a spotless floor and a shining stove. It pays just for a moment to pause and listen to the glad carols of the birds "to see God in His splendors, hear the text that nature renders," and be glad you are alive in a world of beauty and service in a scene of peace and prosperity even when half the world was bathed in blood and

tears. Nothing helps one so much as getting away from the scenes of one's labors for a few hours. We return brightened and refreshed ready to take up the burden again; we even forget that harrassing thought

"Labor with what zeal we will
Something remains undone,
Something uncompleted still
Waits the rising of the sun."

For our own sakes as well as our duty to the community in which we live, we should try to take an interested part in all social activity. Many people have a deep misunderstanding of the economic purpose of industry, which is to contribute to human welfare. Labor should be constructive, not destructive to the one employed. Never be tense; a few moments relaxation calms the nerves and rests one. A short time ago I took a long motor trip with a friend who never once relaxed or leaned back in the very comfortable seat; like the inimitable "Mrs. Wilfer" of Dicken's creation, she sat "bolt upright," and was utterly weary for days afterwards.

A water service yields large returns in conservation of women's health and strength. Only two and one-half per cent. of four hundred farmers visited in 1915 had the complete water service on tap, bath and toilet in their houses. Five per cent. had automobiles, 70 per cent. had pianos, and 22 per cent. had gasoline engines. While it is well that so many possess sufficient musical interest, it is regrettable indeed that 39 out of 40 have not installed the water service and bath. No investment yields more in conserving women's health and strength, in creating greater home com-

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forts and in elevating the general tone of the material side of living than installation of water service. There are a number who have not even a kitchen sink which the handy man himself could install in a very short time.

The hydro power has not come into common use yet on farms, and is still very expensive. In the meantime, a small gasoline engine with attachments for washing machine and churn is most convenient. Of course, with water service, that power might be utilized to run the washing machine.

A telephone extension in the kitchen saves many a woman's nerves; she need not leave her food to burn while she runs to answer the insistent ringing of the bell on the stair landing or in the front hall.

A coal oil or gas stove is fine for summer use. One has not the constant worry of keeping on a fire, and as soon as you have finished using it, your fire may be turned

out; and the kitchen is cool and pleasant. Why is it comparatively few housewives know the wonderful possibilities of the fireless cooker? They may be made at home or purchased in the shops, and they spell economy of fuel, and a very high degree of kitchen efficiency. Many foods are improved in flavor by the slow working of the fireless.

I have in mind a friend who accomplishes a great deal with the minimum waste of strength and energy. Her home is not a new or modern one; but has been changed considerably for convenience and comfort. There is a back stairs which saves hundreds of steps and much wear of the floor and dusting of the glistening banisters and stair steps of the front stairs. They have not "Delco" lighting or steam heating, which is a dream she hopes to realize some day; but a good coal heater with well-arranged hot-air

pipes and registers keeps their sleeping rooms sufficiently warm in winter. In the basement is a good laundry with stationary tubs and power machine. A home-made dumb-waiter saves many trips between cellar and dining-room. There is not one back-breaking carpet in the whole house. On the parlors and guest room are pretty rugs, the other bedrooms have either oilcloth covered or finished floors, while kitchen and dining-room are covered with sanitary and serviceable linoleum. This resolves the spring housecleaning down to the least possible labor. The furnishings are chosen for comfort and serviceability rather than display; there are no fussy draperies, or mantels covered with bric-a-brac, but the pretty china is in built-in cupboards or china cabinet. The general effect is certainly most attractive; it is a most delightful home to visit, and all children's greatest pleasures

are centered there. My friend has kept her outside interests. She still reads the latest books and dresses modestly; and on meeting her one can say with more sincerity than is usually the case, "how well you are looking."

In conclusion, let us all try to avoid striving after that unattainable something which some one else achieves, but try to brighten the spot where we are and make this world a little better for our passing through by making our homes

"The resort of joy and peace and plenty, where, Supporting and supported, polished friends And dear relations mingle into bliss."

Hope's Quiet Hour.

The Glory in the Midst.

For I, saith the Lord, will be unto her a wall of fire round about, and will be the glory in the midst of her.—Zech. 2 : 5.

Yea, every pot in Jerusalem and in Judah shall be holiness unto the Lord of hosts.—Zech. 14 : 21.

As flames that consume the mountains, as winds that coerce the sea, Thy men of renown show forth Thy might in the clutch of death: Down they go into silence, yet the trump of the jubilee Swells not Thy praise as swells it the breathless pause of their breath.

What is the flame of their fire, if so I may catch the flame? What the strength of their strength, if also I may wax strong? The flaming fire of their strength is the love of Jesus' Name, In Whom their death is life, their silence utters a song.

CHRISTINA ROSSETTI.

When the Holy Son of the King walked among men on the earth He veiled His glory under common flesh. Once, upon the Mount of Transfiguration, the glory flashed visibly forth and dazzled the three disciples who were eye-witnesses of His majesty. St. Peter was so impressed by what he saw that he pleaded for a continuance of the visible glory. He wanted to stay right there on the mountain and have nothing more to do with the petty trials and duties of common life. But his Master saw more clearly. His ideal of greatness was not a shining face and glistening robes of white, but a life of service. Even during that vision of shining beauty He was earnestly talking about the battle with Death which lay ahead. The eager disciples were forbidden to mention the wonderful sight they had seen until after His death and resurrection. There must be no boasting about supernatural signs. If men could be won to follow Him by such an outward sign—though they were blind to the beauty of His life—their allegiance would not make them better men, and therefore He did not want it.

And so the Master led His unwilling apostles away from the supernatural to the men and women who needed sympathy and help. The opportunity of helping a sick boy, and cheering his unhappy father, was waiting. If they had remained on the mountain the chance to serve would have been missed.

Our text tells us that God Himself is the glory in the midst of the Golden City. As St. John knew well, the glory of God lightens it so that there is no need of the sun, and the Lamb is the Lamp in the midst of His Church, so that the nations can walk safely by the light thereof.

We are too far away to be greatly impressed by the visible glory which shone out on the mountain and overwhelmed the three apostles; but the invisible glory, which lighted up the words and deeds of our Great Example, shines out more and more grandly while the centuries pass.

It is because our King is still in the midst of us that every common pot in our kitchens is transfigured and glorified, transfigured and glorified. If we had clear vision we should see that upon the bells of the horses is inscribed "Holiness unto the Lord."—Zech. 14 : 20.

If the hammer that is consecrated by the touch of the Carpenter of Nazareth

could be worth more of earth. that is of the truth hammer to lay I whatever Unless I pen, I sh Let us which sh Christ in to see H women; outside v surface p

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ere. My friend has kept interests. She still reads books about, and dresses modestly; her one can say with more usually the case, "how looking."

let us all try to avoid that unattainable something else achieves, but try the spot where we are and a little better for our by making our homes

oy and peace and plenty, and supported, polished

ions mingle into bliss."

My Friend's Quiet Hour.

My Friend in the Midst.

The Lord, will be unto her a friend about, and will be the friend of her.—Zech. 2:5.

not in Jerusalem and in holiness unto the Lord 14:21.

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CHRISTINA ROSSETTI.

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King is still in the very common pot in figured and glorified. orified. If we had ld see that upon the s inscribed "Holiness ch. 14:20.

at is consecrated by arpent of Nazareth

could be found, it would be a treasure worth more than all the gold and jewels of earth. But a far grander thing than that is ours, if we will only recognize the truth. He Who consecrated that hammer long ago, is beside you, ready to lay His hand on your hammer or whatever instrument you are using. Unless I felt that His hand guided my pen, I should not dare to write.

Let us try to see the invisible glory which shines out from the Presence of Christ in our midst. Let us quick to see His likeness in humble men and women; instead of looking only at the outside veil and finding fault with little surface peculiarities of look or manner.

"A woman said, 'She disappointed me. I'd seen her picture, read about her work. Looked forward so to meeting her—and then

To find her just a frowny little thing With such a bonnet!"

Thus a journalist: "She wasn't worth my time to interview; Nothing to see, nothing to say for print." A poet mused. "How simple and how pure

The soul that speaks in every word and look, That knows itself the priestess of God's beauty

And gives for love what others grudge for praise! What courage and what patience in her eyes!

What music of true feeling in her voice! How every feature kindles with the light That burns upon the altar of her faith! How beautiful, how beautiful she is!"

One person looked only at her body, another glanced casually at her and was disappointed because she did not—as the saying is—"keep her best goods in the front window." The poet saw the woman herself, and was thrilled with the beauty of her spirit. So it was said of the Messiah: "He hath no form nor comeliness and when we shall see Him, there is no beauty that we should desire Him; and yet—if our eyes are anointed with spiritual eye-salve, so that we see through the visible veil the invisible glory—we say of Him: "He is altogether lovely." Where one said scornfully: "Is not this the Carpenter?" One whose eyes were open said: "Thou art the Son of God."

We are only too apt to be blinded by outward things—the things which only last a short time—and so miss the invisible things which are eternal. Let us try to discover and value highly the soul-beauty which God loves. A modern writer, speaking of the parable of the Laborers in the Vineyard, says: "While men are applauding the great workers who ostentatiously wipe the sweat from their brows and pant so that you can hear them across the whole field, God is regarding an unnoticed worker, who feels he is doing little, who is ashamed that anyone should see his work, who bitterly regrets he can do more, who could not name a coin small enough to pay him, but who is perfectly sure the Master he serves is well worth serving."

There is One in our midst Whose eyes are as a flame of fire, searching every corner of the heart. He looked through the outward appearance of the fierce Saul of Tarsus and saw a new man—humble, loving and trustful—ready to be born in the likeness of the Apostle Paul. When Simon the Pharisee could see only a woman who was "a sinner", He saw penitence and love covering a multitude of sins. When men saw "religious" people, with outward lives respectable, and "piety" displayed like a banner for the public to admire; the Lover of souls looked through the white-washed surface and sadly noted the secret decay within.

"God's glory is a wondrous thing, Most strange in all its ways; And, of all things on earth, least like What men agree to praise."

This morning a box arrived containing fragrant greenery—lavender, "lad's love," etc.—and inside the box I found a card: just a few sweet smells for the Hospital." I don't know the name of the sender, but I am sure Christ accepted the gift gratefully as He did the fragrant ointment in Bethany. It is always a joy to offer Him a gift, even though no one else may be interested.

If we can only live in the consciousness that the King is in our midst, everything will be glorified by the light of His Presence. Happiness will blossom into

joy as it is shared with our Friend. Suffering will be glorified if the eyes of the sufferer are lifted to Him Who endured so gloriously the shame and agony of the Cross. Work will be transformed from drudgery into willing service, if the worker can feel the touch of the Divine ommrade—the Workman of Nazareth.

Because Christ is the Door into Heaven—and the Door of Heaven is always open—we can step across the threshold any minute. Life need not be dull and hum-drum. It is our own fault if we fail to see the glory in our midst. And it is our loss if we turn our backs on the Light of the world and choose to walk in gloom. Bishop Brent says: "We must enter heaven and sojourn there a space every day in order to understand the meaning of life and do the work that lies before us in the world. The courts of heaven are but a step away." Will you take that step now?

DORA FARNCOMB.

For the Needy.

A "Friend" sent five dollars with the request that it should be used to give some poor woman a holiday in the country. "Irene" sent three dollars, and a "Reader of the Advocate" (Guelph), sent two dollars. Part of this money has already gone out to help three widows with young children; but the Quiet Hour Purse (Q. H. P.) is still wellfilled. My thanks go out also to the friends who have sent papers and magazines for the shut-in. You certainly keep my life from being hum-drum. It is pleasant to be a carrier of good things.

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.]

DEAR Ingle Nook Friends:—Again, to-day there is no especial heading to our column, for the simple reason that the talk will roam from one topic to another, just as it would were we sitting together over the tea-cups.

A week or so ago a writer in our paper spoke of the great work that would be accomplished if all country folk could be led to see the beauty in the country.

Of course I believe that a very great many of the country folk do see and love the changing beauty of the skies and fields, and woods, even though they do not say very much about it; yet what "Cheero" said is perfectly true—there are always some to whom all this is lost, and these are not confined to the country. A farmer may see in a field of wheat nothing but the hard labor it has meant and the money it will bring; a bank man may see in it nothing but the extra cash that may be deposited in his bank,—for upon many deposits depends much of his success. The pity of it is that these men can never know the real pleasure that comes of loving the beautiful golden and brown color, and watching the ripples of light and shade that sweep over the ready-to-cut field as it billows before the breeze—the ripening heads all swaying and bending there, so gracefully beneath the blue sky, while the border of green trees looks on from the roadside.—And the worst of it is, that, real and deep as the pleasure is to those who love beauty, they can never pass it on to the one who has never learned to see or to feel. "Sentiment! Rubbish! Buncombe!" he is likely to exclaim, to himself if not openly, and there the matter ends. He is really missing something exquisite, but he does not know it. Yet what a pity it is that anything exquisite—and so cheaply got—should even be missed by anyone! Perhaps this is one of the great works that any mother or any teacher can do for the children—teach them to see and feel beauty, so that they will find joy in it as long as they live.

The other day, looking out of the car window of a radial line, I wondered how anyone could possibly miss seeing the beauty of the country. The sky

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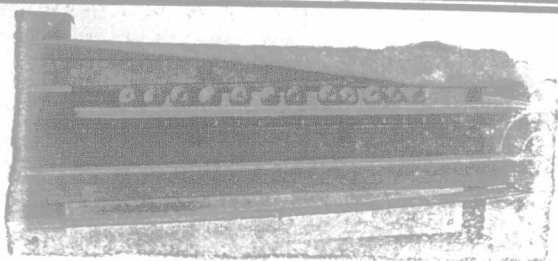
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is always beautiful, no matter what its coloring may be; and so are the trees, and the grass, and the fields whether in full growth or shorn, or ploughed. Always the blues, and grays, and greens, and fawns, and browns, of Nature are perfect and infinite in their shadings as morning passes into noon, and noon into evening, and evening into night. When one has learned to see shadows one knows that the landscape is never the same for two hours in the day; in this lies much of its joy, for the human mind delights in variety as the thirsty plants delight in the summer's rain. The farm-houses, too, look so peaceful, and sometimes the very small ones are the most interesting of all, especially the little new "kitchens" put up all alone, with a promising-looking blank wall left for future building. One is pretty sure a young married couple lives in these little new homes—perhaps a young man just back from the war, and the "slip of a girl" he has chosen for his wife. One can imagine the happiness in the little home, the planning, and the hopefulness.

Even coming back over the road at night one looks out of the open window to see beauty everywhere: great black clouds banking up over a deep, clear sky in which, yet, a few stars twinkle; flashes of lightning in the distance; the tiny lights of homes dotted along the way. As I looked out thus on my little trip I knew that many city folk might imagine those solitary homes out there in the night to be lonely places, but I knew better, for I had grown up in the country. Indeed to this day, although it suits my work to be near the printing machinery, I consider myself of the country rather than of the city.—That, of course, is not saying that I have not found many delightful people and good friends in the city. Indeed I find human nature just about the same everywhere. City folk and country folk are a million times more alike than some of them know. There are all the grades in both places, and city and country just need to come a little closer together to find it out. They are coming closer, too, year by year.

To return to our "Nature" talk: I once heard a prominent hydro official state, in a speech, his wish that he might live long enough to see an electric light at every farm gate. It would be very nice to have one at each gate on dark nights, but I fervently hope that, if such a time ever comes, the lights will be kept off most of the time.—Imagine all the country roads dotted with little sharp points of brightness, hard on the eyes, distracting to the nerves, blotting out completely the deep blue circle of the sky and the "infinite lights of heaven!" There is a wonderful majesty in a "country" sky at night that leads one, many a time, to solemn thought, as one jogs along in a buggy, or rolls along in a motor-car, looking up at the great, dark dome all flecked with stars and banded by the misty wonder of the Milky Way. In the city we never see the sky at all. We never look up at it, especially at night. Our little lights blot it out and keep us with our eyes downward when, often, they should look up. I am afraid it would be the same in the country if there were a light at every gate; but perhaps, if such an arrangement ever arrives, the cost of electricity will limit the use to the "pitch black" nights when such a beacon might be a real comfort.

BY the way, a friend who read my referendum "sermon" reminds me that I forgot a very important point, viz. that children of a man who uses alcoholic drinks freely (still worse, a woman) are quite likely to start life handicapped, with a poor constitution, susceptible to disease, and a "born" craving for strong drink.

This is a most important point. For, after all, the children are the very most important asset in the homes and in the world. Upon them, in a very short time, everything must rest. It is too bad to handicap them in any way, and surely upon the parents more than upon anyone else rests the responsibility of seeing that they do not start life handicapped in any way.

As the "questions" for the referendum are framed, those who are out-and-out for prohibition should, when voting-day comes, mark in the "No" column for every question, marking a multiplication sign, not a cross. It seems piffing to make any difference, but, it appears, any

ballot marked other than with a multiplication sign will be considered spoiled.

NOW, just to end to-day's talk: Several times, recently, in summer cottages, I have noticed a wrinkle that, I think, could be introduced in almost every farm home during the summer, with distinct profit in labor-saving. Upon the dining-table linen table-cloths are never used. A plain white oilcloth is stretched over and tacked beneath, neatly, all around. Upon this two runners about a foot and a half wide are placed, one lengthwise, the other crosswise, and at the centre of the table, where they cross, a jar of flowers is placed. These runners are of crash, butcher's linen, brown "Holland", or Japanese towelling with a blue pattern, and are simply hemmed and run about with featherstitching or herring-bone. They give a "finish" to the table—make it look pretty—while doing away absolutely with the nuisance of doing up table-cloths. In one cottage, instead of the runners a large centerpiece with bluebirds stencilled upon it took the place of the runners, and a doiley to match was put beneath each plate. The effect was quite good, but probably the runners would be more easily laundered. In either case, however, very little laundering is necessary as most of the muss goes on the oilcloth from which it can be easily rubbed off with a damp cloth.—Don't you think the idea a good one? JUNIA.

Worth Thinking Over.

"When women do come into the Legislature they are going to ask for more help for the children than ever before."—Mrs. Wm. Dawson, Parkhill, Ont.

"An idealist is a person who helps other people to be prosperous."—Henry W. Ford.

"Foresight is very wise, but foresorrow is very foolish: and castles are at any rate better than dungeons in the air."—Sir John Lubbock.

Games for Socials.

For M. J. York Co., Ont.

The best game we know for "Mixing" a crowd is "Who Am I?" A number of slips of paper have written upon them names of characters, past or present, even local characters, or inanimate objects, e.g. "Mary, Queen of Scots"; "King Alfred the Great"; "John D. Rockefeller"; "a rocking-chair"; "stove-pipes." One of these is pinned on the back of each person present, the only reservation being that the person who carries the slip must not know what is on it. Each then goes about, and, by asking questions, tries to find out who he or she is, the questions being of such character as: "When did I live?" "Was I famous?" "Did I live in America?" and so on. According as each discovers his or her identity the slip is taken off.

Another good game for promoting sociability is a guessing contest, as follows: The subject chosen may be "Great Men of the War"; "one's nearest town or village"; "the articles in a kitchen,"—anything one chooses. Questions about these are numbered and pinned on the wall, and the players go about with slips of paper and pencils, writing down the answers. At the close a prize and a booby prize are given to the two answering most and fewest of the questions. Of course the fun of the game will depend largely upon the character of the questions, which may be made up by a committee of three or four to suit the game and conditions. For instance, suppose the subject taken is "Our Village," some of the question might be:

"What place has the biggest peep-hole and the greatest number of secrets of any place in town?" Ans.—The post-office.

"Whizz-zz-zz! Zip! Burt-rr-rr?" Ans.—The sawmill.

And so on.

To Remove Mildew.

For M. K., Haldimand C., Ont.—To remove mildew from a fine white dress try one of the following, each of which is recommended to remove the stain but may have to be repeated to be wholly effective.

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1. Mix soap and chalk together, rub on the stain and expose to the sun.
 2. Mix 1 spoonful of salt, 2 spoonfuls soft soap, 2 spoonfuls powdered starch, and the juice of a lemon. Rub into both sides of stain and leave the article on the grass, day and night, until the stain disappears.
 3. Moisten the spots repeatedly with Javelle water diluted with plenty of water; rinse well, then wash as usual.
- If a closet is so damp that things mildew in it, place an earthen bowl full of quicklime in the closet. The lime will absorb the dampness, sweeten and disinfect the place, and keep mice and bugs away. As often as the lime becomes slacked throw it on the compost heap. It will be good to sweeten the soil.

Delicious Autumn Dishes.

Stuffed Vegetable Marrow or Summer Asparagus (also known as "delectata").—Choose a tender one and cut in halves lengthwise. Remove seeds and soft portions and let steam or boil until almost tender. Sprinkle inside with a little salt and turn upside down to drain. Arrange to make up just about the quantity needed to stuff, using equal portions of chopped chicken and ham, and fine breadcrumbs to equal bulk of both. For a cup of crumbs, take ¼ cup melted butter, 1 tablespoon each of chopped parsley, onions and fresh green or red pepper, (omitting seeds) and pepper and salt to season. Fill the prepared squash with the mixture, adding a little cream or broth if it seems too dry. Cover with cracker or breadcrumbs mixed with melted butter, turn a little hot water into the dish and let bake until the crumbs are browned. Serve with hot cream or brown or tomato sauce around the vegetable or in a separate dish.

Stuffed Baked Cucumbers.—Use large cucumbers. Wash, cut in two lengthwise, remove seeds, drop into boiling salted water and cook 5 minutes. Take out, drain, and fill with any mixture liked, cold meat, mushrooms, hard-boiled egg, or left-over vegetable, mixed with a little butter and cream and breadcrumbs enough to stiffen slightly. Place in a pan with a cupful of stock, gravy or hot water, and bake rather slowly for nearly an hour. Serve very hot.

Cream of Cucumber Soup.—Peel and slice the cucumbers and stew tender in water to just cover. Mash or put through a colander and add an equal quantity of hot milk. Season with pepper, and salt, and thicken with 1 tablespoon each of flour and butter rubbed together. Add a little more milk, if liked and serve with toast or biscuit for supper. If liked a little onion may be cooked with the cucumbers.

Cucumber Sauce for Baked Fish.—One cup grated cucumber, 1 teaspoon salt, 1 saltspoon white pepper, 1 tablespoon each of chopped onion, vinegar, butter and flour, ¼ cup of milk, water or stock. Cook butter and onion together until onion is tender and light brown in color. Strain the butter from the onion. Replace it (the butter) on stove, and blend the flour with it. When well mixed add gradually the liquid, stirring until smooth. Then mix in the salt, pepper vinegar and cucumber. Simmer 3 minutes and serve hot.

Baked Chicken.—Place slices of fat bacon, carrots, turnip and onions in a saucepan, then add some pot herbs and heat thoroughly. Put in the chicken and season. Bake until vegetables and chicken are brown, then add 1½ cups water, cover and cook until the bird is tender. Serve very hot.

English Boiled Dinner.—This handy, one-dish dinner may either be cooked on the stove or in the fireless cooker. It requires 3 lbs. lean beef, 1 small head cauliflower, 5 onions, 6 large potatoes, 2 carrots, 2 turnips. Choose nice solid meat, and put it in the kettle with a little suet fried out and very hot. Brown the meat all over to keep in the juices. Tie the cauliflower in cheesecloth to preserve its shape and color. Wash and peel the vegetables. Add hot water to the vegetables are added. Then boil 10 minutes longer and remove to the fireless. This may be done early in the morning and left in the cooker till noon. If cooked on the stove 2 hours slow simmering will do. For serving the meat may be placed in the middle of a hot platter and the vegetables arranged around, or the potatoes and cauliflower may be served as vegetable dishes.

The Scrap Bag.

An Economical Wrinkle.

If you have any hem-stitched curtains, pillow-cases or table linen that has worn out at the hems, join the cloth to the hem with strong novelty braid. The appearance is good, and a new lease of life will be given.

Making Shoes Last.

In these days of high prices of shoes any treatment that will make them last longer is welcome. If the soles of new shoes are dipped several times in very hot mutton tallow they will wear much longer. From time to time shoes that have to be worn out in dew-covered grass or wet fields should be well rubbed with melted tallow, the shoes being kept warm during the process. This will keep out the dampness and make the shoes wear longer. Some people keep the soles of shoes varnished with shellac, but shellac is not exactly cheap nowadays. Fine shoes should never be worn when they will become wet, unless rubbers are put on to protect them, and while not in use they should be put on shoe trees or stuffed with paper. If it is necessary to dry shoes quickly fill them with hot bran or oats from a small quantity kept on purpose. This will often prevent serious colds.

Peeling Potatoes.

To take away as little as possible of the potato when peeling, put the potatoes into rapidly boiling water for about 10 minutes; then take out and, when cool enough, peel.

Flavor of Tea.

An authority says that by keeping a few pieces of the dried yellowish rind of an orange in your tea canister you can give the cheaper grades of tea the delicious fragrance and taste of the more expensive grades.

Hemming Table Linen.

When hemming table linen rub the folded hem with a piece of castile or any other hard, dry soap. The needle will slip through the damask with greater ease. Also, if waxed thread is used it does away with the kinking and knotting that often proves so annoying.

Floor Cleaner.

Mix together boiled oil, vinegar and turpentine in equal parts, and apply to hardwood or stained floors with a soft cloth. It prevents the dust from scattering and leaves the floor clean.

An Economy.

Save seed from your best cucumber, squash, marrow, and from your best-yielding hills of potatoes. Beans for seed should be picked from clean, full, long pods, corn from the best ears. Lettuce, radish and tomato seed may also be saved, as well as flower seeds of all kinds. Next year, if you do not already know the plan, do not forget to plant a fine beet, turnip, parsnip, carrot and salsify root, also a cabbage split for part of its depth. These will all yield good seed if well cared for.

Fruit Stains on Table Linen.

Summer time, the season of fresh fruits and vegetables, brings new trials for the woman who prides herself in the appearance of her table linen, for stains will, in spite of everything, make their appearance. The following suggestions, from the Home Economics Department of the Manitoba Agricultural College, may prove helpful:

Remove stains before the regular washing begins.

Dilute acids and alkalis have no serious effect on linen, provided the fabric is thoroughly rinsed in clear water.

Use the simplest methods first. Any of the following methods are recommended for removing fruit stains from white table linen:

1. Spread stained portion over a bowl and pour boiling water on it from a height so that it strikes the stain with force.

2. Sprinkle borax on stain and then apply boiling water.

3. Javelle Water.—Use Javelle water solution and hot water in equal quantities and immerse stained portion, allowing it to stand a minute, then rinse in oxalic acid solution and then in several clear

SILO OWNERS, ATTENTION!

Farmers interested in a SILO ROOF, or wishing extra capacity in their present silos to the extent of 45 tons on a 12-foot silo, and more on a larger one, according to diameter, should use the

McElhone Hinge Silo Roof
(PATENTED)

The roof is hinged so men in the silo can open it ready for the extra silage in 15 minutes. There is also an adjustable anchor to hold the pipe at any desired height when the roof is open.

The great advantage of this roof is that after the silage is settled you have a full silo with a closed roof, thus saving all refilling.

Another feature is that it can be sheeted and shingled, and even the ridgeboard put on while standing inside.

This extra space is the cheapest room in your silo.

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COMPARE it with any other twine,

- note, its:
- Uniformity, length, firmness, strength,
 - No thick or thin places,
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 - Compactly spun and twisted,
 - A clean, glazed surface.

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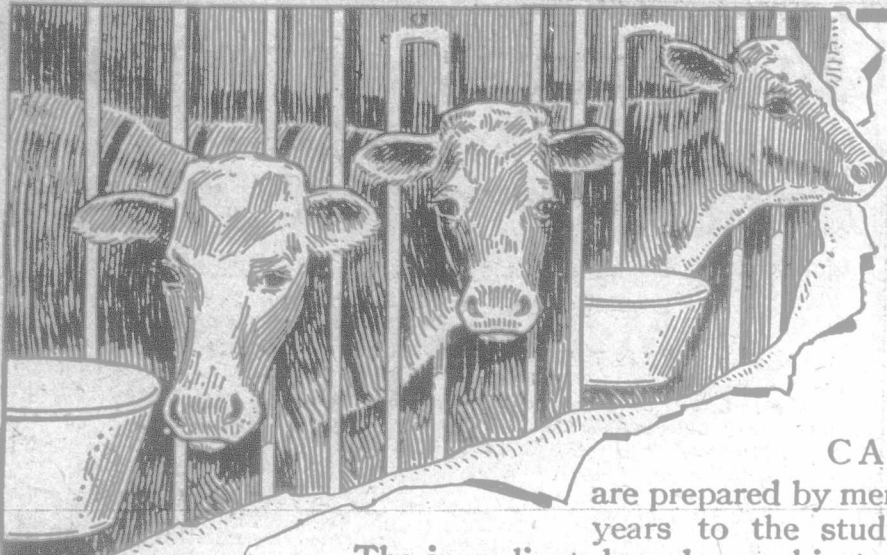
- Gilt Edge, 650 ft.
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- Silver Leaf, 550 ft.
- Maple Leaf, 500 ft.

We submit it to a special preserving treatment to make it insect-proof.

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49 A

The Range that has Made Good for 20 years

The "Home Comfort" Malleable Steel Range

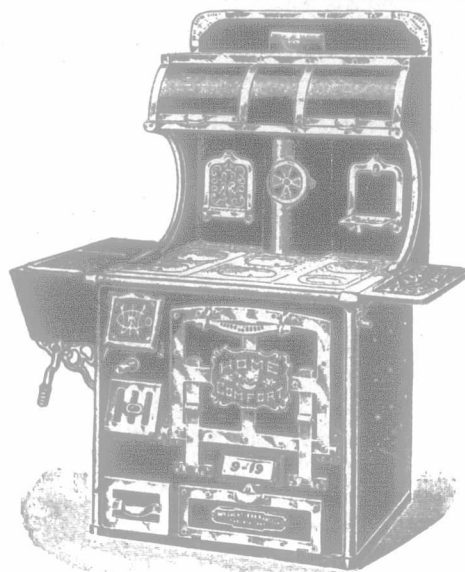
For the past 20 years we have sold an average of 2,500 "Home Comfort" ranges—a total of 50,000. In some communities the "Home Comfort" is found in scores and scores of homes—due in no small measure to the fact that one woman user of it has recommended it to her neighbor.

It is truly "Home Comfort"—a perfect baker, economical on coal, easy to run and durable beyond any other range we know of in its finish and in regard to numerous features, it is women's own ideal—they have told us what they want.

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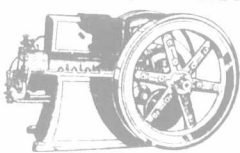
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Starts easily and surely on its own fuel in the coldest weather. Its principle is purely mechanical. No electrical devices whatever to loosen and to get out of order. You should investigate.

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Dominion General Supply Co., Dept. F, Toronto, Ont.



waters. This method is very good for almost all obstinate stains on white cottons or linens.

4. Oxalic Acid.—Apply a few drops of Oxalic Solution. Rinse well with hot water.

5. Potassium Permanganate and Oxalic Acid.—Apply potassium, let stand about five minutes, remove the potassium stain with a weak solution of oxalic acid. Then wash article well.—Miss E. G. McFadden, M.A.C.

The sportsman went out for a day's rough shooting. Not being a particularly good shot, the bag was nil, and, as he did not like to return empty-handed he bought a hare in the town on the way home. He presented it to his wife, who after expressing her thanks, thoughtfully remarked: 'It was a good thing you shot that hare when you did, John; it wouldn't have kept another day.'

Cream Wanted

You will get a higher price for your cream if you ship it direct to us. We supply cans and pay express charges both ways. Weight and test guaranteed. Payments made by Express Money Order.

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The Windrow.

Sir Arthur Currie will be a guest of the Canadian National Exhibition at Toronto. He and Lady Currie will be the guests of Sir Henry and Lady Pellatt while in Toronto.

The Royal Society for the Protection of Birds is initiating a movement to use the former German fortress of Helgoland as a refuge for birds.

The new Polish postage stamps show a portrait of Premier Paderewski, in scarlet,—with his hair cut.

The British Government is offering prizes amounting to £64,000 for an airplane competition, in order to develop safer types of machines.

In Japan the population increases by 750,000 a year, approximately. She has seven times the population of Canada with less than one-twentieth of the territory.

The British air liner R-33 is to fly from England to Cairo and thence to India. An airplane flight around the rim of the United States—7,805 miles—is also a plan for the near future that will be carried out by an American army bombing plane.

A report issued by a Commission of the Episcopal Church of New York recommends radical changes, including the use of a dipped wafer instead of the common Communion Cup, and the elimination from the marriage ceremony of the word "obey" for the bride and "with all my world goods I thee endow" for the groom.

Mrs. L. A. Gurnett has been appointed as Field Secretary of the movement to prevent the spread of tuberculosis in Ontario. Her headquarters will be at the Gage Institute, College St., Toronto.

In celebration of his 70th birthday, Sir William Osler, the famous Toronto doctor who is now in Regius Professor of Medicine in the University of Oxford, Eng., was presented with two large octavo volumes of essays, contributed to by over 150 writers, his pupils, colleagues and friends in the British Empire and America.

Smiles.

Cutting It Short.—"Don't be so long-winded in your reports as you have been in the past," said the manager of the "Wild West" railway to his overseer. "Just report the condition of the track as ye find it, and don't put in a lot of needless words that ain't to the point. Write a business letter, not a love-letter." A few days later the railway line was badly flooded, and the overseer wrote his report to the manager in one line: "Sir—Where the railway was the river is. — Yours faithfully, —" —Blighty (London).

Patron Saints—Two sailors, an Irishman and a Scotchman, could never agree, and the rest of the crew had become adepts in starting them on an argument. One day "patron saints" was the subject which the Scotchman knew nothing and the Irishman just a little.

"Who was the patron saint of Ireland?" said Jock.

"Do you mean to say you don't know?" said Pat. "Why, the holy St. Patrick."

"Well," said Jock in deliberate tones, "hang your St. Patrick."

In a towering rage the Irishman hesitated a second while he thought of something equally offensive, and then burst out with: "And hang your Harry Lauder!" —London Tit-Bits.

A Toronto clubman returning home early one evening recently, found his two children—a boy of seven and a girl of five—busily engaged on the dining-room floor with his new box of cigars. "What are you doing with those cigars?" he roared.

"Oh, father," said the boy, pointing to the remnants of brown tobacco that littered the carpet, "we are pretendin' that they are khaki soldiers, and we took off their puttees, and now we can't get them on again."

Fruit

Spiced Pe 4 lbs. sugar ginger root, 2 tablespoons and core th of vinegar ginger root in a chees and grated pears are syrup and syrup down fruit in the

Preserved lbs. sugar, pare the pe dropping th discoloring. and water, to fill a jar and seal.

Apple an apples, 4 lb crab apples or coring, a to extract a double ch to the juic until the st plums and l Other apple crab apples leave the c contained la

Canned stone variet ripe. Pare, stones. Pla pared, in col knife for pe coloring. N in a preservi of water to sugar over increase to seal. If pres by the boile

Blackberry 1/2 lb. brown mash the b slowly until and when col Plum Jan sugar. Put over the fire start the co as little as p Crab Appl as for apple the crab ap you may ta you have no them from water to co kettle. Pres add sugar t thick. Some pulp in a c cook the re stirred. To before it is o ful of red co

Glaced Cra fruit. For a sugar. Was put fruit an crock in lay cassia buds t a tight lid o in a slow o keep in the in a cool pla

Using Rau cannot eat r majority of p passports to ripe, and. Most people freestone pea but not every pears may If cream is us thick; a mi curdling an apples may with onions, and a very may take, n "fruit" at th mixed with c with sugar, c juice. Ripe are also a fruit rich cream an

Li Don't forg furniture as v prevent rug the corners side with gl cents worth to with a paint l

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Security values, confirmed by Price, Waterhouse Company and American Appraisal Company, and feature equivalent to BOND SAFETY.

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Financial.

Forthcoming Loan.

It is now a well-known fact that another war loan will be asked for in the near future, but the terms of the loan have not been announced. The rate of interest, it is understood, will be 5½ per cent., but whether the issue will be marketed below par in order to make it more attractive has not yet been divulged. The bonds will, no doubt, be taxable, thus differing from the last loan which was exempt in so far as the Dominion is concerned. The war has been fought and won, but the country must still carry on; if the country cannot carry on the individual citizen has little chance. In a recent address, Sir Thomas White, the retiring Finance Minister, threw some light on the manner in which the last loan was spent, and the necessity for another. Mention was made of the peculiar situation following the armistice when the Government adopted a policy of "carry on" in order to prevent a panic and an all-round demoralization of business on account of the uncertainty. National undertaking, such as shipbuilding, improvement of railroads, etc., formed a part of the program to hold the country steady, impart confidence and retain the stability of all industries. Continuing, Sir Thomas said:



Sir Henry Drayton.
The new Minister of Finance.

"Then we have had thrown upon us the immense expense of demobilization. Until last fall we borrowed from Great Britain in London, and that was a set-off to our advances to Great Britain here, the amount of money required by us to maintain our troops in Great Britain and on the continent. We did not have to find the money here in addition to the credits that we furnished to Great Britain. They furnished that money to us in London, and to that extent it was not a burden on our financing here. But with the bringing of the men here during several months past we have had to bear the expense of paying them until discharged, and in addition to that, we have had to find a large war gratuity, varying from two to six months' pay in proportion to the services of the men overseas. I do not think the public begin to realize the large amount of money involved in that transaction. It will involve a payment of some \$130,000,000 in war gratuities. I am quite sure that no citizen of Canada will begrudge that to the men who went overseas. But that is a very large sum of money, and I mention it so that you may realize how the proceeds of the last Victory Loan have melted away. Then, we have the soldiers' land settlement scheme, which we believe will be of great ultimate advantage to the country, and by which advances are made, these advances being secured by property, real and personal. It is confidently hoped that this scheme will work out to the ultimate benefit of the Dominion as a whole.

The ex-Minister of Finance then explained Canada's financial standing as very good considering the drain upon it, and in a very favorable position as compared with those of other belligerent

countries. More funds are needed, however, and in this regard he said: "I have shown that we need make no apologies for this loan. We are going to offer them a security which is of great advantage to them. We believe it will be a good investment. We want to make them realize that it is necessary for the purpose of putting the Dominion finances on a stable and sound basis, by liquidating our floating indebtedness, to complete the expenses of demobilization, to furnish the necessary credits for the marketing of our produce, and to carry out our reconstruction program."

Markets

Continued from page 1542.

a very favorable position the first four days of last week. Monday the top for lambs was \$18; Tuesday and Wednesday some reached \$18.50, and Thursday the top was \$18.75, with culls selling from \$14 down. Friday the supply was liberal, and prices showed a break of \$1.25 to \$1.50, best lots going at \$17 to \$17.25, with culls selling downward from \$13. Sheep receipts consisted of ewes and while the first four days showed the best in this line selling from \$10 to \$10.50, Friday the outside quotation for these was \$10. For the past week receipts were 9,300 head, as compared with 4,662 head for the week before and 4,150 head for the same week a year ago.

Calves.—A red-hot trade was had on top veals last week, Friday's market being a record-breaker. Monday, Tuesday and Wednesday the bulk of the top veals moved at \$24, and Thursday a bid of \$24.50 was had for one bunch. Friday's trade was uneven. Best natives sold from \$25 to \$26, and top for Canadian calves was \$23. Under grades were steady all week. Native culls sold up to \$20, Canadian throwouts went from \$15 to \$19, weighty calves in fair flesh sold around \$15, and grassy kinds ranged from \$12 down. For the past week receipts were 3,300 head, being against 2,791 head for the week before, and 2,000 head for the same week a year ago.

Chicago.

Hogs.—Heavy weight, \$19.35 to \$19.50; medium weight, \$19.50 to \$21.75; light weight, \$19.60 to \$21.30; light lights, \$18.75 to \$21.40; heavy packing sows, smooth, \$18.50 to \$19.25; packing sows, rough, \$17.50 to \$18.25; pigs, \$17.75 to \$19.

Cattle.—Native beef steers above \$17 and Westerns and feeders steady. Other steers 25c. to 50c. lower. Best fat stock and canners about steady; in-between cows and heifers unevenly 50c. to 75c. lower; veal calves steady; heavies lower.

Sheep.—Market compared with a week ago. Native lambs mostly 75c. to \$1.25 lower. Some in-between grades more. Westerns mostly 50c. to 75c. lower. Feeder lambs 50c. to 75c. up. Breeding ewes steady to 25c. higher.

Victory Bonds.

Following were the values of Victory Bonds on Toronto market, August 23: Victory Bond maturing 1922, 100 to 100½; Victory Bond maturing 1923, 100 to 100½; Victory Bond maturing 1927, 102 to 102½; Victory Bond maturing 1933, 103½ to 103¾; Victory Bond maturing 1937, 105 to 105½.

Cheese Markets.

Belleville, white, 24¾c.; colored, 25½c.; St. Hyacinthe, Que., 25c.; Cornwall, 25c.

Mrs. Stuart Menzies, in her newly published "Sportsmen Parsons," tells an amusing story of a cleric famed alike as a hard rider to hounds and a profound scholar, who was one day performing a christening ceremony.

Owing to the mother's faulty pronunciation of the aspirate he could not make out (writes Mrs. Menzies) whether the child's name was to be Anna or Hannah, so stooping, he asked her quietly, "How do you spell it?"

To this the mother, in an embarrassed and confidential whisper, replied, "Well, I ain't no schollard neither, sir."

She was evidently (adds Mrs. Menzies) surprised at his "ignorance." Fancy his having to ask her how to spell!

Questions

Chronicle

The mud driving m... are rather... She sta... and steps

Ans.—G... oil, and fol... of potass... the parts v... and after b... made of 1... belladonna... drams ace... a pint.

Facility in

1. Calf trouble whe... its actions... and then di...

2. Yearl... face last sun... escape of a... In the win... on its body... listless. It... on grass it... and a large... It is more

Ans.—1. trouble for v... done.

2. This... It is doubtl... treat. If... each absces... the cavity... with a 5 p... acid or one... Give it 3 d... times daily... eat keep up... milk, eggs an...

What is t

under separa...

Ans.—The office is a (tabanus). is able with... to perforate... suck the b... pain.

Seed

Would it b... clover this fa...

Ans.—Swe... in July, and... a fairly good... We have nev... as late at t... have been c... plants on the...

Grease

What is g... hay-fork rope... dry and britt...

Ans.—The recommended... into small pie... a clean vesse... melted run th... sieve into an... with constant... weight) hot... careful that it... To this mixt... vaseline; aft... is applied to... with a clean, v...

What is go

leaves?

Ans.—The are pre-existin... organs, violen... is not in co... of the muscl... expiration, a sl... nostrils are w... disease is a pe... be relieved by... animal's diet... roughage fed; when working, and both hay a... with a little... be taken not t... a heavy feed.

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...to them. We believe it
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...of putting the Dominion
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...the necessary credits for
...of our produce, and to
...construction program."

Markets

...d from page 1542.
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Bonds.

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Markets.

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...sk her how to spell!

Questions and Answers.
Veterinary.

Chronic Contraction of Muscles.

The muscles above the stifle of my driving mare are drawn tight. They are rather hard and appear to be sore. She stands with legs drawn forwards and steps short. T. B.

Ans.—Give her 1 1/2 pints of raw linseed oil, and follow up with 3 drams of bromide of potassium 3 times daily. Bathe the parts well frequently with hot water and after bathing rub well with a liniment made of 1 oz. each of fluid extract of belladonna and tincture of opium, 6 drams acetate of lead and water to make a pint. V.

Facility in Calf — Multiple Abscesses.

1. Calf was affected with nervous trouble when born. It could not control its actions. It did fairly well for 2 weeks and then died.

2. Yearling steer had a large boil on face last summer. I lanced it and allowed escape of a lot of pus. It then healed. In the winter it had a number of sores on its body, ate little, became dull and listless. It got some better, but when on grass it got worse and would not feed and a large lump formed on the thigh. It is more or less bloated all the time. J. S. C.

Ans.—1. It had congenital brain trouble for which nothing could have been done.

2. This is a species of blood poisoning. It is doubtful whether it will be wise to treat. If you decide to treat, lance each abscess as pus forms and flush out the cavity 3 times daily until healed with a 5 per cent. solution of carbolic acid or one of the coal tar antiseptics. Give it 3 drams hyposulphite of soda 3 times daily and feed well. If he will not eat keep up his strength by drenching with milk, eggs and gruel. V.

Miscellaneous.

Horse Fly.

What is the name of the fly mailed under separate cover? A. S.

Ans.—The specimen received at this office is a large, blue-black horse fly (tabanus). This rather ferocious insect is able with its piercing mouth parts to perforate the skin of the horse and suck the blood, causing considerable pain. C. J. S. B.

Seeding to Sweet Clover.

Would it be satisfactory to sow sweet clover this fall for a hay crop next year? J. M.

Ans.—Sweet clover might be sown in July, and even yet with an open fall a fairly good stand might be obtained. We have never known of it being seeded as late at this, but very good catches have been obtained from the ripened plants on the pasture field.

Grease for Hayfork Rope.

What is good material to put on a hay-fork rope to prevent it from becoming dry and brittle? P. G.

Ans.—The following treatment is recommended: Cut a quantity of tallow into small pieces and place the latter in a clean vessel on a moderate fire; when melted run the liquid fat through a wire sieve into another vessel, in which mix with constant stirring one-fifth part (by weight) hot linseed oil varnish, being careful that it is thoroughly incorporated. To this mixture add one-fifteenth part vaseline; after cooling this grease is applied to the rope and rubbed in with a clean, woolen rag.

Heaves.

What is good for a horse that has heaves? M. K.

Ans.—The common causes of heaves are pre-existing diseases of the respiratory organs, violent exercise when the animal is not in condition. The contraction of the muscles of the flank with each expiration, a short, dry cough, and dilated nostrils are well known symptoms. The disease is a permanent disorder, but may be relieved by careful attention to the animal's diet. Limit the quantity of roughage fed; water the horse frequently when working, give feed of good quality, and both hay and grain may be dampened with a little lime water. Care should be taken not to drive the horse fast after a heavy feed.

Fall Financing

INCREASED Farm Production has the interest and co-operation of The Bank of Toronto at all seasons. In the Fall the responsible farmer who needs money to finish his cattle or hogs, to cover expenses of harvesting and threshing until his crop is marketed and paid for, to buy stock to feed and fatten, or to finance any other "turn over" on the farm, will be readily furnished with funds to cover his requirements.

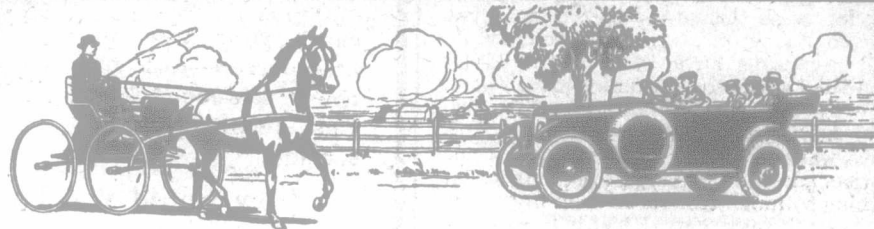
Consult our local Manager whenever we can be of service to you.

THOS. F. HOW
General Manager

THE BANK OF TORONTO

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Is guaranteed to be perfect in material and workmanship. Don't buy an unbranded set of harness. Harness that is good enough for you is worthy of the maker's name. Eliminate all risk by insisting on Imperial Brand Harness—known and favored by dealers and users all over the Dominion of Canada.



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will give you maximum mileage and minimum road trouble. We are distributors of Partridge Tires. Ask your Harness Dealer or your Hardware Dealer for them.

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Manufacturers and Jobbers of Auto Accessories. Distributors of Partridge Tires.

"The passing of liquor is going to prove an immense impetus to music in this country, not only artistically, but commercially." This confident and somewhat surprising assertion is made editorially by the *Washington Herald*, which goes on to say:
"This impetus will reflect itself in a greater patronage of the concert stage, more pupils for the music-teacher, in the larger sale of musical instruments and

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Incorporated in 1855
Capital and Reserve, \$8,800,000
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This is the country of opportunity for the man with some ready money. Money is opportunity. Begin at once to save, and deposit your savings in The Molsons Bank. Interest at regular rate.

STORM WINDOWS & DOORS
SIZES to suit your openings. Fitted with glass. Safe delivery guaranteed.
Write for Price List (B). Cut down fuel bills. Insure winter comfort.
The HALLIDAY COMPANY, Limited
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prophesies that next year will find twenty-five-piece orchestras in many of the big hotels where but eight or ten men are now employed.
"Many of the big cities now have symphony orchestras of their own that have not had them before."
"Music is one means by which we can forget the material, for a time at least, but without intoxication as in the case of booze."

Scotch Shorthorns

HICKORY RIDGE FARM

THE HOME OF

Pride of Escanna

A son of Right Sort (Imp.)

Although only a two-year-old, Pride of Escanna is, by his get, proving himself one of Canada's greatest young sires. Three of his get, two heifers and one bull (the oldest three calves sired by him) are included in my calf herd showing at Toronto, and the several younger ones at the farm are equally as good. Pride of Escanna, as mentioned above, is got by the noted sire of winners, Right Sort (imp.), and his dam, Novelty (imp.), was got by Newton Crystal and by bred A. T. Gordon.

In my sales list at home I also have one 15 months Clipper bull, got by Dalesman (imp.) and one 10 months calf, a Rosebud, got by a son of the Highland Agricultural Society winner, Lord Advocate.

In females I am pricing 8 or 10 good yearling heifers, a good lot throughout, and sired by such bulls as Dalesman (imp.), Gold Mint and Roan Prince, a son of Uppermill Omega. These are from our own breeding cows, including Clippers, Rosebuds, Nonpareils, Rosewoods, Roan Ladys, Missies, Mary Ann of Lancasters, etc.

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A. G. FARROW, Oakville, Ontario

CONSIGN YOUR Co-Operative Live Stock Shipments

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Owned and controlled by the farmers for the use of the farmers. We specialize in co-operative shipping of Cattle, Hogs and Sheep. We are doing a business of over \$1,000,000.00 per month. We handle forty per cent. of the live stock business. Help us get the remaining sixty per cent.

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Own and operate stores at Seaforth, Cobourg, Warren and Toronto. We can handle all orders for groceries from our wholesale grocery warehouse at Toronto. Grocery list on request.

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All farm supplies in carload lots—Feeds, Coal, Oils, Roofing, Salt, etc.

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The United Farmers' Co-Operative Company, Limited

130 King St. East

Toronto, Ontario

WANT AND FOR SALE

FARM FOR SALE
100 acres in the 2nd Concession of the Township of Tecumseh County of Simcoe (about two miles from Schomberg) 98 acres under cultivation one of the best grain farms in Ontario and has always carried stock—large comfortable, brick house, new bank barn 50x56 up to date with cement stabling and Beattie's Cattle stalls and stanchions; new hog house 22x32 and poultry house 14x24; also implement and other sheds rented to good tenant; possession first of March or possibly earlier.
For price terms and further particulars apply to Smith, Rae & Greer, Solicitors, 4 Wellington Street East, Toronto.

FARM FOR SALE — A SPLENDID OPPORTUNITY to farm or acquire one of the most desirable farms in the famous Land of Evangeline, situated in the town of Kentville, Kings Co., N. S., about one mile from the railway station, formerly owned by the late Rev. P. M. Holden. Modern buildings in first-class repair. Land in high state of cultivation. The buildings include a fine 13 roomed residence, electric lights, bath-room, furnace, hot and cold water, 3 fire places, 2 verandahs, hardwood floors. Beautiful view overlooking the Cornwallis river and Minas Basin. 2 tenement houses for employees or rental purposes. 4 barns, 2 henhouses, 1 ice-house. The farm consists of about 114 acres; 16 acres full bearing orchard, mostly apples, a few pears, plum, cherry and peach trees. Cuts 50 tons hay. 9 acres dyke with 3 acres, suitable for building purposes in the east end of Kentville. 25 acres choicest hardwood, 23 acres in pasture with running brook through it. Family changes compel quick sale. Part of purchase money may remain or mortgage. Write: J. Rooney, Kentville.

MARRIED MAN DESIRES POSITION ON farm. Experienced. Henry, Box 523, Oakville, Ont.

"WANTED—TWO EXPERIENCED DAIRY cattle stablemen, at \$90 per month. Yearly employment. Apply Animal Husbandry Department, Manitoba Agricultural College Winnipeg.

WANTED WORKING FORMAN FOR PURE- bred stock farm in Ontario, and wife for house, etc. Must be capable and dependable. Apply L. B. Farmer's Advocate, London, Ont.

"100 ACRES IN EXCELLENT STATE OF cultivation, 11 miles from Ottawa. For particulars apply Roy McLatchie, 73 Eccles St., Ottawa.

Plums and Pears WANTED

We are open to buy a limited quantity of plums and pears, all first-class varieties. Will also be in the market for fall and winter apples. Phone or write.

Dominion Cannery, Ltd., Simcoe, Ont.

WHEN WRITING ADVERTISERS
Please mention Advocate

Questions and Answers. Miscellaneous.

Failure to Improve Fences.

When I rented a farm in 1918, my landlord promised that he would fix the fences as there were no fences except the boundary one. He has not done so, and my crops have been destroyed by my cows and horses running over them. The lease was drawn for one year with the privilege of three. The landlord now wants it back, and has given me notice. I am getting discouraged at having so much trouble to keep my stock, but at the same time I feel it hard to be compelled to pay the rent and taxes when my crops are destroyed through the landlord's failure to keep his terms.

C. S.

Ans.—The notice from your landlord is ineffective—that is, you are entitled to exercise the privilege provided by the Indenture of Lease of three years instead of one. As for the matter of fencing, it is unfortunate that you did not have it clearly provided for in the lease. The Lessor's verbal promises are insufficient for you to go upon. Seeing that you are not disposed to remain after the expiration of the year and, at same time, the Lessor is not in a position to compel you to go, we would suggest that you point out to him his position in respect of the Lease and endeavor to make some satisfactory settlement.

Line Fence and Fruit Trees.

I have a number of fruit trees along the line fence. 1. Can I go over and pick the fruit on B's side?

2. Can I pull the branches over on my side and pick the fruit? My trees are shading his land. What is the law concerning fruit trees near the line fence?

Ontario. J. D.

Ans.—1. You should first request B to deliver the fruit to you; and, then, if he refuses, or neglects to comply with, such request, you would be entitled to enter upon his land and gather up and remove the fruit, but staying there no longer than is necessary for such purposes.

2. Yes.

FALL WHEAT

can be your most profitable crop—just add the "life-blood" of good fertilizing when seeding.



"Making two blades grow where only one grew before"

How would you like another 20 bus. per acre?

Go after big yields. That's what your successful neighbor is doing. Thirty-bushel wheat means that each hour of man power employed yields 1 1/2 bushels of wheat. It costs no more to handle a fat crop than a lean one.

**Gunns Shur Gain
Fertilizers**

Seed down your Fall Wheat with "SHUR-GAIN" Fertilizer. There's the key to success. Strengthen the growth against winter killing and the Hessian fly. "SHUR-GAIN" has a record of 40 years of success. Compounded by experts who KNOW what Ontario farms need.

Another \$20 to \$50 per acre might just as well be in your pocket. But we say, order NOW. Delay may mean disappointment. Have your "Shur-Gain" ready for seeding time. Get early-buying discounts by seeing your dealer now.

GUNNS LIMITED, West Toronto

Division of Estate.

A being the owner of a farm estate makes a will. The registered will states C and D to have the estate, with the exception of two rooms which belong to B as long as he lives. In after years B gave up all possession of the said estate to C, leaving B's claim as A had left it in the will. A died and D signed off his share of the estate to C, B to have the room as stated in the will. In later years B preferred city life and asked C what he would allow if he vacated the rooms. C and B valued the rooms, C to give the full value of the

basis of the will, which said they were to become C's at B's death. B having died without a will, does C get back the money if it is there, the same as he would the rooms, based on the late will or would it go to B's heirs? If C gave the money to the heirs should they feel gratified or insulted?
J. B. S.

Ans.—1. C would get part of B's estate as being one of his next of kin. Such estate would include the money in question. The other next of kin would take the rest of the estate. It would, of course, all be subject to payment of B's debts, and funeral and testamentary expenses—also succession duty, if any.

2. We should think they would feel gratified.

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TIMOTHY
No. 2 Govt
purity, \$7.50

FALL W
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per bush.

FALL F
\$2.60 per b
per bush.

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Toronto

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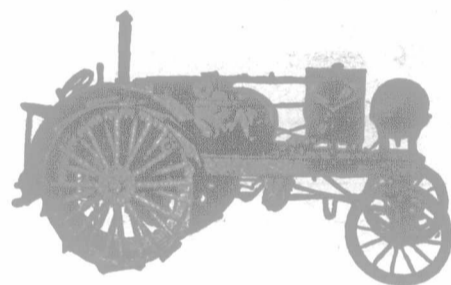
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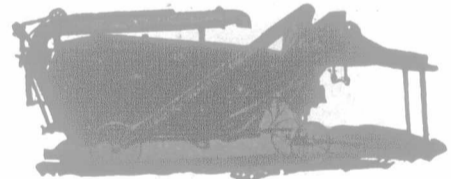
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Suitable for hauling 3 plows, Threshing, Silo
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Individual Farmers' Threshers, suitable size to
be driven by small Tractors and Gasoline Engines.
Do your own threshing. Keep your farm clean
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Write for free catalogue, prices and any in-
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Also Steam Tractors, and large size Threshers-

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TIMOTHY SEED—Cotton bags 60c. each.
No. 2 Government Standard, Extra No. 1 for
purity, \$7.75 per bush. f.o.b.

FALL WHEAT—Bags free. (If 10 bushels
or more are ordered we offer at 13c. per bush.
less than prices herewith quoted). Dawson's
Golden Chaff, registered seed, \$3.00 per bush.
Dawson's Golden Chaff, good sample, \$2.75
per bush.

FALL RYE—Bags free. Rosen Rye at
\$2.60 per bush. Fall Rye, good sample, \$2.00
per bush.

We are in the market for Alsike, Red and
Sweet Clover.
Send samples, and we will quote our best
price, f.o.b. your station.

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Seed Merchants since 1666
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Live Poultry Wanted

We have a heavy demand for good poultry all
the year round. We prefer to receive poultry
alive during the hot weather and will pay top
prices. It will pay you to sell to
**C. A. MANN & CO. 78 KING ST. LONDU,
ONTARIO. Phone 1577.**

OXFORDS

I have some choice shearing rams and ewes for
sale. Also some ram and ewe lambs.
DAVID D. BELL Shakespeare, Ontario

Questions and Answers.
Miscellaneous.

Hessian Fly.

What is a good method of treating
fall wheat for Hessian fly? W. P.

Ans.—The methods practiced in keep-
the Hessian fly in check are to thoroughly
clean the seed and burn the "flax seed"
or pupae of the fly, which screen into the
chess box. Planting a strip of wheat
early to attract the fly, and then plowing
this under later in the season is a method
used. Leaving the sowing of wheat as
late as possible is also recommended,
so that the natural season for the laying
of the eggs will have been past before the
wheat plant shows above the ground.
Of course, planting must not be so de-
layed that the crop will not get sufficient
top in the fall.

A Badly Treated Wife.

Things do not run smoothly in my
home. My husband runs the whole
show while I do most of the work. He
buys such things as he thinks are needed,
but there are a lot of things wanted that
we don't get, and he refuses to give me
a cent to buy things that are necessary
for the home and children. I never
have a bit of pocket money. Am I
supposed to continue working like this
without remuneration?

2. What steps can I take?

3. Can a father turn his daughter
out of the home at eighteen years of
age? W. J. M.

Ans.—1. No.

2. You can buy necessities for your-
self and family and have them charged to
your husband.

3. No.

Miscellaneous.

1. Is it necessary to have executors
on a will, or is a lawyer sufficient to do
the business?

2. What would be a fair price for an
ordinary good work horse, eight years
old?

3. What is a fair price for a registered
Shorthorn bull one year old, and a heifer
coming three?

4. When is the best time of year to
put out raspberry bushes, and how far
apart is it best to plant? When should
blackcap bushes be set out? M. C.

Ans.—1. If an executor is not ap-
pointed at the time the will is made,
the court will appoint one before the
estate is settled.

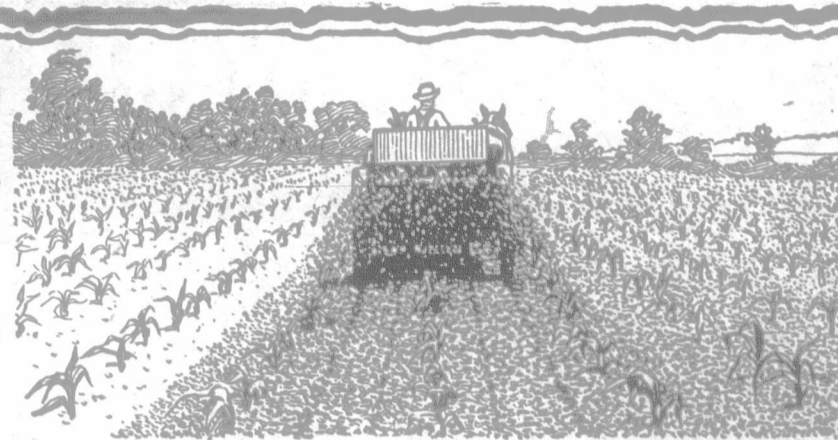
2. It all depends on the size and
quality of the horse. Horses weighing
from 1,500 to 1,700 lbs. are quoted in
Montreal at from \$250 to \$300 each,
with lighter weight horses considerably
lower.

3. Again, it depends upon the size
for age, quality and breeding. Short-
horn bulls sell all the way from \$100
apiece up to \$20,000 and over. Heifers,
vary in price. If they are of fashionable
breeding and have the individuality,
they command a much higher price than
those of plain breeding and lacking in
character.

4. While berry bushes may be planted
out in the fall, the spring is generally
considered the best time for setting out
the plants. They may be planted in
rows six feet apart and from two to
three feet apart in the rows.

Gossip.

J. G. Annesser, an importer and
breeder of Chester White swine, needs
no introduction to "Farmer's Advocate"
readers. His advertisement has been
running in these columns for several
years, and during that time he has shipped
to various parts of the Dominion a good
deal of show stuff. Mr. Annesser recently
purchased from H. T. Crandall, an
American breeder, two fine young sows
for which he paid \$1,000. This is the
seventh purchase made from this breeder
in the last two years. Wildwood Prince,
the yearling Chester White male which sold
in Boyer's sale last spring for \$730, has
since been purchased by Mr. Annesser. This
boar has great length, depth and width,
with excellent bone and splendid carriage.
This is considered one of the greatest
Chester White individuals, with one of
the best pedigrees of the breed. With
this high-class breeding stock Mr. Annesser
will be in a position to supply his
ever growing trade. Look up the ad-
vertisement in another column, and if
interested write for particulars, mention-
ing The Farmer's Advocate.



Spreaders Worth \$500

TWO 40-acre fields of corn grew side
by side. On one an International
spreader had been used consistently for three
years. The other had seen no manure for
seven years.

That was the only difference between those
two fields. One produced a matured crop run-
ning just over 80 bushels to the acre, the other
averaged barely 30 bushels of soft corn. If both
crops sold at the same bushel price, the fertilized
field produced \$2,000 more than the unfertilized
one.

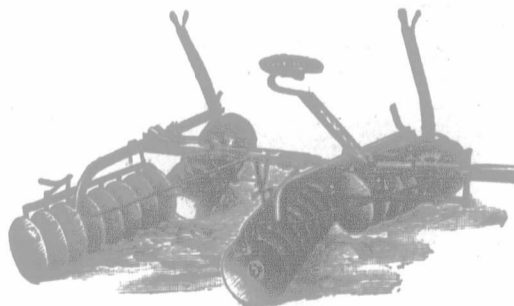
Was that spreader worth \$500? Yes, because
just scattering manure on a field will not accom-
plish the same results. That field of 80-bushel
corn was properly fertilized by a man who knows
his business. He feeds his crops a balanced
ration. He feeds just the right amounts at the
right time and that cannot be done without a
good, wide-spreading manure spreader. Deering
or McCormick will do it. That is one reason
why we sell so many of them.

It pays to study fertilizing, to know what to
do and to practice what you know. See the
local agent or write us for full information about
our spreaders.

INTERNATIONAL HARVESTER COMPANY
OF CANADA LTD.

WESTERN BRANCHES—BRANDON, WINNIPEG, M'ANL, CALGARY, EDMONTON, LETHBRIDGE, ALTA.
N. BATTLEFORD, REGINA, SASKATOON, YORKTON, SASK.
EASTERN BRANCHES—HAMILTON, LONDON, OTTAWA, ONT. MONTREAL, QUEBEC, QUE. ST. JOHNS, N.S.

The Bissell Double Disk Harrow



Both in-throw and out-throw.
Gangs are flexible, and not
too long to fit uneven ground.
Bissell Double Disk Harrows
make splendid seed beds, giv-
ing the ground a deep pul-
verizing, leaving it smooth.
There is a great difference in
harrow, and we believe no
harrow has ever been made
as perfect as the Bissell
Double Disk Harrows. We
make them in all sizes, suit-

able for small or big farms, for horses or tractors. Test trials cheerfully
given. Full information and prices on request.

You are cordially invited to call at the Bissell Exhibit.
Toronto Exhibition, Aug. 23rd to Sept. 6th
London Fair, Sept. 6th to Sept. 13th
Ottawa Fair, Sept. 6th to Sept. 13th

T. E. Bissell Co., Limited, 10 Mill St., Elora, Ont.



ANGUS AND DORSET

Aberdeen-Angus Cattle—Breeding females, heifers, bull calves
for sale.

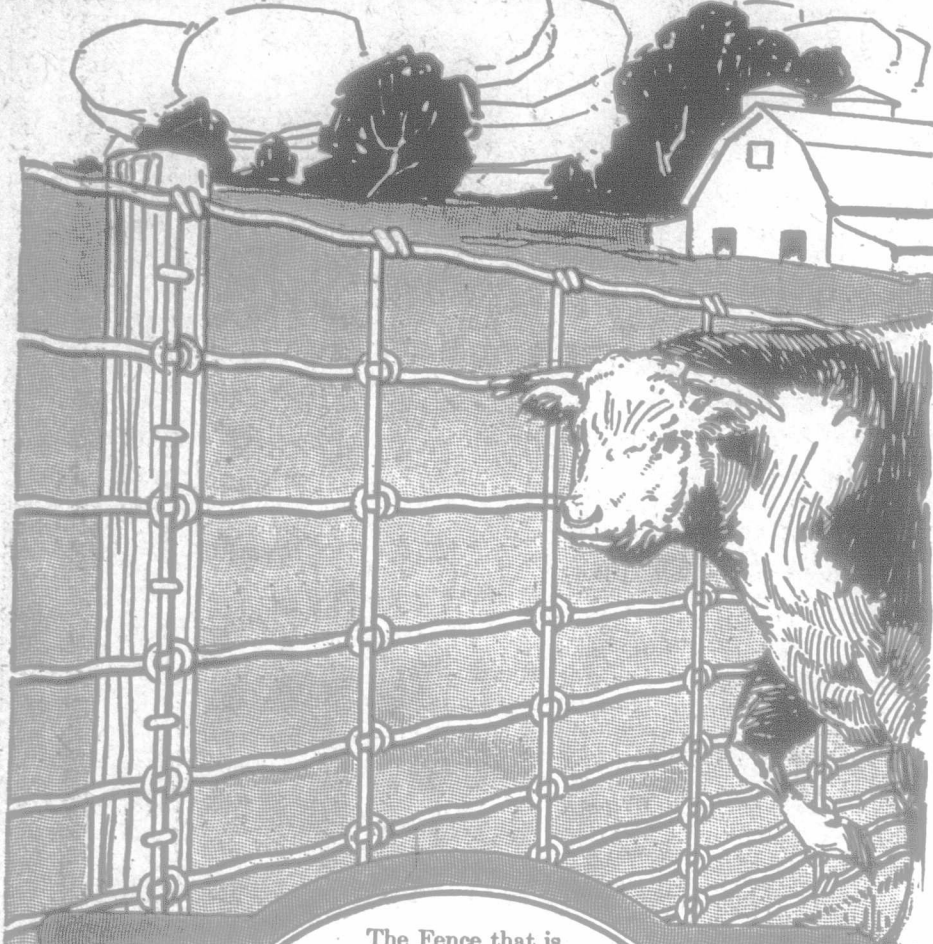
Dorset Horn Sheep—Breeding ewes, ewe and ram lambs.

Write for prices. Can ship at once.

FORSTER FARM

Oakville, Ontario

PEERLESS PERFECTION



The Fence that is making Canada famous—always in place—always pleases. Our fighting men are homeward bound. They are taking up the business life of Canada again—give them the best.

Absolute Security

When you go away for a day or turn in for the night, you are certain your stock is locked in—they can't get over, under or through the spaces—a perfect fence for hilly or uneven ground, through streams; protects poultry, ducks, geese, sheep and hogs. Can't sag or break down and will turn an unruly horse, or the strongest bull.

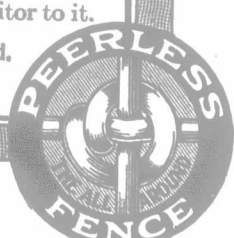
PEERLESS PERFECTION FENCING

is made of best heavy Open Hearth steel fence wire, the impurities burned out and all the strength and toughness left in. Makes the fence elastic and springy. It will not snap or break under sudden shocks or quick atmospheric changes. Our method of galvanizing prevents rust and the coating will not flake, peel or chip off. Every intersection is securely clamped with the famous Peerless Lock.

Send for catalog. It also describes our farm gates, poultry fencing and ornamental fencing.

Dealers nearly everywhere. Agents wanted in unassigned territory, write now, beat your competitor to it.

The Banwell-Hoxie Wire Fence Co., Ltd.
WINNIPEG, MAN. HAMILTON, ONT.



Questions and Answers.

Miscellaneous.

Goats.

Where can I buy milch goats, and what is the name of the best milch breed?
G. W. R.

Ans.—In our issue of August 21 appeared an article on goats, which may give information regarding the breed of animals. The Toggenburgs are generally considered to be the best milkers. In our issue of August 7, one of the breeders was advertising goats for sale. You might get in touch with this man. Write the Secretary of the Canadian Goat Association, Victoria, B. C.

Seeding to Permanent Pasture.

1. Would it be safe to sow grass seed with buckwheat? Do you think alsike and timothy would catch if sown

this way? I purpose summer-fallowing a few acres of light land this summer and seeding it down for a permanent meadow. What seed would you recommend, and when should it be sown?

2. Do you think the prices of live stock and farm crops will drop very much within the next five years?
A. B.

Ans.—1. We doubt the advisability of sowing grass seed with buckwheat, due principally to the fact that it sometimes lodges and smothers out the young seeds. Wheat or barley are generally considered the best crops to seed with, as they do not stool as much nor shade the ground like some other crops. In the case mentioned, where the field was summer-fallowed, the seeds might be sown in July without a nurse crop. For a permanent meadow, orchard grass 4 lbs., Kentucky blue grass 4 lbs., timothy 3 lbs., red clover 4 lbs., alsike 1 lb., White

Dutch clover 2 lbs., might be sown to the acre. Tall oat grass, meadowfescue and red top are sometimes sown, but the seed is rather difficult to secure.

2. It is very difficult to say what prices will be five years hence. Conditions prevailing for the past few years have been unprecedented. However, unless production is considerably increased and the price of farming utensils, clothing, boots, etc., comes down, it is not likely that the price of live stock and farm crops will strike a very low level.

Faulty Clutch Band.

My car runs excellently on high gear, but when thrown into low jerks and jumps when the clutch is beginning to take hold. The engine was over-hauled last winter and three new liners or bands put in the transmission. What is the trouble?
E. C.

Ans.—Try a softer, slow-speed clutch band and break band. Apparently the

ones you are using are too hard. There is also the possibility that you may have too much back lash.
Auto.

Disinfectants in Septic Tank.

Is chloride of lime harmful to the organisms in a septic tank? Is there anything better to remove the discoloration in the toilet?
M. E. W.

Ans.—It is not advisable to use much of the chloride of lime, as there is a tendency for it to destroy the beneficial organisms in the tank. We doubt if it would do much harm, though if used in limited quantities for the purpose you mention.

Tiger Swallowtail Butterfly.

What is the name of the enclosed caterpillar?
A. S.

Ans.—The grub received is the caterpillar of the beautiful Tiger Swallowtail Butterfly, and is, of course, perfectly harmless.
C.J.S.B.

Partridge Tires

Demonstrators of what Really
Good Tires Will Do

Made by The F.E. Partridge Rubber Company Limited, Guolph, Ont.

DE LAVAL

CREAM SEPARATORS

The World's Standard

More De Laval's in use
than all others combined

The De Laval Company, Ltd.

Montreal	Peterboro
Winnipeg	Vancouver

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Sidelights on Profitable Dairy Farming.

Continued from page 1537.

cardinal principle that characterizes operations on this farm is the use of banking facilities to the fullest possible extent. All loans are negotiated through the local bank and all bills paid in cash and by cheque, even though a loan must be secured from the bank in order to do so. For the year ending April 1, 1918, the farm survey credited this farmer with a labor income of \$2,858, and a total capitalization of \$14,684 on 116 acres. Of this \$11,000 was invested in real estate (including \$3,000 in building), \$710 in machinery and \$2,829 in live stock. Of the 103 acres of tillable land, 80 acres were in crops, including 37 acres of oats, 14 acres of corn for silage, 16 acres of hay, 3 acres of turnips and 10 acres of apple orchard. A four-year crop rotation is followed, and crops are 5 per cent. better than the average, while live stock exceeds the average in returns by 21 per cent. No crops were sold off the farm, but milk to the value of \$2,858 made up 88 per cent. of the cash receipts. Stock sold amounted to \$694, eggs \$100, and \$81 miscellaneous receipts are to be added. Current expenses were \$1,355 and included \$554 for feed (concentrates \$450), \$171 for labor and \$250 for disinfectants. Hard work is implied by the fact that each man took care of 53.3 acres of crops, and each horse 22.8 acres. Feed per cow cost \$61.2 as compared with an average of \$69 and receipts per cow in milk were \$161, or \$58 above the average. The herd consists now of 16 cows, of which the best 8 were raised on the farm.

FARM "F."

A labor income of \$2,712 from 65½ acres of crops on a 100-acre farm, of which 90 acres are tillable, is the record of this farmer. The owner was for two years a farm laborer, and of 9 years spent as an owner 4 were spent on this farm. Crops are 10 per cent. better than the average and live stock 27 per cent., while 65 per cent. of the revenue, or \$1,944, came from dairying. Each cow showed receipts of \$130 at a cost of \$76.8 for feed, (\$7.8 above the average). Live stock sold amounted to \$2,134, of which \$1,229 was hogs, and the remainder mostly dairy cattle. Current expenses were \$1,015 (labor \$150, concentrates \$384). Capital invested shows a total of \$14,873, made up of real estate \$10,000 (buildings \$5,000), machinery \$768, and live stock \$3,586. The crops grown consisted of fall wheat 6 acres, oats 6 acres, silage 14 acres, hay 12 acres, mangels 3 acres, turnips 2 acres, potatoes 1½ acres, and rape one acre. Each man raised 47.6 acres of crops, and each horse 17.6 acres.

FARM "G."

This farm is also 100 acres in size, but with more waste land, having only 77 tillable acres and 58 acres in crops. It is an outstanding characteristic of this farmer that his cows are his principal care about the farm, and this will perhaps explain some facts given later. The herd is an exceptionally well graded one, and the receipts of \$222 per cow at a cost for feed of \$65, or \$4 less than the average, stand out far above any farm we have to discuss here. Since 87 per cent. of the revenue was secured from dairying, it is not surprising that a labor income of \$2,657 was secured. The total investment is \$14,225, including \$9,000 in real estate (building \$4,250) machinery \$1,050, and live stock \$3,659. Current expenses, including \$560 for labor and \$730 for feed, (all concentrates), amounted to \$1,805. Cash receipts included \$3,786 for milk, \$150 for eggs, \$749 for live stock sold, and \$194 from winter wheat. Each horse took care of only 12.4 acres of crops, while each man cared for only 25.7 acres. The owner has never bought a cow for this farm, but a pure-bred bull has been kept for about 20 years, and calves are kept from only the best cows. The herd consisted of 17 cows, 6 heifers, 4 calves and a pure-bred bull. There were also 5 horses, 2 colts and 60 hens. Crops consisted of 4 acres winter wheat, 22 acres oats, 15 acres corn for silage, and 17 acres of hay.

FARM "H."

In some respects this farm compares with the one just described. It is 108 acres in size, with somewhat more tillable and cropped land, these figures being 95 and 76 acres, respectively. The labor in-

Wake up, Ontario!

Let the Referendum Battle-Cry Be

"No!" - "No!" - "No!" - "No!"

SINCE the announcement in the Legislature last spring that a Referendum on the Ontario Temperance Act would be taken this fall, the different temperance organizations of the province of Ontario have met together to consider what attitude they should take. The result has been the formation of the Ontario Referendum Committee, which comprises representatives from the organized temperance forces of the province and the temperance sentiment of the province outside of these organizations. The new Committee will conduct the Campaign. We are asking the voters of Ontario to vote "No" to all questions submitted on the ballot.

The Referendum Ballot AND HOW TO VOTE

	Yes	No
1. Are you in favor of the repeal of THE ONTARIO TEMPERANCE ACT?.....		X
2. Are you in favor of the sale of light beer containing not more than two and fifty-one one hundredths per cent. alcohol weight measure through Government agencies and amendments to THE ONTARIO TEMPERANCE ACT to permit such sale?.....		X
3. Are you in favor of the sale of light beer containing not more than two and fifty-one one hundredths per cent. alcohol weight measure in standard hotels in local municipalities that by a majority vote favor such sale, and amendments to THE ONTARIO TEMPERANCE ACT to permit such sale?.....		X
4. Are you in favor of the sale of spirituous and malt liquors through Government agencies and amendments to THE ONTARIO TEMPERANCE ACT to permit such sale?.....		X

By the Ontario Temperance Act, sale and distribution of alcoholic liquors for beverage purposes within the province were prohibited. For practically three years the province has experienced the good effects of this law. Its repeal would be a calamity. Any of the amendments would spoil it.

For the Temperance forces to win they must secure four "No" majorities. That is, a majority for "No" on EVERY question. The Temperance forces will be

defeated if there is a majority for "Yes" on any of the questions. You must mark an X after each of the four questions, or your ballot is counted as spoiled.

A century of temperance progress in this province is at stake in the coming Referendum. The Ontario Referendum Committee earnestly and respectfully ask you to mark your X in the "No" column after each and every question, as indicated in the sample ballot reproduced herewith.

Ontario Referendum Committee

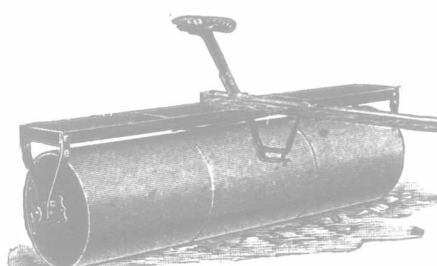
JOHN MACDONALD
Chairman

D. A. DUNLAP
Treasurer

ANDREW S. GRANT
Vice-Chairman and Secretary

(1001 Excelsior Life Bldg., Toronto) 50

THE BISSELL STEEL ROLLER



With three drums, and strong, rigid steel frame. Some improvements are: heavy steel axle; heavy steel plate; drums rivetted up to stand any strain; roller bearings which make easy running. Full particulars free by mail, or ask your dealer.

None genuine without the name "Bissell." Look out for it. This Roller will stand hard work and lots of it.

Write for FREE Catalogue.

You are cordially invited to call at the Bissell Exhibit.

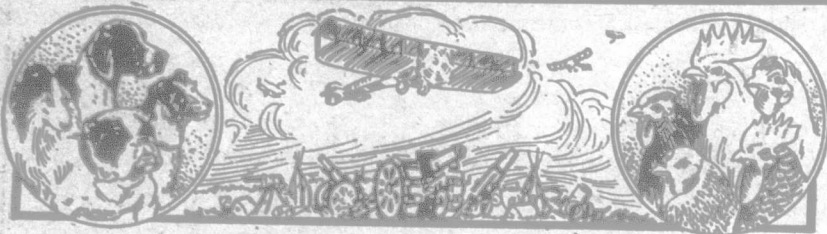
Toronto Exhibition, Aug. 23rd to Sept. 6th
London Fair, Sept. 6th to Sept. 13th
Ottawa Fair, Sept. 6th to Sept. 13th

T. E. BISSELL CO., LIMITED, 10 Mill St., Elora, Ontario

come was \$2,450 or \$17 better than the average for the 10 best farms of this group, which included 68 farms. Capital investment was \$16,847, with \$10,000 in real estate (buildings \$4,800) \$928 in machinery and \$4,944 in live stock. This included 7 pure-bred and 11 grade cows, 4 pure-bred and 2 grade heifers, 2 pure-bred and 4 grade calves, one pure-bred bull, 5 horses, 2 colts, 10 hogs and 60 hens. Live stock was 29 per cent. above the average. Crops, which included 13 acres fall wheat, 6 acres oats, 23 acres oats and barley, 17 acres of corn for silage, and 12 acres hay were 23 per cent. poorer than the average, and furnished \$644 cash receipts. Current expenses were \$1,762, labor cost \$516, feed purchased totalled \$698 (concentrates \$354 and roughage \$344), and receipts per cow from milk were \$159, from which \$70 feed per cow is to be deducted. Each man cared for

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See Central Canada's Greatest Show

DOG SHOW

There are classes for all recognized breeds, with \$1,500 in cash prizes, and many trophies donated by Canadians and Americans.

Entries close Sept. 6—noon.

BABY SHOW



THIS is a great holiday week of instruction—education and amusement. Don't miss this opportunity to visit the Nation's Capital—of seeing what your neighbor is doing—of getting in touch with everything that is new—up-to-date and interesting.

Ample facilities have been provided to care for all visitors.

For full information, write to the Secretary.

Reg. Admission to Grounds, 35c.

CONTROLLER J. KENT, Pres.

JAMES K. PAISLEY, Mgr. and Secretary

POULTRY SHOW

There are classes for all varieties of fowl, with about \$4,000 in prizes. Among the features is the egg-laying contest, running from Sept. 7 to Sept. 12.

AUTO SHOW

The Retail Merchants will combine in a Grand Shopping Week

OTHER ATTRACTIONS

Big live stock show—\$25,000 in cash prizes. Horse racing—\$5,000 in cash prizes. Dominion Government Allied War Trophies. Canada's Greatest Pure Food Show. Improved Midway with a host of attractions. New York Hippodrome Acts. Aerial and High-Wire Acts. Comedy Features. Great Naval Raid on Zeebrugge. Great Mardi Gras Carnival Saturday Night.



A Snug, Comfortable Suit.

When you slip into a suit of Watson's Spring Needle underwear, you feel "fitted" and comfortable. The action of the body is unhampered by a Watson garment which gives freely when the limbs are active.

All styles, all sizes and in various fabrics for men, women and children.

Watson's SPRING NEEDLE RIBBED
UNDERWEAR MFG W Co

13

The Watson Manufacturing Company, Limited, Brantford, Ontario

32.7 acres of crops, and each horse 15.9 acres. From milk sales, \$3,836 was received, and stock sold totalled \$1,045. The owner has operated this farm for 14 years, for 8 years as tenant and 6 years as owner.

FARM "I."

This farm derived 66 per cent. of its revenue from dairy cattle. Capital invested was \$12,730, with \$8,000 in real estate (buildings \$3,500), \$696 in machinery and \$3,243 in live stock, which included 16 grade cows, 2 grade heifers, 4 grade calves, 1 bull, 4 horses, 16 hogs, and 60 hens. The returns from this live stock were 31 per cent. better than the average. Each cow returned \$123 for the year, but feed cost \$85 each. Milk sold totalled \$2,191, eggs \$217, and live stock \$1,770 (hogs \$1,508). Current expenses were \$1,311 with feed (all concentrates) amounting to \$521, and labor costing \$360. No crops were sold from the farm, but crops grown included 8 acres winter wheat, 9 acres oats, 12 acres oats and barley, 13 acres corn for silage, 20 acres for hay, and a few mangels, turnips and potatoes. Thirty and a half acres of crops were raised per man, and 16.2 acres per horse. This farmer began on this farm 10 years ago as a tenant with a capital of \$1,500. After five years of renting he purchased the farm for \$7,000, and after buying a \$1,400 car last fall he has \$2,500 in the bank. He has, however, done very little improving, but by "slavish" work has saved about \$1,000 per year on a farm that was very dirty when he took it over ten years ago. For the year under discussion he was credited with a labor income of \$2,389.

FARM "J."

To the credit of this 50-acre farm and its owner lies a labor income of \$1,844. Eleven grade cows, 5 young stock, a bull, 3 horses and 70 hens constitute the live stock. Milk sold (\$2,690) constituted 98 per cent. of the farm revenue, and each cow gave receipts in milk of

Miles and Miles of Smiles

HAVE you ever stopped to think that others see you as you see them? This is hard to do when driving, but next time you're out for a spin, just "take in" the motorist you meet. If you think they wear "funny" expressions, remember, you may look "funny" yourself. These motorists wear faces to suit their moods, and so do you.

There's the man whose expression spells despair. Have you stopped to consider the strain the poor fellow is under? He is constantly in dread of his tires failing him. "Poor chap," you say, "he looks aged with worry."

Then there's the man with the smiles, lots of them, miles of them. He KNOWS that whatever place he starts for his tires will take him there and back without trouble. Ask him what tires he uses—"MALTESE CROSS," he says.

Every mile is a mile of smiles for the motorist who uses MALTESE CROSS Tires.

Gutta Percha & Rubber, Limited
Head Office and Factory: TORONTO

\$201 at a cost for feed of \$104.1. Live stock returns were 60 per cent. above the average, and crop yield 45 per cent. above the average. Crops grown included 3½ acres oats, 10½ acres oats and barley, 14 acres corn for silage, 5 acres hay, 1 acre annual pasture and 1½ acre turnips. Current expenses were \$643, with \$21 for labor and \$179 for feed. No crops were sold from this farm, and the owner cared for 34.9 of the 35½ acres of crops himself. Each horse cared for 12 acres. Only 2 acres were untiltable. Capital invested totalled \$9,303, and included \$5,500 in real estate (buildings \$2,500), \$497 in machinery, and \$2,335 in live stock. The owner was a farm laborer for 12 years, and has owned this farm for 5 years.

FARM "K."

This farmer spent \$50 for labor and \$6 for feed during the year. He grew 4 acres winter wheat, 14 acres of mixed grain, 8½ acres of corn for silage, 8 acres of hay and 1½ acres of roots and potatoes. He kept 10 grade cows and each returned \$145 at a cost of \$90.6 for feed, and had, besides, 2 horses, one brood sow and 40 hens. He sold live stock amounting to \$191, and crops to the value of \$210. His current expenses were only \$348. Returns from live stock were 29 per cent. above the average, and crop yields 46 per cent. better than the average. With 48 out of 50 acres of tillable land, 38 acres were in crops. The total capital invested was \$7,583. Land and buildings are worth \$5,000, buildings alone \$2,600, machinery \$485, and live stock \$1,490. The owner has owned the farm 4 years and cared for 31.6 acres of crops himself, while each horse took care of 19 acres.

SOME FURTHER FACTS.

Having thus briefly enumerated the salient features of each of these farms showing unusually high labor incomes, we may well make an effort to draw some conclusions or rather, perhaps, to bring out by means of comparison, some further

facts that are perceptible from first point we that while records may a determination large numbers they may be doubtedly are instance, an in steal these fig basis for asses chanced to one Take for insta ported labor undoubtedly in In the first pl age and has f His two grow their labor is month. If cu \$50 per month \$60 easily, or This differenc labor charges. cepts from th mated at \$5, cases records This means \$ of 28 grade co stantial proof belief in this size. More phenomenal in of the live s worth of live buying only \$ period. To g after making above-mentio mains is partial in the value of over the previo estimated valu fore, that this whose reported of all the dairy received, actual year's work aft time, as a good Perhaps the the most imp gleaned from t from those wit tillable land. ferred to, farm "I." are in thi of the 437 farm nearly represe farms in Ontar labor income like Farm "A. cess except in Of the \$160 for labor, and that the maximum of and kept 15 grades. He so yet had an incr previous year o ing any in the n we allow for th ments and the feed and supp apparently larg considerably re already given i basis was stead Of the four fa here, farms "I have labor inc the best 10, wh farm "G." is, fr the most succe happier farmer citizen, too. business exper but told the w because he cou the farm than o too hard. Why farmer of these ment is practic is valued midw His buildings ar comfortable for on farm "D." is from \$300 to "D." or "F.", worth more at and on the basis His labor cost was in actual ca of the other two 49.3 and 47.8 ad the amount was indicating that h Nevertheless, h better than the tillable land an under crops. M ever, are mino tentment rather are indicated by of \$222 from ea

facts that are not readily, if at all, perceptible from the plain figures. The first point we wish to refer to is the fact that while each of these eleven farm records may and do not contribute to the determination of accurate returns when large numbers are averaged, individually they may be, and some of them undoubtedly are, open to criticism. If, for instance, an income tax assessor were to steal these figures and use them as a basis for assessment, he would stand nine chances to one of being wide of the mark. Take for instance farm "A," with a reported labor income of \$4,515. This is undoubtedly incorrect and much too high. In the first place the owner is 67 years of age and has for 40 years owned a farm. His two grown-up sons assist him and their labor is charged up at only \$35 per month. If current farm-labor is worth \$50 per month, a son at home is worth \$60 easily, or at least \$50 a year ago. This difference would add \$360 to the labor charges. In the second place receipts from the sale of milk were estimated at \$5,400, whereas in the other cases records of milk sales were kept. This means \$450 per month from a herd of 28 grade cows, or \$192 per cow. Substantial proof would be needed to warrant belief in this return from a herd of this size. More noticeable still is the phenomenal increase of \$590 in the value of the live stock after selling \$1,682 worth of live stock during the year and buying only \$87 worth during the same period. To go only one step further; after making suitable discounts for the above-mentioned inaccuracies, what remains is partially made up by an increase in the value of feed and supplies on hand over the previous year's inventory to the estimated value of \$989. We find, therefore, that this "most successful" farmer, whose reported labor income is the highest of all the dairy farms surveyed, probably received, actually, about as much for his year's work after the experience of a lifetime, as a good mechanic.

Perhaps the most interesting and withal the most important information to be gleaned from these farms is to be taken from those with from 76 to 90 acres of tillable land. Of the eleven farms referred to, farms "D," "F," "G," and "I," are in this class, which included 88 of the 437 farms in the survey, and most nearly represents the common size of farms in Ontario. Farm "D," with a labor income of \$2,937, is, we believe, like Farm "A," over-credited with success except in the matter of hard work. Of the \$160 for labor \$100 was for family labor, and that the farmer's wife. He had the maximum of tillable acres in his class and kept 15 cows, 11 of which were grades. He sold live stock for \$299, and yet had an increase in live stock over the previous year of \$1,137 without purchasing any in the meantime. If, in addition, we allow for the \$146 spent for improvements and the \$483 tied up as increased feed and supplies, the cash value of this apparently large labor income will be considerably reduced, while, from figures already given it is easy to see that its basis was steady, hard slugging.

Of the four farms in this class mentioned here, farms "D," "F," and "G," only have labor incomes above the average of the best 10, which was \$2,489. Of these farm "G," is, from our viewpoint, farmed the most successfully. The owner is a happier farmer and, perhaps, a better citizen, too. He has had 10 years' business experience away from the farm, but told the writer that he was farming because he could make more money on the farm than off it. He works, but not too hard. Why is he the most successful farmer of these three? His total investment is practically the same. His land is valued midway between the other two. His buildings are smaller, but much more comfortable for man and beast than those on farm "D." Investment in machinery is from \$300 to \$400 greater than either "D," or "F," while his live stock is worth more at a moderate valuation and on the basis of economical production. His labor cost him \$560, of which \$340 was in actual cash and, whereas on each of the other two farms one man cared for 49.3 and 47.8 acres of crops respectively, the amount was 25.7 acres on his farm, indicating that he does not work too hard. Nevertheless, his crops are 4 per cent. better than the average. He has less tillable land and from 7 to 20 less acres under crops. Most of these things, however, are minor points indicating contentment rather than profits. The latter are indicated by an average cash return of \$222 from each of the 17 cows, secured

at a cost for feed that was \$4 less than the average. Here is the secret; a grade herd of splendid cows, built up during the last 25 years, coupled apparently with unusual foresight and ability as a feeder. Cows are never bought for this herd; they are bred. Once bred they are well fed, and during the year under discussion \$730 was spent in concentrates. Twenty-five years ago, this man was accounted a "dreamer" by his family, and when he bought a pure-bred bull calf at a sale for \$13.25 he was hardly allowed to bring him home. The neighbors said the meat of black and white cattle was not fit to eat, and used to regard the animal as a curiosity. The boy left home but the bull was allowed to run in the pasture with the cows, and 10 years later when the "dreamer" came back to farm the herd was still there, not very much improved. For the year ending April 1, 1918, 17 cows in this herd averaged 9,923 pounds of milk each. Does it pay to breed and feed good dairy cows?

Perhaps the oppressed city consumer would prefer to hold this farmer up as an example of a real live profiteer. Very well, he certainly takes things about as easy, apparently, as any of those on the list, and appears to be doing fairly well for a working man, but before finally branding him it might be fair to examine even his income a little more closely. We see first that \$527 of his \$2,651 is tied up in increased values of feed supplies and live stock. If he sold out he might realize the full reported amount of his labor income, but if he suffered from fire, disease or a drop in prices, such would hardly be the case. In any event this portion of his income is not cash, and money talks. Then, too, he spent \$850 during the year on improvements. This also is a minus quantity so far as cash value is concerned. All in all it is not a superhuman task to take the "profit" out of profiteering in farming.

One more farm is worthy of brief special notice, and that is farm "J," only 50 acres in size, with 35½ acres under crops. This farmer has been an owner only 5 years now, but in his fourth year his labor income was \$1,844. A three-year rotation has contributed very materially to success on this small farm. It will be noticed that 14 out of the 35 acres cropped were in corn for silage, and that 15.90 units of dairy cattle are kept on 50 acres. These two features we think are significant and help to explain the labor income of \$1,844, when 41 other farmers on similar sized farms received only \$719.

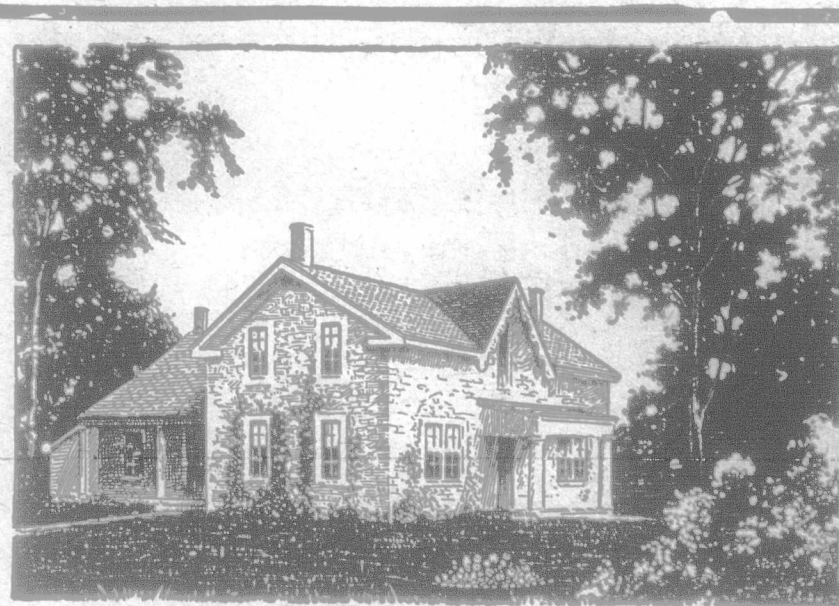
In conclusion one observation seems necessary. Only one of the farms visited is at all notable for the good appearance of its farm buildings. This was farm "H." Most of the farms are notable for their lack of up-to-date improvements and well-painted and spacious barns and dwellings. In other words, profits in dairy farming are not such that the farmer can have his cake and eat it too. He cannot apparently make large labor incomes that will show up on paper and at the same time put a great deal of money into expensive improvements. Weeds, too, are as common on these farms as many others; the farmer's time is spent in growing crops, not in cleaning out fence bottoms. Whether it pays in the long run is another matter. The owner of farm "H." believes that it does not pay to neglect improvements.

Getting Into Pure-Breds.

Continued from page 1532.

here is another pitfall of many a young breeder. The greatest weakness in our small herds is low level males. A good male may correct an otherwise bad start, but a poor one means certain stagnation and perhaps suicide. Co-operative male ownership on some plan would, in many instances, seem a logical solution. The practice of buying the very young calf, keeping him two years only to keep down initial expense and avoid in-breeding is a costly form of speculation in which the small and beginning breeders indulge to the greatest extent. Only the expert can tell with any certainty what a little calf will become, and his chance is worth not more than, "fifty fifty." The accompanying illustration, while not an extreme one, does show something of what happens in development.

Prospects were never better for pure-bred breeding; more efficient live stock is an urgent need of the farmer and of the country; the ranks of the pure-bred breeder are far from filled, but no one should enlist as a low category man.



Roofed With Metal 32 Years Ago

ONE of the best known farmers in Ontario is Hy. Glendinning, of Hy. Glendinning & Son, breeders of Clydesdale Horses, Jersey Cattle, Shropshire Sheep and Berkshire Swine.

Mr. Glendinning is a good judge of animals—and has also proved himself a good judge of roofing.

On his home at "Rosebank Farm," at Manilla, Ont., is a METAL roof that has withstood the driving rains and heavy snows, the blistering summer sun and the zero frost for 32 years. How many times that metal roof has saved this home from fire and lightning no one can tell.

Mr. Glendinning says:

"There never has been a leak in the roof, and the Metal Shingles look as well as the day they were put on."

Fire Proof and Lightning Proof

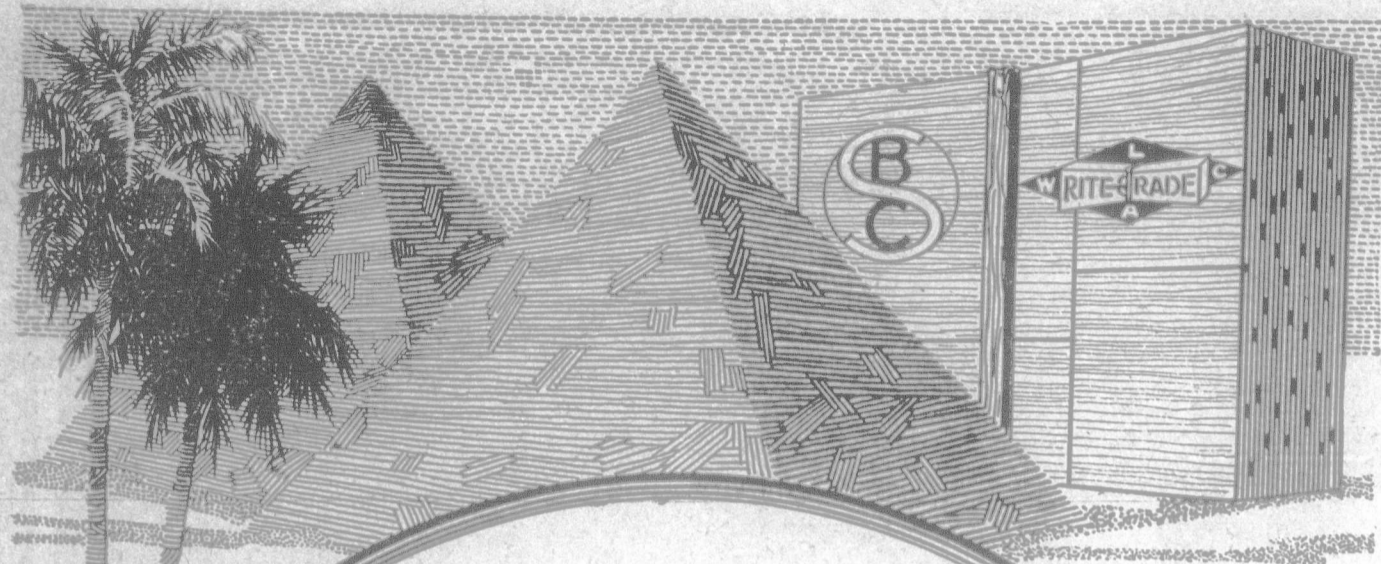
As fire and lightning are the two most fearful enemies a farmer has to reckon with, a Galvanized Steel Roof is a protection that cannot be valued in mere dollars and cents. And if the sides of the barn or building are Metal too, the protection is multiplied. Cover that new barn—roof and sides—with Metal. When you re-roof your old barn use Galvanized Steel Shingles.

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Roof with Metal

for safety and permanence



—like the Pyramids—Red Cedar stands the test of time

FOR ROOFING OR SIDING BRITISH COLUMBIA RED CEDAR SHINGLES

LONGEST LIFE AT LOWEST COST

Order Shingles Now

¶ Owing to the merit of their product, B. C. shingle mills are having difficulty in meeting the rapidly increasing demand.

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¶ The life of a B. C. Red Cedar Shingle is longer than the life of many kinds of shingle nails on the market. It's the best shingle—it's worth the best nail.

Use Zinc, Copper, Hot Dipped or Zinc Clad nails for best results.

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Standard Bank Building,
VANCOUVER, B.C.

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3 layers.

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Big Game Hunting Calls for the Best

The man who stocks up with Remington UMC shows he's after results—and he'll get them, and no need to be a crack shot either.

Take our splendid Remington UMC Autoloader—firing and reloading all done by pressing the trigger; fast, smooth, deadly shooting is inevitable; solid breech, side ejection, hammerless, safe.



The Remington UMC Repeater reloads by a velvet smooth, long slide action. Our 100 years' experience stamps all Remington UMC firearms perfect from "butt to sight." Remington UMC Metallics are in 450 kinds and sizes—to suit any firearm made.

See your Remington UMC dealer.
Remington U.M.C.
of Canada Limited

195 WINDSOR, - ONT.

Dates of Fall Fairs 1919.

Issued by the Agricultural Societies Branch of the Ontario Department of Agriculture, Toronto. J. Lockie Wilson, Superintendent.

Aberfoyle.....	Oct. 7
Abingdon.....	Oct. 3 and 4
Acton.....	Sept. 23 and 24
Agincourt (Scarboro).....	Sept. 23 and 24
Ailsa Craig.....	Sept. 23 and 24
Alexandria.....	Sept. 10 and 11
Alfred.....	Sept. 23
Alliston.....	Oct. 2 and 3
Almonte.....	Sept. 23 and 25
Alvinston.....	Oct. 7 and 8
Amherstburg.....	Sept. 29 and 30
Ancaster.....	Sept. 23 and 24
Arden.....	Oct. 7
Arnprior.....	Sept. 16-18
Arthur.....	Oct. 7 and 8
Ashworth.....	Sept. 26
Atwood.....	Sept. 22 and 23
Avonmore.....	Sept. 16 and 17
Aylmer.....	Sept. 25 and 26
Ayton.....	Sept. 16 and 17
Bancroft.....	Oct. 2 and 3
Barrie.....	Sept. 22-24
Baysville.....	Oct. 3
Beachburg.....	Sept. 22-24
Beamsville.....	Sept. 19 and 20
Beaverton.....	Sept. 22-24
Beeton.....	Oct. 7 and 8
Belleville.....	Sept. 1 and 2
Berwick.....	Sept. 4 and 5
Binbrook.....	Oct. 6 and 7
Blackstock.....	Sept. 23 and 24
Blenheim.....	Oct. 2 and 3
Blyth.....	Sept. 22 and 23
Bobcaygeon.....	Sept. 26 and 27
Bolton.....	Oct. 3 and 4
Bonfield.....	Sept. 30
Bothwell's Corners.....	Sept. 30 and Oct. 1
Bowmanville.....	Sept. 16 and 17
Bradford.....	Oct. 14 and 15
Bracebridge.....	Sept. 25 and 26
Brampton.....	Sept. 19 and 20
Bridgen.....	Sept. 30
Brighton.....	Sept. 11 and 12
Brockville.....	Aug. 25-28
Bruce Mines.....	Sept. 24
Brussels.....	Sept. 16 and 17
Burk's Falls.....	Sept. 25 and 26
Burford.....	Sept. 30 and Oct. 1
Burlington.....	Sept. 30 and Oct. 1
Caledon.....	Sept. 23 and 24
Caledonia.....	Oct. 9 and 10
Campbellford.....	Sept. 23 and 24
Carp.....	Sept. 30 and Oct. 1
Castleton.....	Sept. 30 and Oct. 1
Cayuga.....	Sept. 25 and 26
Centreville.....	Sept. 20
Charlton.....	Sept. 17
Chatham.....	Sept. 16-18
Chatsworth.....	Oct. 9 and 10
Chelmsford.....	Oct. 1 and 2
Chesley.....	Oct. 8 and 9
Clarence Creek.....	Sept. 23
Clarksburg.....	Sept. 16 and 17
Cobden.....	Sept. 25 and 26
Cobourg.....	Sept. 16 and 17
Cochrane.....	Sept. 25 and 26
Coe Hill.....	Sept. 25 and 26
Colborne.....	Sept. 25 and 26
Coldwater.....	Sept. 25 and 26
Collingwood.....	Sept. 16-19
Comber.....	Sept. 26 and 27
Cookstown.....	Sept. 30 and Oct. 1
Cooksville.....	Oct. 1
Cornwall.....	Sept. 3-6
Delaware.....	Oct. 8
Delta.....	Sept. 15-17
Demorestville.....	Sept. 27
Desboro.....	Sept. 18 and 19
Dorchester Station.....	Oct. 1
Drayton.....	Sept. 30 and Oct. 1
Dresden.....	Oct. 2 and 3
Drumbo.....	Sept. 23 and 24
Dryden.....	Sept. 25 and 26
Dunchurch.....	Oct. 2 and 3
Dundalk.....	Oct. 1 and 2
Dungannon.....	Oct. 2 and 3
Dunnville.....	Sept. 18 and 19
Durham.....	Sept. 30 and Oct. 1
Earlscourt.....	Sept. 12 and 13
Elmira.....	Sept. 19 and 20
Elmvale.....	Oct. 1-3
Embro.....	Oct. 2
Emo.....	Sept. 16 and 17
Emsdale.....	Sept. 23 and 24
Englehart.....	Sept. 18 and 19
Erin.....	Oct. 8 and 9
Essex.....	Oct. 9 and 10
Exeter.....	Sept. 15 and 16
Fairground.....	Oct. 7
Fenelon Falls.....	Sept. 12 and 13
Fenwick.....	Sept. 23 and 24
Fergus.....	Sept. 25 and 26
Feversham.....	Sept. 30 and Oct. 1
Flesherton.....	Sept. 25 and 26
Florence.....	Oct. 2 and 3
Forest.....	Oct. 1 and 2
Fort Erie.....	Sept. 24 and 25
Fort William.....	Sept. 9-11
Frankford.....	Sept. 18 and 19

Yo

Don't become in act horse.

Al only a

is used it has helped money service

MFR a big kn used."

When

Frankville.....

Freelton.....

Galetta.....

Galt.....

Georgetown.....

Glencoe.....

Goderich.....

Goderham.....

Gordon La.....

Gore Bay.....

Gorrie.....

Grand Vall.....

Gravenhur.....

Haliburton.....

Hanover.....

Harrison.....

Harrow.....

Harrowshi.....

Hepworth.....

Higgate.....

Holstein.....

Huntsville.....

Hymers.....

Ilderton.....

Ingersoll.....

Inverary.....

Iron Bridge.....

Jarvis.....

Kagawong.....

Keene.....

Kemble.....

Kemptville.....

Kenora.....

Kilsyth.....

Kincardine.....

Kingston.....

Kirkton.....

Lakefield.....

Lakeside.....

Lambeth.....

Langton.....

Lansdowne.....

Leamington.....

Lindsay.....

Lion's Head.....

Listowel.....

Lombardy.....

Loring.....

London (W.....

(Fair)

Lucknow.....

Maberly.....

Madoc.....

Magnetawa.....

Fall Fairs 1919. the Agricultural Societies of the Ontario Department of Toronto. J. Lockie Wilson.

- List of fall fairs for 1919, including dates and locations such as Frankville, Freulton, Galetta, Galt, Georgetown, etc.

Your Lame, Blemished Horses NEED ATTENTION NOW

Don't delay—it's easier and cheaper to treat blemishes before they become deep-seated. A few applications of ABSORBINE well rubbed in act quickly and effectively without blistering or laying up the horse.

ABSORBINE is concentrated—handy and economic to use, only a few drops required at an application.



THE ANTISEPTIC LINIMENT

is used by successful trainers, breeders and horse owners the world over—it has increased the working and selling value of thousands of horses—it has helped many horses break records on the track, and incidentally has made money for its users.

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MR. CHAS. LAWRENCE, Paoli, Pa.: "I have successfully used your Absorbine on a big knee of six months' standing. It certainly is the most remarkable liniment I have ever used."

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SAFE FOR ANYONE TO USE.

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The Accepted Standard VETERINARY REMEDY Always Reliable. Sure in Results.

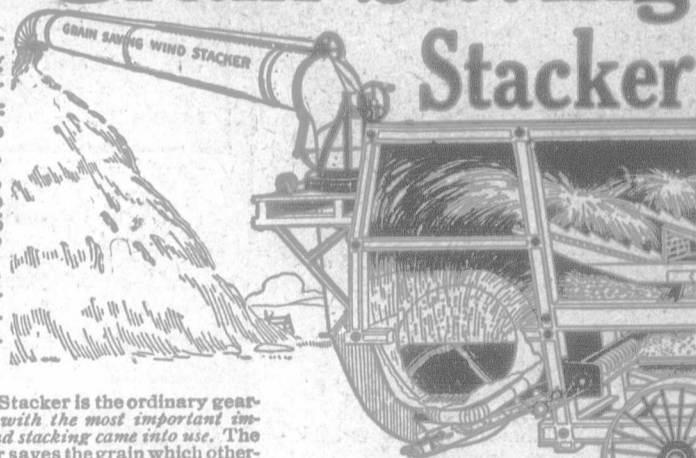


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Sole Agents for the United States and Canada. The Lawrence-Williams Co. TORONTO, ONT. CLEVELAND, OHIO.

The Grain-Saving Stacker

"I found the following saving with the Grain-Saving Stacker: Wheat, 10 bu. to every 1000 bu. threshed; oats, 25 bu. to the 1000; barley, 15 bu. to the 1000." Report of F. L. Kennard, Agonomist, University of Minnesota.



The Grain-Saving Stacker is the ordinary gearless wind stacker with the most important improvement since wind stacking came into use. The device in the hopper saves the grain which otherwise goes to the stack and is wasted. It has saved many thousands of bushels—an enormous gain, at prevailing prices. Under even average conditions it will

Save Enough Grain to Pay the Threshing Bill

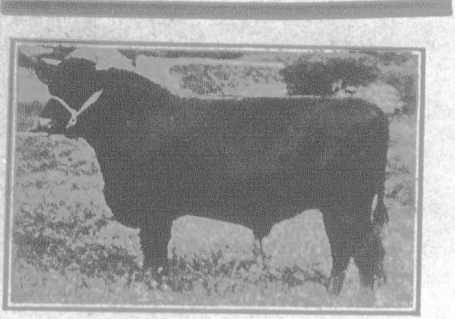
The manufacturers of America's standard threshing machines named below are prepared to furnish machines equipped with the Grain-Saving Stacker. Full information will be given you by any in this list, many of whom you will recognize as the manufacturers of the best-known tractors and farm implements. Write any of these for descriptive circular.

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- Canada: Robt. Bell Engine & Thresher Co., Ltd., Seaforth, Ont.; Dominion Thresher Co., Ltd., New Hamburg, Ont.; Ernst Bros. Co., Ltd., Mt. Forest, Ontario; John Goodison Thresher Co., Ltd., Sarnia, Ont.; MacGott Bros., Ltd., Mildmay, Ontario; Sawyer-Massey Co., Ltd., Hamilton, Ont.; Stewart Sheaf Loader Co., Ltd., Winnipeg, Man.; Sussex Mfg. Co., Ltd., Sussex, New Brunswick; Waterloo Mfg. Co., Ltd., Waterloo, Ont.; R. Watt Machine Works, Ridgetown, Ont.; George White & Sons Co., Ltd., London, Ont. United States: Aultman & Taylor Machinery Co., Mansfield, O.; Avery Co., Peoria, Ill.; A. D. Baker Co., Swanton, O.; Banting Manufacturing Co., Toledo, O.; Batavia Machine Co., Batavia, N. Y.; Buffalo Pitts Co., Buffalo, N. Y.; Cape Mfg. Co., Cape Girardeau, Mo.; J. I. Case Threshing Machine Co., Racine, Wis.; Clark Machine Co., St. Johnsville, N. Y.; Ellis-Kaystone Agricultural Works, Pottstown, Pa.; Emerson-Brantingham Co., Rockford, Ill.; Farmers Independent Thresher Co., Springfield, Ill.; A. B. Farquhar Co., York, Pa.; Frick Co., Waynesboro, Pa.; Harris-n Machine Works, Belleville, Ill.; Huber Manufacturing Co., Marion, O.; Keck-Gonnerman Co., Mt. Vernon, Ind.; Minneapolis Threshing Machine Co., Hopkins, Minn.; Port Huron Engine & Thresher Co., Port Huron, Mich.; The Russell & Co., Massillon, O.; Russell Wind Stacker Co., Indianapolis, Ind.; Sawyer-Massey Co., Ltd. (U. S. Agency), Moline, Ill.; Swayne, Robinson & Co., Richmond, Ind.; The Westinghouse Co., Schenectady, N. Y.

- Manitowaning...Sept. 25 and 26; Markdale...Oct. 7 and 8; Markham...Oct.; Marmora...Sept. 30; Massey...Oct. 1 and 2; Matheson...Sept. 23 and 24; Mattawa...Sept. 24 and 25; Maxville...Sept. 18 and 19; Maynooth...Sept. 25; McDonald's Corners...Sept. 26; McKellar...Sept. 18 and 19; Meaford...Sept. 25 and 26; Melbourne...Oct. 7; Merlin...Sept. 22 and 23; Merrickville...Sept. 16 and 17; Metcalfe...Sept. 23 and 24; Middleville...Oct. 3; Midland...Sept. 20-Oct. 1; Mildmay...Sept. 15 and 16; Millbrook...Oct. 2 and 3; Milton...Oct. 7 and 8; Milverton...Sept. 25 and 26; Minden...Sept. 30; Mitchell...Sept. 23 and 24; Morrisburg...Aug. 12-14; Mount Brydges...Oct. 3; Mount Forest...Sept. 17 and 18; Muncey (United Indian)...Oct. 1; Murillo...Sept. 30 and Oct. 1; Napanee...Sept. 9 and 10; New Hamburg...Sept. 11 and 12; Newington...Sept. 23 and 24; New Liskeard...Sept. 11 and 12; Newmarket...Sept. 24-26; Niagara-on-the-Lake...Sept. 25 and 26; Noelville...Sept. 17; North Bay...Sept. 16 and 17; Norwich...Sept. 23 and 24; Norwood...Oct. 14 and 15; Oakville...Sept. 18-20; Odessa...Oct. 3; Oshwekin...Oct. 1-3; Onondaga...Sept. 29 and 30; Orangeville...Sept. 16 and 17; Orillia...Sept. 16 and 17; Oro...Sept. 19; Orono...Sept. 25 and 26; Orville...Sept. 23; Oshawa...Sept. 8-10; Ottawa (Central Canada)...Sept. 6-15; Otterville...Oct. 3 and 4; Owen Sound...Sept. 9-11

The Grain-Saving Device Originated with The Indiana Manufacturing Co., Indianapolis, Ind., Who Also Originated the Wind Stacker



KELMSCOTT AGRÉBAT 4 Bred And Owned by R. W. Hobbs & Sons. Champion Milking Shorthorn Bull at the Royal Show Manchester, 1916.

The Kelmscott Herd of PEDIGREE MILKING Shorthorns, Flock of Oxford Down Sheep and Stud of Shire Horses

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The flock was established in 1868 and consists of from 1,000 and 1,250 registered Oxfords. Numerous prizes for many years have been won at the principal Shows.

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Nine extra good young bulls for sale. Also females all ages. Show-ring quality. THOS. B. BROADFOOT - FERGUS, ONT.

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Three months old. W. J. MAHON, North Wakefield, Que.

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Please mention Advocate

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Brown Swiss Cattle

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The Canadian Brown Swiss Association

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150 Head 100 Breeding Females Herd headed by Nero of Cluny (Imp.) I have at present twelve young bulls that are now nearing serviceable age. The majority are sired by my present imported herd sire, and we guarantee them as good individually as the get of any other one sire in Canada.

Plaster Hill Herd Dual-Purpose Shorthorns

For sale ten young bulls from large, deep milking cows, with records up to 12,000 lbs. 15 cows and heifers heavy producers mostly all in calf to Green Leaf Record 96115 or Dictator whose two nearest dams average over 12,000 lbs.

ROSS MARTINDALE CALEDONIA, R. R. No. 3, ONT.

Grand River Dual-Purpose Shorthorns

Herd numbers 63, headed by "Prince Lavander" 10449 whose dam gave 16,596 lbs. milk as four year old. We now have 30 cows in milk, could spare a dozen females. Seven splendid young bulls coming on. HUGH A. SCOTT CALEDONIA, ONTARIO.

WALNUT GROVE SHORTHORNS AND OXFORD SHEEP

We are offering choice young heifers and bulls by our herd sires, Gainford Eclipse and Trout Creek Wonder. Also a few yearling and ram lambs for sale. DUNCAN BROWN & Sons Shedden, Ontario. P. M. M. C. R.

1854 Maple Lodge Stock Farm 1919 Shorthorns and Leicesters 1919

Lucan Crossing 1 mile east of farm Miss Charlotte Smith, Clandeboye, R. R. No. 1. Hean Dorothy Star (Imp.) now at head of Scotch bred and dual-purpose Shorthorns. Two Shearling rams and a few good ram lambs. For sale now.

The H

The first is set forth begets like. members of other. It ex bull or stallio If no other operation, w distinguish l but other la and their closely relat each other variations in ing just me his opportu types, or in exist. The why Percher and why C each other; of cattle pro ity; it expla the ability of milk. I characteristic to tubercol parent to offi All the lav to the breed or unconscio obeys or disc the ambitio of the prepo he is merely of the celebr Darwin, wh "like begets than anybod many laws th a man refus stallion that lly testifying of Pangenesi Darwin pr tempting to the similarity parents, he which retain body cells, a in the body. argued, all fu cells, and in characteristic offspring thro Darwin's challenged b man and G theory that t of cells invol reproductive the origin of being for the the repro would mean unless it orig solely to re transmitted t These cor the attentio years. They al question: be transmitte ful handling improved in his calves refle in him by hur horse, which, training, has speed transmi to his foals? emphatically istics, they cl One great se is probable th germ-plasm, a (the body), i place in whic shelter and n one generatio the scientist asks the prac from experie differs from b that excellent inferior progr sometimes ap How do the things? Sear to these que pound two th "variations" a and direct a on the germ-p that "variati Both theories biologists. Variations r ities in the Among the an is the product therefore differ

The Biologist and the Breeder.

The first and foremost law of breeding is set forth in the three words: "like begets like." This law explains why members of a human family resemble each other. It explains why the progeny of a bull or stallion resemble each other closely. If no other laws of breeding were in operation, we would scarcely be able to distinguish between brother and brother, but other laws of breeding do operate, and their operation cause the most closely related animals to differ from each other in many particulars. The variations in the important law of breeding just mentioned give to the breeder his opportunities for developing new types, or improving those that already exist. The theory of heredity explains why Percheron horses resemble each other, and why Clydesdale horses resemble each other; it explains why some strains of cattle produce twins with great regularity; it explains why certain cows inherit the ability to produce large quantities of milk. It also explains why bad characteristics (such as the tendency to tuberculosis) are passed on from parent to offspring.

All the laws of breeding are interesting to the breeders of animals. Consciously or unconsciously, the breeder of animals obeys or disobeys their warnings. When the ambitious breeder speaks proudly of the prepotency of his bull or stallion, he is merely paying homage to the genius of the celebrated English scientist, Chas. Darwin, who laid down the law that "like begets like" and who did more than anybody else to enunciate the many laws that govern breeding. When a man refuses to breed his mares to a stallion that is unsound, he is unconsciously testifying to the stability of the theory of Pangenesis.

Darwin propounded this law. In attempting to give a scientific reason for the similarity of the progeny of certain parents, he assumed that gemmules, which retain the characters of the original body cells, are given off by every cell in the body. These gemmules, Darwin argued, all fused to form the reproductive cells, and in this way all the parents' characteristics are transmitted to the offspring through the reproductive cells.

Darwin's theory of Pangenesis was challenged by many scientists. Weismann and Galton brought forward the theory that there are two distinct classes of cells involved in the structure of the reproductive germ cells, the one being the origin of the body, and the other being for the sole purpose of developing the reproductive germ-cells. This would mean that a change in an animal unless it originated in the cells devoted solely to reproduction, would not be transmitted to the animal's offspring.

These conflicting theories occupied the attention of biologists for many years. They brought up the very practical question: "Can acquired characteristics be transmitted?" If a bull, through careful handling and feeding, is greatly improved in size and smoothness, will his calves reflect the improvement wrought in him by human hands? Will an ordinary horse, which, by careful and continued training, has developed extraordinary speed transmit this acquired characteristic to his foals? Many biologists answer emphatically "No!" Acquired characteristics, they claim, are not transmissible. One great scientist puts it thus: "It is probable that there is continuity of the germ-plasm, and therefore the individual (the body), is nothing but a dwelling-place in which the germ-plasm obtains shelter and nutrition as it passes from one generation to another." How do the scientists explain variations then? asks the practical breeder. "We know from experience that a calf sometimes differs from both his parents. We know that excellent parents sometimes produce inferior progeny. We know that horns sometimes appear in a Polled breed. How do the biologists explain these things? Searching for scientific answers to these questions, the biologists propound two theories. The first thing that 'variations are due to the immediate and direct action of the environment on the germ-plasm,' and the second being that 'variations arise spontaneously.'" Both theories are accepted by most biologists.

Variations may be caused by irregularities in the process of cell division. Among the animals, the new individual is the product of two parents. It must therefore differ from either of its parents,

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milk, cream, butter, Brown Swiss



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The majority are sired
by the get of any other
also spare some breeding

Scotland, Ontario

Shorthorns

with records
mostly all in
nearest dams

Shorthorns

5,590 lbs. milk as four
splendid young bull

, ONTARIO.

FORD SHEEP

and Trout Creek

M. M. C. R.

an Dorothy Star (imp.)
at head of Scotch
and dual-purpose
shorthorns. Two Shear-

Boyo, R. R. No. 1.

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The best possible reason why every plug replaced in your Ford should be a Champion "X" is contained in the Ford instruction book which says—"The make of plugs with which Ford engines are equipped when they leave the factory are best adapted to the requirements of our motor." No indorsement can be stronger than that of the Ford Engineers for

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Windsor, Ontario.

Champion "X" for Ford Cars A-15, $1\frac{1}{2}$ inch. Price 90c.

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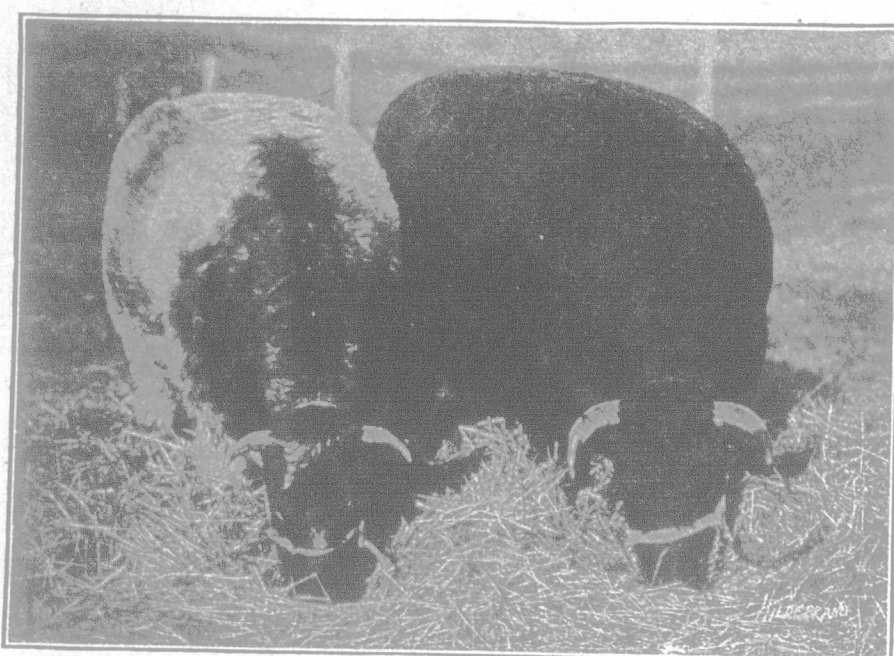
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is it a product of both. This is variation in a practical form. It will be very marked if the parents are unlike each other, and much more modified if the parents are alike in form and breeding. The breeder recognizes this form of internal variation when he refuses to breed an Aberdeen-Angus cow to a Jersey bull.

The internal causes of variation are numerous, but to discuss them fully is to delve into biology so deeply that the ordinary student of animal life becomes hopelessly bewildered. Out of the strictly biological study of animal variation, however, has come much practical information. Every breeder, for example is interested in Telegony, which means the suppositious infection of the germ, or the suppositious influence of previous impregnation. If a valuable pure-bred Shorthorn cow is bred to an Ayrshire bull, is she ruined for further breeding? Will her future calves show traces of the Ayrshire bull? These are very practical questions, and they can be answered best by the biologist. He emphatically declared that the progeny of a female that has been bred to two different males cannot resemble both the male parents. Only one male germ fertilizes the female egg, so that while a litter of pigs may be the result of two matings by different boars, none of the pigs will resemble both the sires, although some of them may resemble one sire and some the other. That a pure-bred cow is ruined by being bred to a scrub is therefore a wrong assumption. There is no biological foundation for the belief. Neither can there be any foundation for the belief that a mare can give birth to two foals, dropping them a few weeks apart. The breeder turns again to the biologist for an answer to the question: "Can outside influences, such as a white sheet hung up in front of a pregnant mare produce changes in the unborn young?"

The biologist again answers in the negative. He shows that the unborn foal or calf is not as closely connected with the mother as many people believe. The unborn calf or foal depends on the mother for food, but there is no organic connection, and no connection of the nervous system. This has been proven by actual experiment. An investigator took two sequencing ova from an Angora doe rabbit that had been fertilized by an Angora buck thirty-two hours previously. He immediately transferred these ova to the upper end of the Fallopian tube of a Belgian hare that had been fertilized three hours before by a Belgian buck. In due course the Belgian doe gave birth to six young. Four of them resembled herself and her mate, but the other two were well-marked Angoras. This experiment proved that the germ decides the character of the offspring, and that the connection between the unborn young and the mother is merely physical.

Peculiar marks on the animals are supposed by some people to be caused more or less by violent impressions made upon the mother while she is pregnant. Speaking of this supposition, Davenport says: Scarcely an individual is absolutely free from marks or malformations of one kind or another. Again, mothers are subjected to all sorts of sights, sounds and experiences during the many weeks of pregnancy, and it would be strange indeed, if out of the thousands of cases some correspondence between marks and experience could not be figured out, especially by one whose belief is fixed, and who, having the case at hand, needs only to find the proper "corresponding experience." The law of chance alone will insure an occasional correspondence between the two—entirely enough to start the tradition and to maintain it afterward.

"Another fact to be reckoned with is that if the fetus were so sensitive to mental impressions as to require the display of properly colored blankets—if females were so susceptible as this to surrounding sights, what a jumble of colors domestic animals would speedily display. In this connection it is worthy of remark that if the average breeder were half as familiar with important facts, and half as attentive to their bearing upon his operations as he is familiar with, and attentive to floating traditions, we should have a far smaller proportion of worthless animals."

Reversion and Atavism are most interesting forms of variation in animal type, and breeders constantly meet with these forms. In both these forms of variation, the offspring possesses

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characters that the parents do not possess. Reversion denotes the appearance in the offspring of characters which are not possessed by the immediate parents, but which were possessed by the grand-parents or other near ancestor. Atavism, on the other hand, refers to the appearance of characteristics which belonged to very remote ancestors. If bad blood has been introduced into a herd, it sometimes pops up for generations. This is a case of reversion. If a three-toed horse was to appear, however, this would be a case of atavism, as the original horse had three toes. How is such phenomena possible?

We must remember that all the ancestors of an animal have an influence on that animal. Somewhere in every animal's make-up there is a trace—it may be infinitesimal—of all ancestors. In the fusing of his characteristics, a variation may occur, and one of these latent characteristics may become very prominent. The law of chance may be all that governs the appearance of such a characteristic.

Galton has shown, by mathematical investigations, that a child inherits, on the average 50 per cent. of his characteristics from his immediate parents; 25 per cent. from his grandparents; 12.5 per cent. from his great-grandparents; 6.25 per cent. from his great-great-grandparents, and so on in proportion. This means, of course, that an animal may inherit characteristics however faint or dormant they may be, from his earliest ancestor. Every breeder of stock applies, or misapplies, Galton's Law of Ancestral Heredity. It is but another instance of the sometimes unappreciated correlation of the science of breeding and the science of biology. Every pedigree takes on its real value when put to the test of Galton's logic. The fatuousness of worshipping "families" is at once made apparent by Galton's Law of Ancestral Heredity.

An animal, throughout its life is influenced by such things as food, care and climate. To the biologist must be given great credit for ascertaining the exact influences of external conditions on plant and animal life. Vegetable seed will produce different plants in different soils. Darwin pointed out the fact that the wood of the sturdy English oak is almost worthless when this tree is grown at the Cape of Good Hope. According to Darwin, the bull-dog quickly loses his ferocity and grit when he is reared in India. The breeder of live stock is in agreement with the scientists when he gives serious consideration to the acclimatization of his stock.

Food controls an animal's size, and it also lengthens or shortens the journey towards maturity; as food, besides increasing an animal's height, develops all the organs. Too much feed causes infertility, and too little causes late maturity and uneven development. Biological investigators have proven these things by experimentation.

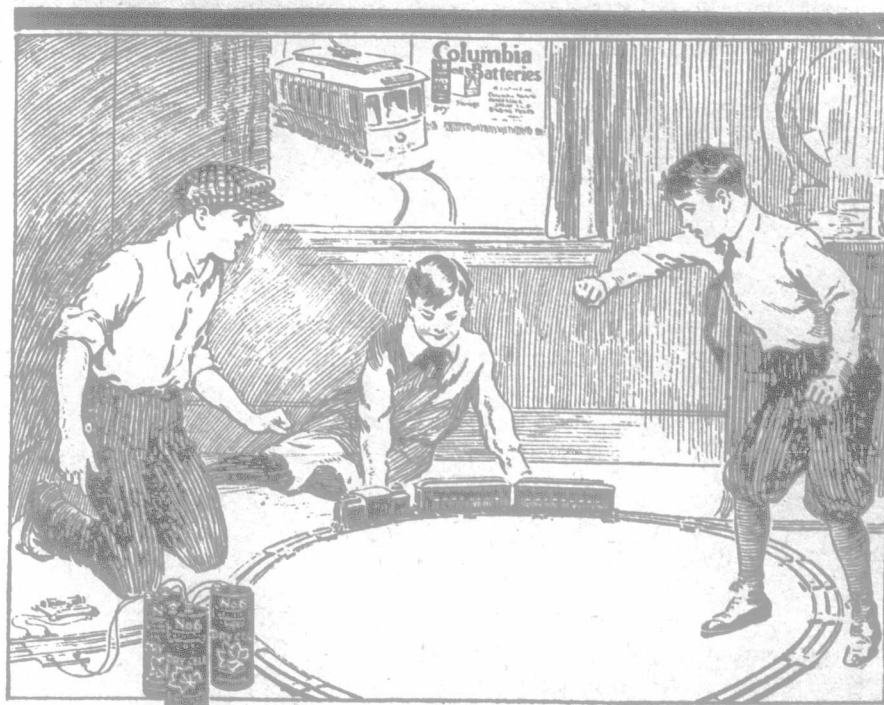
How many breeders of live stock know that every quality inherited or acquired by an adult individual is possessed in some degree by every other normal adult individual of the same race? Yet this is true, and we must thank the biologist for making the fact clear. All horses can trot, all cows give milk, and all normal men can talk. Therefore, when a bull is a little better than another one, some of the racial characteristics have been more highly developed. The poorer bull possesses all the characters of the good one, but some of them are not so well developed. That is the real cause of the difference between the two bulls.

A close relationship exists between the practical breeder and the scientific investigator. The two are working out the same important problem—the one working with the microscope and the other with animals in the farm-yard. As the science of breeding becomes better understood, the scientific investigator and the practical breeder understand each other better.

A British tourist in devastated France is pictured in "Punch" as being "flooded" by the educated Chinese head of a force of laborers doing reconstruction work. The dialogue follows:

British visitor (using pidgin English to supposed laborer): "John Chinaman likee muchoe dessee allee samee English soldier."

Chinaman—"Well, sir, I don't concern myself much about uniform. Actually I'm a journalist and only came here for the experience."



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We have for sale choice young cows and heifers, fresh, or to freshen soon. Pure-breds and high-grades. Ideal family cows. Cut the H. C. O. L. in two by buying a Jersey cow.

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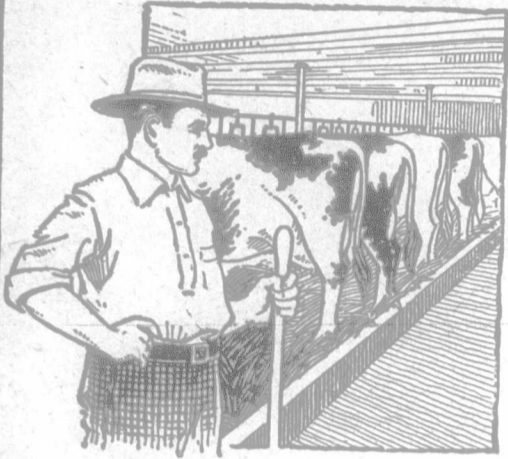
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W. FRED FALLIS, MILLBROOK, ONTARIO.

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The Home of Lakeview Johanna Lestrance, the \$15,000 sire—He is a son of the 38,06-lb. cow, Lakeview Lestrance, and is our chief sire in service. We are offering a few females bred to him, and also have a few bull calves sired by him, at right prices. Other old bulls, sired by our former herd sire, Prince Segis Walker, son of King Segis Walker. A. J. TAMBLYN, Cedar Dale Holsteins (C. N. R. station one mile) Orono, Ontario.

Silver Stream Holsteins—Choice Bulls

We have six from 7 to 14 months old, sired by King Lyons Colantha, the records of his six nearest dams average 29.10 lbs. butter in 7 days, and by King Lyons Hengerveld, 5 nearest dams average 31.31, and from R.O.P. tested dams. Individually as good as their breeding. If interested, write for particulars and prices, or better come and see them.

JACOB MOGK & SON, R. R. 1, Tavistock Ont.

I Have Holstein Bulls and Females

at right prices. The bulls are from good record sired by Baron Colantha Fayne, a son of Canada's first 33-lb. cow. The females are of much the same breeding. If you want Holsteins, get my prices.

T. W. McQueen, Oxford County, Bell 'phone Tillsonburg Ont.

Registered Holstein Bull

Choice Grandson of Sire Clarum Brae and Dam Bluebell of Burnbrae 2nd, Sir Roger Segis 3 years old a real show bull low set black with white belt. Write for particulars.

DAVID R. MACDONELL, GREEN VALLEY, ONTARIO, R. R. No. 2

How to Run a Tractor

A complete, practical course by mail on construction, operation, care, and repair, of all kinds of gas and gasoline tractors. Also simple automobile course. Write for free literature.

Canadian Correspondence College, Ltd., Dept. E, Toronto

The Capsule Method of Breeding Mares.

Breeding mares artificially is not generally practiced in Canada, but has proven successful in United States. The following methods used in artificial impregnation were published in pamphlet form by U.S. Department of Agriculture.

Mares which have some malformation of the neck of the uterus will usually fail to "settle" when bred in the natural way. Where this malformation is the only trouble, capsule breeding will prove successful where natural breeding has failed.

More mares can be bred by one stallion. With natural breeding one service of a stallion breeds but one mare; with the capsule method ten or even more may be bred by a single cover from the stallion. This saves the disappointment of bringing a mare a long distance, only to find other mares there in advance and the stallion able to serve but one.

Probably the advantage of most value to the mare owners is that their mares can be bred successfully when they are not in heat. Some claim that breeding mares when out of season is even more successful than when they are in season. Most mares object to service from a stallion when they are not in season, and yet are easily bred by the capsule method.

Artificial impregnation makes it possible to extend the usefulness of a good stallion to many times more mares. Where it is done with this in view it is indeed a benefit to the horse industry.

Cleanliness Essential.

The highest degree of success in capsule breeding can only be attained where absolute cleanliness attends all the operations, and where the temperature is controlled as outlined below. The germ cells, both male and female, are very sensitive to bacterial infection. Bacteria are encountered at every step in the operation, and precautions should be taken to destroy them as completely as possible. To this end all external parts of the mares which may come in contact with the hand or any instrument used should be thoroughly disinfected by being washed in a solution of creolin, lysol, or other good disinfectant. They should then be thoroughly rinsed in clean, sterile, warm water, as a little of the disinfectant coming in contact with the semen will destroy its vitality.

Good soap and hot water should be used freely on the hands during the operation if they come in contact with anything not entirely sterile. Nothing but clean sterile towels should be used.

Where much capsule breeding is done, white suits kept well laundered will be found an advantage.

Operating Room.

A satisfactory operating room can be made of an office, a stall, or a tent. If a stall is used a canvas or wagon cover should be stretched tent shape in the stall to keep out all dust. The stall should be thoroughly cleaned and kept free from dust.

Examination of Mares.

All mares whether they are to be bred with capsules or not should be examined. This lessens the danger of contaminating the stallion by allowing him to serve a diseased mare. If diseased mares are not bred it improves the horse's record as a foal getter.

Any discharge from the vulva should be looked upon with suspicion.

The internal examination is most conveniently made by use of a speculum, a metal or glass device which is inserted into the vagina of the mare till the neck of the womb is visible.

The natural color of the lining membrane of the vagina is a pale healthy pink. If the examination reveals a red color, the congestion is likely due to an inflammation which will interfere with conception, and the mare should not be bred at that time.

The neck of the womb should be examined to see if it is closed. If it is tight the forefinger should be inserted slowly and carefully till a capsule could be inserted. Do not try to insert two fingers.

Collecting the Semen.

Utensils Needed.—The necessary utensils are a semen extractor with a flexible tip, a quart bowl, capsules, a vessel of warm water large enough to immerse the extractor when the piston is extended, a device for keeping the water warm, a thermometer (a regular floating dairy thermometer is to be preferred), powder vaseline, soap, t

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Method of C When all mares h external organs prepared as outl is let out and all mare in heat, wh shown to be per in every way. A operator should a mare with the h filled with the arm should be p the powdered slip As the stallion empty the w and catch any s the penis out. or if none comes assistant, immedi of water, grasp its and first two fing hand and all in keeping the poin protected.
If the semen h the vagina the detect this, and by pulling out tractor. If no s the vagina it ha the uterus. To c fully insert the (always preceded

A Tractor's LIFE - not PRICE - determines its VALUE

What do you want in your tractor?

Power? Every Rumely OilPull will deliver more power for its size and rating than any other tractor made. Its rating is based upon only 80% of its maximum power efficiency—a 20% overload capacity. The OilPull power plant is a low speed, heavy duty motor, built complete in Advance-Rumely factories and designed especially for this tractor, and to operate on oil fuel. The weight of the OilPull and the weight distribution is absolutely correct to realize the full power developed by the motor. Ask any OilPull owner his opinion of OilPull power.

Dependability? Actual work in the field over a period of years is the only real test. Ten years ago the first OilPull tractors were sold for breaking sod in the Northwest—the toughest job a tractor can tackle. And these same OilPulls have been at it ever since, giving year after year service. The first OilPull built is still on the job—over 15,000 are now in service.

The OilPull frame is of straight steel members—without bends or splices—to best resist twists and strains. OilPull gearing has always been made a bit larger and heavier than you might think necessary. OilPull shafting is the same—all of special steel—the OilPull crankshaft is built to U. S. Naval specifications. Motor parts are ground to the thousandth part of an inch. There is no better tractor wheel made than the OilPull—we've been building engine wheels for over 80 years. Oil cooling eliminates evaporation, freezing, rusting, clogging, overheating—and saves power. Ask any OilPull owner his opinion of OilPull dependability.

Economy? Fuel is the biggest item of expense in a tractor's operation and oil fuel—common kerosene—is the cheapest fuel available. Real oil tractors are made, not "made over." The OilPull is designed for kerosene from the ground up—the OilPull motor, carburetor, cooling system—every part is de-

signed and built especially for the burning of oil fuel. The OilPull will operate successfully on kerosene under every condition of work, of temperature, of altitude. And to back it up, every OilPull tractor is guaranteed in writing to burn successfully all grades of kerosene under all conditions, at all loads to its full rated brake horsepower. The OilPull has established the record for the lowest fuel cost. It will plow an acre of ground at less cost than any tractor built—bar none. Ask any OilPull owner his opinion of OilPull economy.

Simplicity? Simplicity and ease of operation are "inbuilt" in the OilPull. There is no complicated mechanism—all operating levers are within easy reach and all working parts, while carefully protected, are easily accessible for inspection. The OilPull design allows for high front wheels, properly spaced, to give ease in steering and operating on rough ground—and a short turning radius. A large belt pulley on the right hand side driven directly off the crankshaft makes the OilPull as efficient on the belt as on the drawbar. Ask any OilPull owner his opinion of OilPull simplicity.

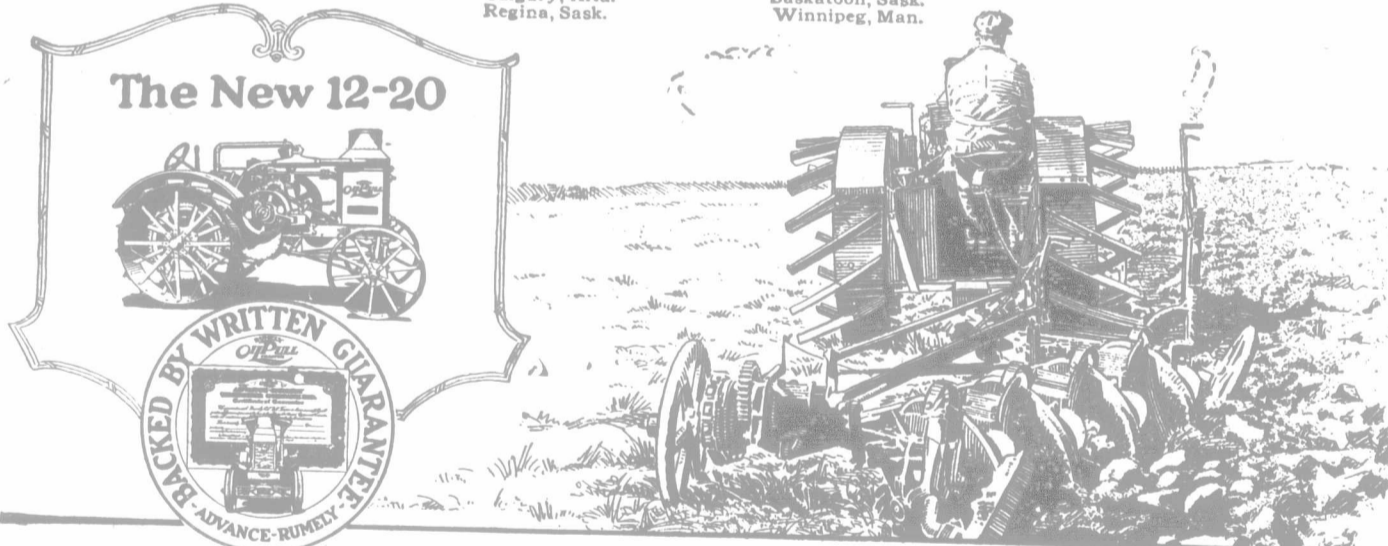
Service? Service as Advance-Rumely practices it is a material part of the sale. We maintain 27 branch offices and warehouses located at central shipping points in the U. S. and Canada. At each branch is carried a complete stock of machines and parts for immediate delivery, as also an organization of trained tractor experts. Ask any OilPull owner his opinion of Advance-Rumely service.

Proper Size? The OilPull is built in four sizes, standard in design and a size to fit every need—12-20, 16-30, 20-40 and 30-60 H. P.—each capable of delivering the proved OilPull power, dependability and economy on either drawbar or belt. The 12-20 is the latest model—a small, light weight outfit. An OilPull catalog is yours for the asking.

ADVANCE-RUMELY THRESHER COMPANY, Inc.
La Porte, Indiana

Calgary, Alta.
Regina, Sask.

Saskatoon, Sask.
Winnipeg, Man.



ADVANCE-RUMELY

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 principal Day Trains.

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

Choice Offerings in Ayrshires
AT SPECIAL PRICES. Several young bulls of serviceable ages. All from R.O.P. sires and dams. Come and see them. JOHN A. MORRISON, Mount Elgin, Ontario.

City View Ayrshires
Write or come and see. We have them milkers, heifers, and young bulls; all tracing to the best Canadian records. ST. Thomas, Ont. James Bagg & Son.

WESTSIDE AYRSHIRE HERD
I have two extra choice March bull calves from heavy-milking, high-testing dams, one dark and one white in color. Also a few good females, one just due to freshen. Write, or come and see. Middlesex Co. DAVID A. ASHWORTH, Denfield, Ontario.

Edgeley Bright Boy—Bred and raised by us; won the championship at Ormstown Fair, Quebec, for Messrs. G. and F. Holden & Sons. His sire is Edgley Bright Prince, son of Sunbeam of Edgley, champion cow of Canada. We have a few young bulls under one year, sired by him out of R. O. P. cows. Anyone interested, write us, or come and see our herd. James Bagg & Sons (Woodbridge C.P.R.) Edgeley, Ont. Concord G.T.R.

Homestead Farm R.O.P. Ayrshires—At the head of our herd at present we have a grandson of the great Jean Armour. He is being used on the daughters of our former sire, Garlaugh Prince Fortune (imp.). Young cows freshen this fall and winter. MACVICAR BROS., 'phone 2253 Harrietsville, Belmont, R. R. No. 1, Ont.

ROOFING AT FACTORY PRICES

WE ARE THE LARGEST DISTRIBUTORS OF READY-TO-USE ROOFING IN CANADA. WE SELL DIRECT TO USERS. WE CAN SAVE YOU MONEY. WRITE FOR FREE SAMPLES.

THE HALLIDAY COMPANY LIMITED HAMILTON FACTORY DISTRIBUTORS CANADA

once or twice during the season will reveal the number of live spermatozoa, which is a good index to the fertility of the horse. The necessary instruments and capsules for this artificial breeding can be obtained from any veterinary supply house, or most any druggist upon application will order them.

Gossip.

20,000-lb. Holstein. In directing attention to the advertisement of Montrose Farm Holstein-Friesians appearing elsewhere in these columns, all dairymen should make special note of the phrase used in making up Mr. Graham's advertisement, in which the Montrose Farm is referred to as "The Home of 20,000-lb. cows." With the average yearly production for Ontario's dairy herds running a very little over 4,000 lbs. per cow, a 20,000-lb. herd seems almost unreasonable. A review of the R.O.P. sheets, however, as seen by an "Advocate" representative at the farm recently, was quite sufficient to cause one to use the term almost without modification. It is true that the herd as yet is comparatively small; the total number of cows of milking age being less than a dozen, but of these no less than five are holding semi-official yearly records for milk production ranging from 19,550.7 lbs. up to 25,854 lbs. One only is below the 20,000-lb. mark; and of the six, only two failed to calve within the required time to qualify in the Record of Performance. Florella Girben, an eight-year-old granddaughter of Count Segis Walker Pietertje, has the honor of being the highest record cow of the five, with 25,854 lbs. She also holds a 12,379-lb. two-year-old record, and has a 17-months-old daughter also in the herd. Next in line comes Bridal Rose Sylvia, a half-sister to May Echo Sylvia, and she has 25,486.8 lbs., made last year as a 7-year-old cow. Third highest is Echo Pauline Sylvia, also got by the same sire as May Echo Sylvia, and she has 21,973.4 lbs. in the year. In fourth in line Lulu Pietertje Keys, a 20,584.1-lb. 10-year-old cow; and fifth, Flora, Gerbin De Kol, with 19,550.7 lbs.; making a yearly average for the five, of 22,680 lbs. To use on these good record cows Mr. Graham has selected as chief herd sire, the 15-months bull, Champion Echo Segis Sylvia, one of the very best individual sons of Mr. Hardy's great herd sire, Champion Echo Sylvia Pontiac, son of the world-famed May Echo Sylvia, the breeding of which is so well known that nothing further need be said. At present there are no females priced, and the offering in bulls, aside from the young calves, is confined to one 18-months son of Flora Girben De Kol, one of the breeding matrons mentioned above. All particulars regarding the farm should be addressed to R. J. Graham, Montrose Farm, Belleville, Ontario.

Questions and Answers.

Miscellaneous.

Cubical Contents of Silo.
How many cubic feet of silage will there be in a silo 14 by 40 feet? O. H. R.
Ans.—A silo 14 by 40 feet will hold approximately 140 tons, or the cubical contents would be about 6,160 cubic feet.

Line Fence Troubles.
A and B live on adjoining farms, with a wire line fence between them. C's lot butts both A's and B's. A pastures the back of his lot, and B crops the back of his; the back of C's lot is in bush. Can B compel A to keep his cattle home. What damage can B collect if A's cattle go into C's bush and then come back into B's crop?
J. G.

Ans.—We cannot see that B is in a position to compel A to keep his cattle home. It seems that there must be a very poor fence at the back of these lots, and that A, B and C are all guilty of negligence in regard to the line fence. Unless, B's part of the fence is in good condition, he is not in a position to collect damages, and then it would be necessary for him to appeal to C if it is through his property that the cattle gain entrance. C, in return should endeavor to have the fence repaired between he and A so that the cattle could not gain entrance to his bush.

R. O. P.
Twenty-six Performance throughout pure-bred dairy mere Holstein Fallis, of Miss one of the sm to have a cow lb. mark in o Posch, the co to be the fou mere herd, a year is 26,448 of butter. H 102 lbs., and lbs. Individ record for pro character, an recently was daughters, m in Mr. Fallis' whole herd c daughters are all hold offica judge from a of much gra Calamity, a s of the trio, n 17.7 lbs. of but while Lulu K made over 10 year-old; and the third an Fallis has had again to the son of Duto Mona, Lakev while the thr his own herd Vale, a son of Hill-Crest it will be re Canadian cha with 22,785 lb of butter for th bulls in the p by this sire an dams, includi mentioned. matrons in the as Jean Paulin that produced 1 months in th Mercena, a bi Lulu Pauline, others, making cows to some which, added make up a tota present.

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Gossip.

R. O. P. Holsteins at Millbrook.

Twenty-six-thousand-pound Record of Performance cows are not numerous throughout even the largest Canadian pure-bred dairy herds, and the Windermere Holstein herd, owned by W. Fred Fallis, of Millbrook, Ontario, is perhaps one of the smallest herds in the Dominion to have a cow that has passed the 26,000-lb. mark in one year. Mercena Calamity Posch, the cow referred to, may be said to be the foundation cow of the Windermere herd, and her exact record for the year is 26,448 lbs. of milk and 1,041.2 lbs. of butter. Her highest day's milk was 102 lbs., and her highest 7 days 707.1 lbs. Individually, she is as good as her record for production. She has size and character, and when seen at the farm recently was lined up with three of her daughters, making up a quartet which, in Mr. Fallis' own words, were worth a whole herd of "just cows." All three daughters are now of milking age, and all hold official records, but if one may judge from appearances each is capable of much greater efforts. May Mercena Calamity, a six-year-old, and the oldest of the trio, made 557 lbs. of milk and 17.7 lbs. of butter in 7 days as a 4-year-old, while Lulu Korndyke, the next younger, made over 10,000 lbs. of milk as a two-year-old; and Content Lulu Korndyke, the third and last, has 16.4 lbs. Mr. Fallis has had the old cow safely bred again to the service of the 38-lb.-bred son of Dutchland Sir Colantha Sir Mona, Lakeview Johanna Lestrange, while the three daughters are bred to his own herd sire Hill-Crest Rauwerd Vale, a son of Hill-Crest Ormsby De Kol, and Hill-Crest Pontiac Vale. The latter, it will be remembered, was the former Canadian champion R.O.P. 4-year-old with 22,785 lbs. of milk and 986.25 lbs. of butter for the year. The several young bulls in the present sales list are all got by this sire and from good, officially-tested dams, including one of those already mentioned. Among the other good matrons in the herd figure such good cows as Jean Pauline Emma, a 5-year-old cow that produced 15,530 lbs. of milk the first 8 months in the R.O.P., Lily Bonerges Mercena, a big, six-year-old show cow, Lulu Pauline, a pleasing, 4-year-old and others, making up the number of breeding cows to something over twenty head, which, added to the younger things, make up a total of 40 head in the herd at present.

Gossip.

2000-lb. Holstein.

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Graham, Montrose Farm,
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Questions and Answers.

Miscellaneous.

Material for Wall.

How many yards of gravel and barrels of cement will it take to put a foundation under a building 35 by 20 feet, the wall to be 8 inches thick, and 2 feet above the ground and one foot below. I wish to put in a floor 5 inches thick, and mix the cement in the proportion of one to seven.

A. S.

Ans.—Building the wall and floor as you describe, it will require 22 cubic yards of gravel and 20 barrels of cement for both floor and wall.

Lung Worms.

My hogs have developed a bad cough. They seem to get rid of it for a time and then it appears again. They are in very good condition. The young pigs seem to contract the trouble when a few weeks old. What treatment do you advise?

L. H. S.

Ans.—It is rather difficult for us to definitely diagnose the trouble. The symptoms are somewhat like those of bronchitis, except that hogs so affected are usually unthrifty, and if relief is not effected the patient soon succumbs. The symptoms of lung worm are similar, and we are inclined to believe that your herd is affected with this parasite. There is practically no effective treatment for it. Clean pens in which disinfectants are liberally used, and clean, well-drained yards will help keep the worm in check. Plowing up old hog lots and re-seeding them is also a preventive measure. The young pigs contracting the trouble at an early age leads us to believe that this parasite has infected your herd.

Questions and Answers.

Miscellaneous.

Contents of Silo.

How many cubic feet of silage will a silo 14 by 40 feet? O. H. R.

Ans.—14 by 40 feet will hold 140 tons, or the cubical contents will be about 6,160 cubic feet.

Fence Troubles.

On adjoining farms, with a fence between them. C's and B's. A pastures C, and B crops the back lot of C's lot is in bush. C to keep his cattle home. B collect if A's cattle and then come back J. G.

Ans.—I don't see that B is in a position to collect if A's cattle and then come back J. G.

OXFORD DOWN SHEEP



ONE OF OUR SIRES

America's
Pioneer Flock
Importation expected in
August.

Present offering: A few imported rams and about 90 shearling and two-shear rams; 70 shearling and older ewes, and a number of superior ram and ewe lambs.

Prices reasonable.

Henry Arkell & Son
70 Beatty Ave.
Toronto Ontario

The Western Fair

London, Ontario

September 6th to 13th, 1919

This is the Great Agricultural Exhibition of Western Ontario

Exhibits the Very Best	Two Speed Events Daily	Attractions Better Than Ever	Johnny J. Jones Midway Exposition
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PLENTY OF MUSIC FIREWORKS EVERY NIGHT
PURE FOOD SHOW TRACTOR DEMONSTRATIONS

Auto Entrance corner Dundas and Egerton Sts. Usual Entrance at the Gates.
Grand Stand 50c. and 25c.

Entries close for Dogs and Poultry Sept. 2nd. All other departments Sept. 3rd.
This is earlier than usual. Note the change.

Prize Lists, Entry Forms and all information from the Secretary

LT.-COL. W. M. GARTSHORE, President A. M. HUNT, Sec'y.

Bruce's Recleaned Seed Wheat

We offer for early orders, cash to accompany same. Send order in good time. Freight Rates are low on Wickets.

WHEAT, BRUCE'S NEW CLIMAX—Grain large red, straw bright and strong, heads large and bald, chaff white, hardy and a heavy yielder. The best red variety.

WHEAT, BRUCE'S GREAT LEADER—Grain white, large and plump, straw strong, heads large and bald, chaff white, hardy and a heavy yielder. The best white variety.

Price of above 2 sorts, 30c lb.; 5 lbs. \$1.25 postpaid. By express or freight at purchaser's expense: Peck \$1.00, ½ bushel \$1.85, bushel \$3.50, 5 bushels \$16.75, 10 bushels \$32.50; bags extra.

DAWSON'S GOLDEN CHAFF, ABUNDANCE, RED ROCK, RED WAVE, and RED CLAWSON—Price: 25c lb., 5 lbs. \$1.00, postpaid. By express or freight at purchaser's expense: Peck 90c, ½ bushel \$1.60, bushel \$3.00, 5 bushels \$14.50, 10 bushels \$28.00; bags extra.

RYE, FALL, NEW ROSEN—Much better variety and considerably heavier yielder than Common Sort introduced by Michigan Agricultural College lately—Price: 25c lb., 5 lbs. \$1.00 postpaid. By express or freight at purchaser's expense: Peck 75c, ½ bushel \$1.40, bushel \$2.50, 5 bushels \$12.00, 10 bushels \$23.00; bags extra.

COMMON FALL RYE—25c bushel cheaper.
TIMOTHY—No. 1 G.S. \$8.50, No. 2 G.S. No. 1 Purity \$8.00, No. 2 G.S. \$7.50, No. 3 G.S. \$7.00 per bushel by freight at purchaser's expense; bags extra.
PRICE OF BAGS—2 bush. Jute 25c each, 2½ bush. Cotton 60c each.

Write for our Wheat Circular containing prices of Wickets, Timothy, Poultry Foods and Supplies, FREE.

John A. Bruce & Co. Limited SEED MERCHANTS
HAMILTON, ONT.
Established 1850

Shropshires and Southdowns
YEARLING EWES AND RAMS

We are offering Ewes and Rams of both breeds fitted for show purposes or in field condition All are selected individuals, true to type and sired by our Show and Imported Rams.

LARKIN FARMS, QUEENSTON, ONTARIO.

Please Mention Farmer's Advocate.

Registered Lincolns

FOR SALE

One 3-year-old imported ram, ✓ One 2-year-old ram of show quality. A fine bunch of shearing ewes and rams from the 3-year-old imported sire. Also ram and ewe lambs by same sire. Some breeding ewes of choice breeding and quality. Prices reasonable. Write, or come and see them.
NEIL STEVENSON, St. Paul's Station, Ont.
Successors to Wm. Oliver, Avonbank.

OXFORDS

Summer Hill Stock Farm
Teeswater, Ontario.

If you want a breeding ram buy early. Forty head of Stud rams to select from, they are strictly first class. Ewes of same quality for sale. Write for prices.

Peter Arkell & Sons R.R. 1 Teeswater, Ont.

OXFORDS

TOWER FARM CHAMPIONS

Our present offering 30 big, strong shearing and two-shear rams; also ewes and lambs of both sexes from Prize-Winning stock. Some fitted for show. See our exhibit at the National.
E. BARBOUR & SONS, HILLSBURG
R.R. No. 2 ONT.

SHROPSHIRES

Shearling and ram lambs by imported ram. Also a few ewes, all stock my own breeding.
E.E. Luton St. Thomas, Ont. R.R. No. 1.
Bell Phone 704 Ring 4

OXFORD DOWNS

Present offering is a few choice yearling rams and ram lambs at reasonable prices.
ARCHIE CAMPBELL R.R. No. 1
Newbury, Ont.

Shropshire Sheep—A choice lot of shearing ewes and rams, well covered, true to type; also aged ewes and rams. A few show ewes and rams. C. H. SCOTT, Hampton P. O. (Oshawa, all railroads.) Long-distance phone.

Shropshires—A choice lot of ram lambs, well covered, true to type; sired by imported ram of Kellock breeding. A few yearling rams and ewes. Prices reasonable.
ALEX. GRAY, Claremont, Ont

FOR SALE

Shropshire ewe lambs and young ewes, two Clydesdale stallions, four Shorthorn bulls.
W. H. PUGH Myrtle Station, Ontario

Shropshires and Cotswolds—A lot of young ewes in lamb to imp. ram, and ewe lambs good size and quality, at reasonable prices.
JOHN MILLER, Claremont, Ont.

Bowhill Leicesters—A few two-shear rams in show condition, and several shearlings and lambs, both rams and ewes. Also Shorthorn bulls and heifers.
GEO. B. ARMSTRONG, Teeswater, Ont.

For Sale—Sixty Pure Shropshire Ram and Ewe Lambs—from twenty to thirty dollars each, including pedigrees. Ten yearling rams, from twenty-five to thirty-five dollars. Young ewes at reasonable prices. Also Pure Jerseys and Ayrshire cattle. H. E. WILLIAMS, Sunnylea Farm, Knowlton, P.Q.

HAMPSHIRE DOWNS

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

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If you want a broad sow or a stock boar of the greatest strain of the breed (Cinderella), bred from prize-winners for generations back, write me. **JOHN DUCK - PORT CREDIT, Ont.**

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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 - Paris, Ont. R. R. 1**

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Boars ready for service—a choice lot to select from; also some sows bred for spring farrow. Write: **JOHN W. TODD, R.R. No. 1, Corinth, Ont.**

INVERUGIE TAMWORTHS
Boars ready for service—very young sows bred for fall farrow; extra lot of little stuff just ready to wean. **1-1/2 Hadden, Pefferlaw, Ont. R. R. No. 2**

Gossip.

Cedar Dale Holsteins.

Calling recently at Cedar Dale Farm, the home of A. J. Tamblyn's splendid Cedar Dale herd of pure-bred Holsteins, a representative of this paper was pleased to find one of the best-balanced Holstein breeding establishments that is to be found to-day in Central Ontario. Here the breeding and mating of Holsteins is carried out in a sensible and scientific way. The females in this breeding herd were selected from a type in which were emphasized both size and conformation, and each herd sire which has been selected to follow the preceding one has had to come up to higher levels in both breeding and individuality than his predecessors. This, no doubt, alone accounts for the high standard which is so apparent in nearly all the individuals throughout the herd to-day. In running through the milk records of mature cows there are no exceptionally high records noticeable, but cows such as Utica Teke De Kol, Katy of Pleasant View 2nd, and others, are of the sort that need no appendix attached for one to know that they belong to the best producers of this breed. Then there are a dozen younger breeding cows that are all daughters of the former herd sire, Prince Segis Walker, a 31-lb.-bred grandson of King Segis. These heifers of this breeding are, perhaps, the outstanding features of the present herd, and to strengthen them still further Mr. Tamblyn has shown considerable foresight in selecting as his present herd sire the promising young bull, Lakeview Johanna Lestrage, a son of that great 38.06-lb. cow Lakeview Lestrage. On the sire's side this bull is a son of Dutchland Colantha Sir Mona, which is also the sire of the former Canadian champion Lakeview Dutchland Artis 43.06 lb., Lakeview Dutchland Calamity Rose the 31.71-lb. two-year-old, etc. He is, therefore, a brother to several of the highest-record cows in the Dominion as well as to Lakeview Dutchland Hengerveld, grand champion bull at Toronto and London in 1916 and 1917. Mr. Tamblyn informed us that the services of Lakeview Johanna Lestrage were being much sought for in outside herds; he having bred upwards of thirty of the higher record cows from the herds of various breeders throughout Eastern Ontario. The first calves to be sired by him were three one-month-old youngsters in Mr. Tamblyn's own stables, and at this age they were real promising. The bulls of serviceable age that make up the present Cedar Dale offering are all sired by Prince Segis Walker, mentioned above, and from good record dams. Full information regarding them may be obtained by writing Mr. Tamblyn, mentioning this paper.

Questions and Answers. Miscellaneous.

Prickley Nightshade.

What is the name of the enclosed weed?
S. A.

Ans.—The weed received at this office is known as Prickley Nightshade, Solanum Rostratum, a weed that has travelled hither and thither throughout the Eastern States where it is commonly known as the Buffalo Burr. It can be recognized by its prickly stems and calyxes as well as by the yellow flowers. The foliage resembles that of the potato. It is not likely that it will prove a troublesome weed in this Province.
J. D.

Yarrow—Yellow Clover.

1. What are the names of the two weeds enclosed? Are they liable to prove troublesome?

2. Is there any special time for cutting elderberry bushes so they will not grow again?
J. A. T.

Ans.—1. Weed No. 1 is Yarrow, a perennial weed which does not usually become troublesome in cultivated land. It is eaten off by sheep and can be eradicated by a hoed crop. Weed No. 2 is one of the three species of Yellow Hop clover, all rather innocent weeds introduced from Europe. The one submitted is the tallest of the three varieties and is popularly known as Yellow clover, Trifolium agrarium.

2. The elderberry bushes are persistent growers. Cutting in the summer will give them as much setback as at any time, but will not prevent them growing up again.



HORSES AND CARHARTT OVERALLS
Surely, the same considerations that impel a man to choose a first-class horse should also induce him to buy first-class overalls. The one big thing you will like about my Carhartt Overalls is that they are thoroughbred all the way through, and that means thoroughbred service, neat and finished tailoring and heavy denim cloth; every seam is double stitched; every button is reinforced. Sizes are correct; extra-large handy pockets, high back, high rib and generous seat. Behind it all is my guarantee of satisfaction and 25 years of knowing how.

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J. E. BRETHOUR & NEPHEWS, Burford, Ontario

Fitting ing a

the exhibition tends to imp have been may be a te (stocking), i bandage the on all night in the morn bandages on legged horses a couple of c next day ren fine sawdus apply banda to get the ha the appare important horses shoul of hay on th that all dang may be avoi to the limit He should n at least two ring.

In the or larger shows, ones, appoin count. At any class th pointed app judge than a or incorrectly for appointm average farm the special the class. In to rent or h simply uses classes, of c and a heavy more elabora the better the and mountin had proper taken for g will have c command in condition. U clean mounti indicate gros of the exhibit that "he is s appointments fail to have or heavy ha heavy harness spoken of as harness." Ex is heavy; the or a modifica bit for the c heavy breast the former is without bree somewhat he without top, class also w without bree and hames c admissible. T spring-top, h Roadsters, should wear li and it is ge to wear an ov should be a li than the ori show purpos without top should be a st Saddlers shou bridle with d snaffle bit, a sh two sets of r addition, wear

Snow As already trained or edu They should b manner dema promptly and well and gene It must be ren ners" in the s the exhibitor Bad manners a to the horses, selfish manner are also someti to the judge, a place they thir to accept the marks, or bot erally prishad judge does no again, the pers frequently calls

Fitting Horses and Showing at the Fall Fairs.

Continued from page 1527.

the exhibition, but a little extra grooming tends to improve the coat. If the horses have been highly fed on grain, there may be a tendency to filling of the legs (stocking), in which case it is well to bandage them and leave the bandages on all night, and carefully rub the legs in the morning to remove all traces of bandages out of the hair. In hairy-legged horses it is well to oil the feathering a couple of days before the show, and the next day remove the oil by the use of very fine sawdust or other material, then apply bandages to the pasterns in order to get the hair to lie flat. This increases the apparent obliquity of pastern, an important point in this class. The horses should be fed a limited quantity of hay on the day of the show, in order that all danger of an over-loaded stomach may be avoided and that he may perform to the limit of his possibility in the ring. He should not be given much water for at least two hours before entering the ring.

APPOINTMENTS.

In the ordinary classes, even at the larger shows, and especially at the smaller ones, appointments are not supposed to count. At the same time, a horse of any class that is well and properly appointed appeals more strongly to the judge than an equally good one, poorly or incorrectly appointed. Each class calls for appointments of a special kind. The average farmer or exhibitor may not have the special appointments suitable for the class. In such cases he may be able to rent or borrow, but in many cases simply uses what he has. In the heavy classes, of course, heavy team harness and a heavy vehicle are proper. The more elaborate and expensive of course the better they look, provided the harness and mountings, also the vehicles, have had proper attention. It should be taken for granted that the exhibitor will have the appointments at his command in the very best possible condition. Unclean harness with unclean mountings, unclean vehicles, etc., indicate gross carelessness on the part of the exhibitor, and while he may claim that "he is showing the horses, not the appointments," such conditions cannot fail to have some effect. The carriage or heavy harness, horse should wear heavy harness, a class of harness generally spoken of as "heavy English carriage harness." Everything about the harness is heavy; the driving bit, a Liverpool bit or a modification of it, a separate snaffle bit for the check rein (if one be used), heavy breast collar or collar and hames, the former is preferable, and generally without breeching and hitched to a somewhat heavy, four-wheeled vehicle without top, or to a cart. Pairs in this class also wear heavy harness, always without breeching, and either collar and hames or heavy breast collar is admissible. The whip should be a spring-top, lash whip.

Roadsters, or light harness horses, should wear light harness with breeching, and it is generally considered proper to wear an over-draw check. The buggy should be a light one, in no case heavier than the ordinary business buggy. For show purposes the one-passenger buggy, without top, is good form. The whip should be a straight one of good quality. Saddlers should wear a hunting saddle, bridle with double bit, a curb and a snaffle bit, a slip head for the snaffle, and two sets of reins. Hunters should, in addition, wear a breastplate.

SHOW-RING ETIQUETTE.

As already stated, "horses should be trained or educated for the show-ring." They should be taught to perform in the manner demanded of the class, do so promptly and without "argument"; stand well and generally show good manners. It must be remembered that "good manners" in the show-ring are demanded of the exhibitor as well as of his exhibit. Bad manners are not, in all cases, confined to the horses. Exhibitors often act in a selfish manner towards each other, and are also sometimes rude and discourteous to the judge, and when not awarded the place they think they deserve will refuse to accept the reward, or pass rude remarks, or both. Such rudeness is generally punishable by the society, but the judge does not always report. Then, again, the person in charge of an exhibit frequently calls the attention of the judge

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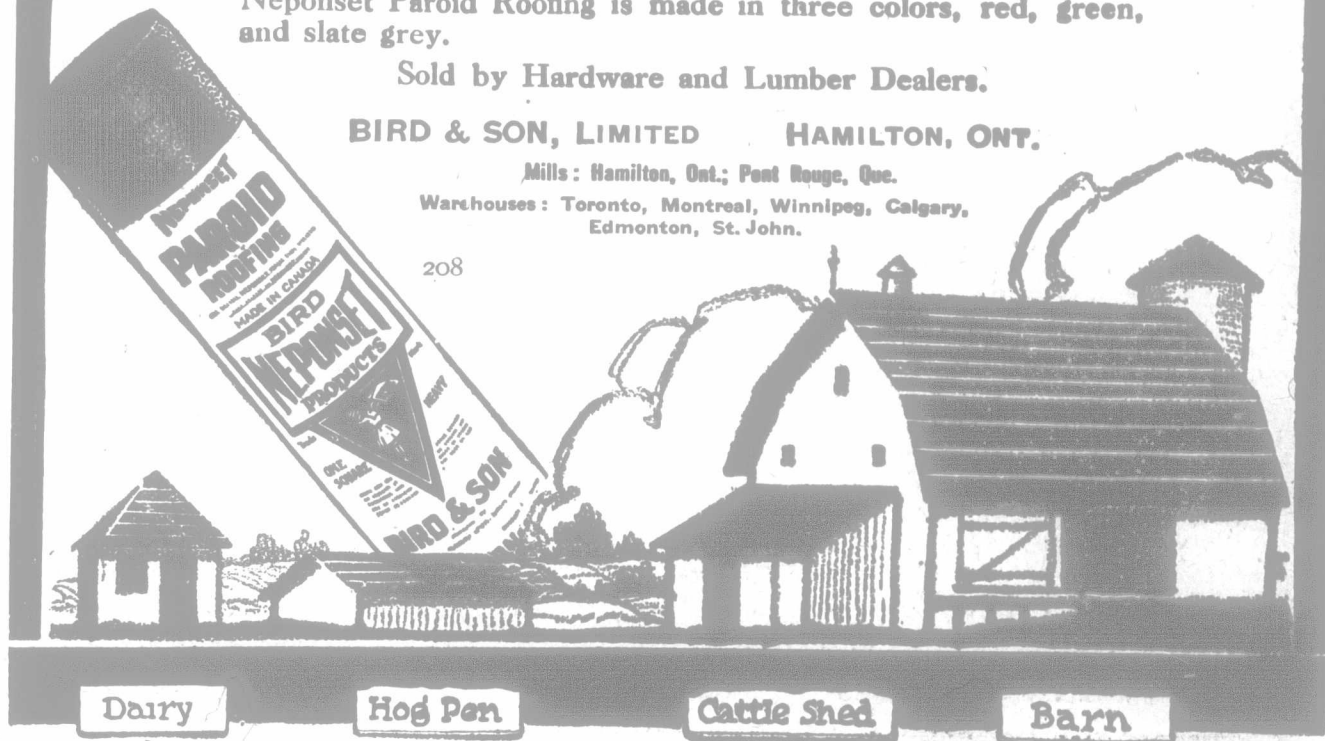
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to the merits of the animal as regards breeding, individuality, speed, performance, etc. This should not be allowed. If the judge wants any information he can ask for it, but exhibitors should not volunteer information. The exhibitor should take it for granted that the judge is honest and capable, and recognizes merit in a horse when he sees it. Even if the contrary be evidenced, the exhibitor will be justified in refusing to exhibit before him in other sections, but should not abuse either the judge or the society. He should always be a "sport" and wish the best horse to win, and even when he gets a "raw deal" accept it without showing anger or rudeness. A "sport" is always a "good loser."

The stout party had been in the boot shop for over an hour, and the patient shop assistant had had half the stock down for her inspection. She found a fault with them all until his patience became quite exhausted.

"These would suit you," he said, taking down another pair as a last resource. Still the lady was not satisfied.

"I don't like this sort," she said. "They have a tendency to get wider when they are a bit old."

"Well, madam," retorted the exasperated assistant politely, "didn't you?"

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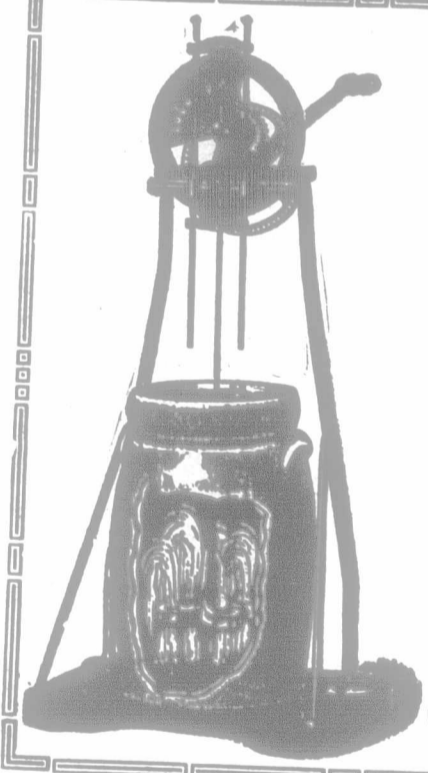
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Questions and Answers. Miscellaneous.

Foundation for Shed.

I purpose building a driving house 50 by 23 feet. The walls are to be one foot above ground. What depth in the ground should the foundation be laid? How many yards of gravel will it require for the wall?

2. Is there any way of killing chickory in grass fields?

R. B.
Ans. 1. It depends on the character of the land as to the depth to which the foundation should be laid. It is well to put it down from 18 to 24 inches, on fairly well-drained land, so that the frost will not get under and heave it too much. A 3-foot wall, 1 foot thick, will require 16 cubic yards of gravel, and mixing in the proportion of one to eight you will need about 14 barrels of cement.

2. About the only practical way of killing the chickory is to take a spade and cut the plant off below the ground. If the plant is so thick as to render this method impracticable, then it is advisable to eradicate the weed by plowing if the land is at all plowable.

The grasshopper damage to crops is a plague of expenditure consequent

Grasshoppers be grouped those which of the eggs; in destroying adult. To do should be do and all rub We shall dea young and a The bait i following for

Bran, coarse or shorts... Paris green... Lemons or orange Cheap molasses gum or bl Water.....

The dry br be placed in mixed with a bare hands ar The syrup of solved in thro add the lemon by the finely the fruit. Th be poured slow at the same tim be stirred so is thoroughly will hold anothe be added. Th time during be kept more t ing in the field

The proper late in the af be sown by seeder over th taining grassh are very num prepared by should be suffi acres. The co 11 to 25 cen grasshoppers a be necessary of the bait a of two or th cumstances sh be sown thick field.

The effect mediate, some 4 hours after applied while 5 days later. The Criddle is very effecti less effective bait.

It may be ma ing formula:

Fresh horse one-half barre green, 1 pou 6 to 8.

Sufficient wa make the mixtu is used add one mixture. Mix and observe a same as for the

It is a da have let slip to try to cover Mrs. G.—w of Judge H— of a profession be a lawyer, sh "Why not?" think there is the legal prof "Well", said lawyer has to it dawned on to the wife of adol. "That is

How to Prevent Grasshopper Damage to Tobacco.

The grasshoppers are doing considerable damage to tobacco. The writer recently saw small crops that were completely ruined by this pest. It is not necessary to be helpless in the face of grasshopper attacks for we can successfully combat a plague of this kind with a reasonable expenditure of money and labor with a consequent saving of the crop.

Grasshopper control measures may be grouped into two divisions: 1st, those which deal with the destruction of the eggs; and 2nd, those employed in destroying the hoppers, both young and adult. To destroy the eggs fall ploughing should be done about 15th of October and all rubbish removed or burned. We shall deal with the control of the young and adult hoppers in this article.

The bait is prepared according to the following formula:

Bran, coarse flaked if possible or shorts.....	25 pounds
Paris green.....	1 pound
Lemons or oranges.....	6
Cheap molasses, such as sorghum or black strap.....	2 quarts
Water.....	4 gallons

The dry bran and Paris Green should be placed in a large tub and thoroughly mixed with a hoe or wooden stick. The bare hands and arms should not be used. The syrup or molasses should be dissolved in three gallons of water, to this add the lemon or orange juice followed by the finely grated pulp and peel of the fruit. The resulting mixture should be poured slowly over the poisoned bran, at the same time the entire mixture should be stirred so that every particle of bran is thoroughly dampened. If the bait will hold another gallon of water it should be added. The bait may be mixed any time during the day, but should not be kept more than 12 hours before scattering in the fields.

The proper time to apply the bait is late in the afternoon. The bait should be sown by hand or by a broadcast seeder over the parts of the fields containing grasshoppers. Where the pests are very numerous the amount of bait prepared by using 25 pounds of bran should be sufficient to cover five or six acres. The cost including labor is from 11 to 25 cents per acre. Where the grasshoppers are very abundant it may be necessary to repeat the application of the bait a second time at intervals of two or three days. Under no circumstances should the poisoned material be sown thickly or placed in heaps in a field.

The effects of the bait are not immediate, some hoppers may begin to die 4 hours after the poisoned material is applied while others will be dying 2 to 5 days later.

The Criddle Mixture in modified form, is very effective and cheap but is a little less effective than the poisoned bran bait.

It may be made according to the following formula:

Fresh horse manure, free from straw one-half barrel or 50 pounds. Paris green, 1 pound. Lemons or oranges, 6 to 8.

Sufficient water should be added to make the mixture damp. If older manure is used add one pound of table salt to the mixture. Mix thoroughly, apply thinly, and observe all precautions exactly the same as for the poisoned bran bait.

H. A. FREEMAN,
Tobacco Inspector.

It is a dangerous thing, when you have let slip an unfortunate remark, to try to cover up the blunder.

Mrs. G.—was talking with the wife of Judge H— about her son's choice of a profession. "I don't want him to be a lawyer," she said.

"Why not?" said the judge's wife. "I think there is nothing much finer than the legal profession for a bright boy." "Well," said Mrs. G.—bluntly, "a lawyer has to tell so many lies." Then it dawned on her that she was talking to the wife of a lawyer; so she hastily added, "That is—er—to be a good lawyer!"

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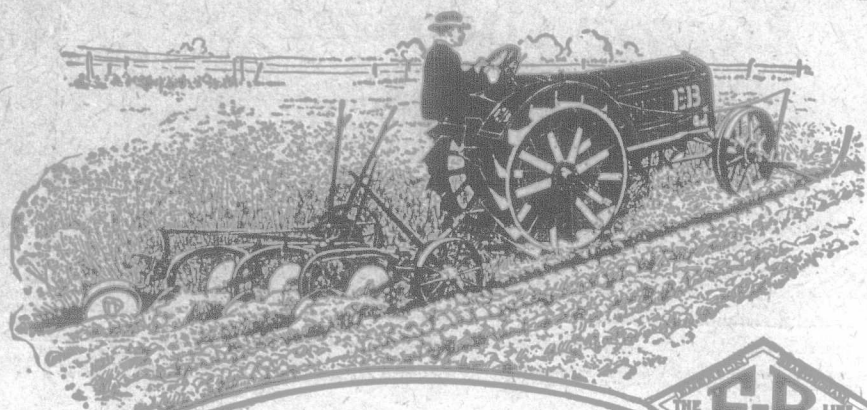
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This **E-B 102 Power-Lift Plow** is light draft, therefore does the work on less fuel. For the same drawbar pull, the **E-B 102 turns more soil**. The

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also gives you the benefit of **E-B Quick Detachable Shares**. These shares are so easily applied and removed (5 seconds) that sharp-share plowing is a practical possibility at all times.

The wheels of this plow are made to carry the weight of the plow when in a working position

as well as for transportation. Notice the large 24-inch front furrow wheel with its oil-tight, dust-proof magazine wheel box which with the 26-inch land wheel carry the greater portion of the load close to the engine.

See your dealer about this plow—or write us at once.

Emerson-Brantingham Implement Co., Inc., Regina, Sask.
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When writing advertisers will you kindly mention The Farmer's Advocate.

Our School Department.

The Story of an Egg.

BY PROF. W. R. GRAHAM.

Every one is familiar, with the size and shape of an egg; but very few of us stop to think how wonderfully it is made. We all know that the contents of an egg are enclosed in a shell. This shell appears, to be hard and solid, but this is not the case. True, it has much strength; but we find upon examination that it is full of little holes. These small holes allow the air next to the shell to get into the egg. Thus it will be seen that we should keep the egg in a clean place, away from dirty straw, such as we often see in the nest, also away from strong smelling substances, such as onions, otherwise, these strong odors, passing through the shell, will affect the taste of the egg, more or less.

Next to the shell, is a thin tissue. This tissue is made of two layers all over the egg, except at the large end, where they separate, forming a small open space called the air-space. This air-space increases in size as the egg evaporates or dries. The longer the egg is allowed to remain in the air, the more air will pass through the shell; and each little particle of air carries away with it some of the moisture of the egg and thus the contents dry up and the air-space increases in size. Sometimes eggs that have been left exposed to the air in a nice clean place for a year are found to have very little content; and that which is left is dry and almost hard. These tissues may be pulled off the shell, especially in the case of a hard-boiled egg.

Now we come to the white of the eggs, or what is called the albumen. This is said by doctors to be a very good food; but we are particularly interested in its appearance. So let us break an egg in a saucer. Notice that the white on the outside is thin and watery; in a little further, we see a grey or whitish streak that extends all the way around the yolk or yellow portion, but does not touch it. You will also notice that at each end of the yolk and extending from this whitish portion is a knotted portion, like a little piece of white string. We wonder what these are for, and observe that they are simply an extended portion of this first white streak as mentioned. Inside the white streak is another watery portion. This comes in touch with the yolk. We shall now look at the yolk. Take your finger, or a blunt pencil, and try to turn it over, and you will notice that the covering of the yolk goes into all sorts of wrinkles and folds. So we find that the yolk is separated from the white by a thin layer of tissues or skin.

If you have been careful in breaking the egg you will notice a little round spot at the top of the yolk. This spot is about the size of a pea, and is called the germ spot; and it is from this that the chicken grows when heat and other conditions are properly applied.

To study further the structure of an egg, we will have one boiled hard, and after removing the shell and lining tissues, we will tear loose a small piece of the white at the larger end of the egg. Now, by continuing to pull the torn portion from the left towards the right, you will notice that this white has a spiral arrangement. This is generally considered as giving strength to the egg.

We will next examine the yolk. Take the yolk out, cut through the centre, using a very sharp knife and you will notice a small, flask-shaped portion of the yolk, which is soft and light in color, and that the neck of the flask extends to the outer edge of the yolk. Upon this the germ rests. The hardened portion of the yolk, you will notice, is arranged in regular rings around this flask. This flask-shaped portion is lighter than the rest of the yolk, and is, therefore, always uppermost. No matter how you turn the egg, this spot will be on the upper surface.

Let us ponder for a few minutes over the many things we have found in the egg content. The germ, resting upon a nice soft cushion in the yolk, the yolk covered with a thin skin, adjoining this a very thin portion of the white, and outside this a thicker portion. Now these two portions hold the yolk in position.

If a sudden jar occurs, the yolk, or chiefly the germ, is protected by the skin of the yolk. The thin white portion acts as a pad or cushion, and the thick white portion holds it steady. Those extended cords of the thick layer of the white act as the axis of the yolk holding it in position; and, as you turn the egg around quickly, you twist the cords similar to twisting a string, with the result that, as soon as the egg is steady, these unwind, and help to right the germ spot on the upper surface again.

No doubt by this time you are wondering, if this germ spot and the portion of the yolk under it are so light, why the yolk does not come right up against the tissues lining the shell. But nature has guarded against this by the thick layer of albumen, which always tends to hold the yolk in position. Sometimes when the egg is left for weeks in the same position, the thick layer is overpowered, and the yolk touches the wall of the shell. If the yolk remains against the wall any length of time, it appears to become fastened to it, after which you can not successfully hatch a chicken from the egg. Being fastened in one position, the germ cannot move properly in order to develop, the result being that the germ dies. You may say a hen sitting on eggs never moves them, but in this you are mistaken. The next hen you set put a large pencil mark on each of the eggs, and place the eggs under the hen with the pencil marks uppermost. Next day lift the hen and you will see that she has altered the position of the eggs.

We have to imitate the hen in running an incubator, in that we turn the eggs twice a day. But some one asks, what is an incubator? Well, it is simply a well-built box, heated by a lamp, and the heat evenly distributed over all parts of the interior so as to give the eggs the same temperature. This box is not exactly air-tight, for you know that if this little germ inside the egg is going to develop into a chicken at the end of twenty-one days, it must have air. This air, you will remember, passes through those little holes in the shell, the good air going in, and the foul air coming off in much the same manner as you breathe. Now, you will see we have this incubator ventilated in order to supply the little germ with pure air. There is another point we nearly overlooked that is the temperature.

If you will place a thermometer under a hen you will notice that it reads 103 degrees; so we try to run the incubator at that temperature.

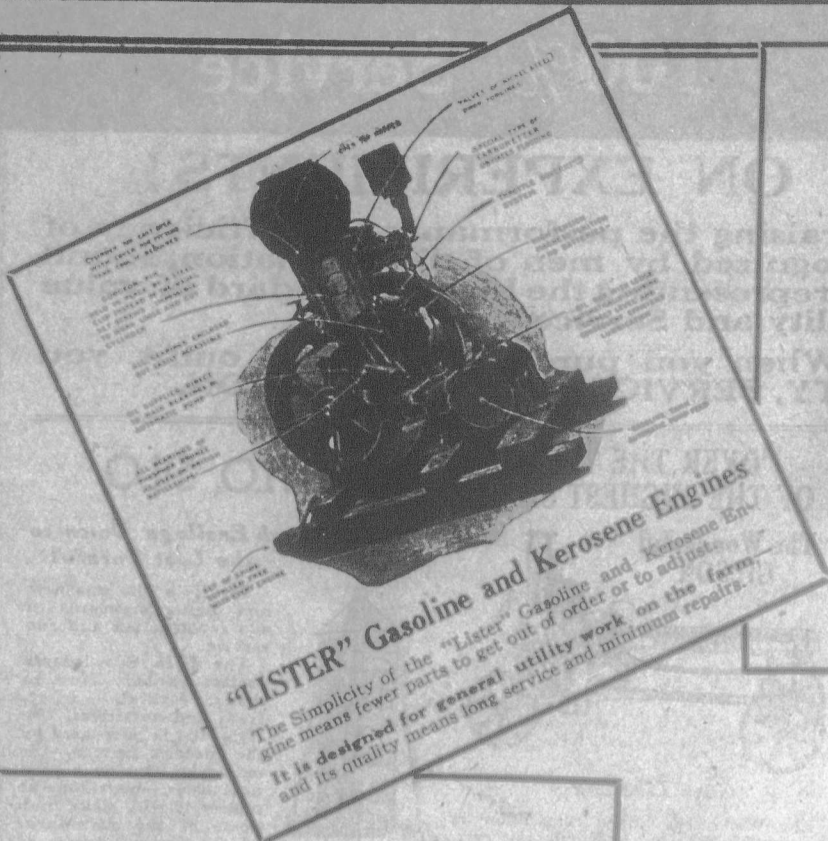
If any of you would like to see that the germ-spot always stays next to the surface, you can readily do so by taking a lamp after dark and going to a hen that has been sitting four or five days. Wrap a black cloth around the lamp chimney but first make a hole in the cloth, much the same shape as an egg, and have the hole exactly opposite the blaze of the lamp. Put the lamp on a little box the hole facing you. Now very carefully remove an egg from under the hen, taking great care not to turn it over. Place your finger at the ends of the egg and hold the egg in front of the light coming from the hole in the cloth that is around the chimney. If the egg is fertile you will see a dark spot, and from this a number of little veins running in different directions. This is the germ, and it has started to grow. Now turn the egg slowly around, and you will observe that the germ moves as you turn the egg, always resting near the surface. It is best to take a white egg to see this as white eggs are clearer than brown ones and the germ is more readily seen through them. Should the egg appear clear, or no dark portion be seen, it is infertile, and will not hatch.

A neat coop with a wire front will improve your poultry exhibit. It is well also to have a small hinged door so the judge can take the birds out and examine them if he desires.

Someone is going to win at the school fair, will it be you or your neighbor? The answer depends on what interest you take in the event, and the amount of time spent in preparation for it.

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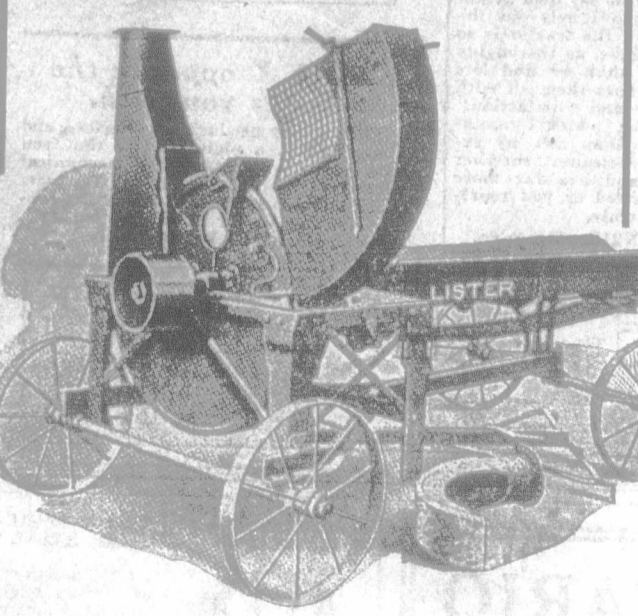
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